PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT FROM THE
GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF US$4.5 MILLION

TO

ITAIPÚ BINACIONAL

FOR THE

CONSERVATION OF BIODIVERSITY AND SUSTAINABLE LAND MANAGEMENT IN
THE ATLANTIC FOREST OF EASTERN PARAGUAY PROJECT

May 13, 2010

Sustainable Development Department
Argentina, Paraguay, and Uruguay Country Management Unit
Latin America and the Caribbean Region

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CURRENCY EQUIVALENTS
(Exchange Rate Effective May 13, 2010)

Currency Unit = Paraguay Guarani PYG
US$1 = PYG4,745
PYG 1 = US$0.00020

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

Alter Vida Eco-development Studies and Training Centre
BAAPA (Bosque Atlántico del Alto Paraná) Upper Paraná Atlantic Forest
CAF Andean Development Corporation
CARJ (Cuenca Alta del Río Jejuí) Upper Jejuí River Watershed
CBD Convention on Biological Diversity
CECTEC Rural Population Study Centre for Training and Technology
CITES Convention on International Trade of Endangered Species
DEAG (Dirección de Extensión Agrícola) Directorate of Agricultural Extension
EA Environmental Assessment
EBA Endemic Bird Area
EER Rapid Ecological Evaluation
EMP Environmental Management Plan
ENAPRENA Strategy for the Protection of Natural Resources
EU European Union
FAO United Nations Food and Agricultural Organization
FFMR Fiduciary Fund of the Mbaracayú Reserve
FMB (Fundación Moisés Bertoni) Moisés Bertoni Foundation
GEF Global Environment Facility
GoP Government of Paraguay
IAF Interior Atlantic Forest
IBA Important Bird Area
IBR (Instituto de Bienestar Rural) National Rural Welfare Institute
IDB Inter-American Development Bank
IDEA (Instituto de Derecho Ambiental) Environmental Law Institute
IFAD International Fund for Agricultural Development
ILDES (Instituto para el Liderazgo en Desarrollo Sostenible) Institute for Leadership in Sustainable Development
INDI (Instituto Nacional del Indígena) National Institute for Indigenous Development
IPPF Indigenous Peoples Planning Framework
IUCN The World Conservation Union
KBA Key Biodiversity Area
M&E Monitoring and Evaluation
MAB Man and the Biosphere Programme/UNESCO
MAG (Ministerio de Agricultura y Ganadería) Ministry of Agriculture and Livestock
MERCOSUR Southern Economic Market
MOU Memorandum of Understanding
MSP Medium-Sized Project
NGO Non-Governmental Organization
NP National Park
PA Protected Area
PARN World Bank Natural Resources Management and Poverty Reduction Project
PBNP Paso Bravo National Park
PBP Paraguay Biodiversity Project
PIRC (Programa de Inversiones Rurales Comunitarias) Community Rural Investment Program
PMU Project Management Unit
POA Annual Operating Plan
PRA Participatory Rural Assessments
PROCOSARA Association for San Rafael Mountains
PRODERS World Bank Sustainable Agriculture and Rural Development Project
PSRDP Paraguay Sustainable Rural Development Project
RNBM (Reserva Natural del Bosque Mbaracayú) Mbaracayú Forest Nature Reserve
RNNP Río Negro National Park
SEAM (Secretaría del Ambiente) Secretary of the Environment
SINASIP (Sistema Nacional de Areas Protegidas) National System of Protected Areas
SRNP San Rafael Managed Resources Reserve
SSERNMA (Secretaría de Estado de Recursos Naturales y Medio Ambiente) State Secretariat for Natural Resources and Environment
TNC The Nature Conservancy
UNA (Universidad Nacional de Asunción) National University of Asunción
UNESCO United Nations Educational, Scientific and Cultural Organisation
UPAF Upper Paraná Atlantic Forest
USAID United States Agency for International Development
USFS United States Forest Service
WB The World Bank
WWF World Wide Fund for Nature

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<tr>
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<tr>
<td>Acting Country Director</td>
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<td>Laura Tuck</td>
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<td>Karin Kemper</td>
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<td>Franz Drees-Gross</td>
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<td>Task Team Leader</td>
<td>Marcelo Acerbi</td>
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REPUBLIC OF PARAGUAY

CONSERVATION OF BIODIVERSITY AND SUSTAINABLE LAND MANAGEMENT IN THE ATLANTIC FOREST OF EASTERN PARAGUAY PROJECT

PROJECT APPRAISAL DOCUMENT

LATIN AMERICA AND CARIBBEAN

LCSEN

Date: May 13, 2010
Country Director (acting): Stefan Koeberle
Sector Director: Laura Tuck
Project ID: P094335
Lending Instrument: GEF grant

Team Leader: Marcelo Acerbi
Sectors: General agriculture, fishing and forestry sector (100%)
Themes: Biodiversity
Environmental screening category: partial assessment
Safeguard screening category: B

Program Financing Data

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Recipient/Beneficiaries 7.48 0 7.48
IBRD 6.31 0 6.31
GLOBAL ENVIRONMENT FACILITY 4.5 0 4.5
Total: 18.29 0 18.29

Recipient: Itaipú Binacional
Responsible agency: Itaipú Binacional (IB) in cooperation with Secretariat of Environment (SEAM) and Ministry of Agriculture (MAG).
Coordinator: Fernando Souto (souto@itaipu.gov.py)

[ ] Loan [ ] Credit [ X ] Grant [ ] [ ] Other:
Guarantee

For loans/credits/other: -
Grant currency: United States Dollars
Total Bank financing (US$m,): US$ 4.5 million (GEF Grant)
Proposed terms: GEF Grant

Financing Plan (US$m)

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Project implementation period: September 10, 2010 to April 10, 2014
Expected effectiveness date: September 10, 2010
Expected closing date: April 10, 2014

Does the Project depart from the CAS in content or other significant respects? **Ref. PAD Section I.C**

- [ ] Yes
- [X] No

Does the Project require any exceptions from Bank policies? **Ref. PAD Section IV.H**

- [ ] Yes
- [X] No

Have these been approved by Bank management?
- [ ] Yes
- [ ] No

Is approval for any policy exception sought from the Board?
- [ ] Yes
- [X] No

Does the Project include any critical risks rated “substantial” or “high”? **Ref. PAD Section III.E**

- [X] Yes
- [ ] No

Does the Project meet the Regional criteria for readiness for implementation? **Ref. PAD Section IV.H**

- [X] Yes
- [ ] No

Project development objectives **Ref. PAD Section II.B**

The objective of the Project is is to assist the Member Country’s continued efforts to achieve sustainable natural resource-based economic development in the Project Area, by: (a) establishing the Mbaracayú-San Rafael conservation corridor within public and private lands through sustainable native forest management practices for biological connectivity; (b) encouraging sustainable agricultural practices that maintain biodiversity within productive landscapes, while increasing productivity and mainstreaming biodiversity conservation; (c) strengthening the institutional capacity of MAG to implement conservation techniques in the rural landscape; (d) strengthening the institutional capacity of SEAM to improve knowledge on forest and biodiversity conservation activities, including the monitoring and enforcement of said activities; and (e) strengthening the National Protected Areas System.

Project Description (**Ref. PAD Section II.C**)

The proposed Project has four components:

1. **Re-Establishment of Connectivity between Protected Areas.** The objective of this component is to maintain or re-create the connectivity between protected areas in the proposed Conservation Corridor, which would provide continuous biological links to enable a crucial flow of genetic resources between the large forest remnants within the corridor.

2. **Strengthening and Expansion of the National Protected Areas System.** This component will strengthen the National Protected Areas System, composed of public and private protected areas (including those owned and managed by Itaipú), within the proposed conservation corridor.

3. **Enhanced Policy Framework and Institutional Strengthening.** The objective of the proposed component is to strengthen the institutional capacity and coordination of Member Country’s institutions responsible for management of natural resources and biodiversity.

4. **Project Management, Monitoring and Evaluation.** The objective of this component is to facilitate the execution of the Project through the establishment of a Project Management Unit (PMU) and to ensure monitoring and evaluation.

Which safeguard policies are triggered, if any? **Ref. PAD Section IV.G**

- Environmental Assessment (OP/BP/GP 4.01), Natural Habitats (OP/BP 4.04), Pest Management (OP4.09), Indigenous Peoples (OP 4.10) and Forests (OP/BP 4.36)
Significant, non-standard conditions, if any, for:

**Ref. PAD Section III.F**

**Conditions of Grant Negotiation:**

**Conditions of Grant Effectiveness:**

(i) The execution and delivery of the Grant Agreement has been duly authorized or ratified by all necessary corporate action, and all governmental action.

(ii) The Implementation Agreement has been executed by the parties involved.

**Grant Covenants:**
The main grant covenants include the following. A complete list is available in the Grant Agreement:

**Schedule 2, Section I. C.(a):** For purposes of carrying out Parts A.2, B.1, B.2, and C of the Project, the Recipient shall enter into a tripartite agreement (the Implementation Agreement) with the Member Country, through MAG, and SEAM under terms and conditions which shall have been approved by the World Bank which shall include, *inter alia*, those set forth in Schedule 3 to this Agreement.

**Schedule 2, Section I. D. (a) (i):** Upon approval of a Community Sub-Project I, the Recipient shall:

- make available, on a grant basis, part of the proceeds of the Grant allocated to Category (2) (the Community Grant I) to the corresponding Beneficiary under a community sub-Project agreement (the Community Sub-Project I Agreement) to be entered into between the Recipient and said Beneficiary under terms and conditions acceptable to the World Bank, which shall include, *inter alia*, those set forth in Schedule 4 to this Agreement.

**Schedule 2, Section I. E.:** In addition to the provisions of Section I.D above, the Recipient shall refrain from presenting Grant withdrawal applications to the World Bank and/or withdrawing Grant proceeds from the Designated Account, all under Category (2), until the Recipient has furnished to the World Bank evidence, acceptable to the World Bank, indicating that: (a) the Community Sub-Project I Manual has been approved by the Recipient; (b) an evaluation committee (the EC) of Community Sub-projects I has been established with functions and responsibilities acceptable to the World Bank; and (c) the auditor to carry out the audits referred to in Part A.5 of the Project has been hired as provided in Section II.B.4 (a) of this Schedule.

**Schedule 2, Section I. F.:** Without limitation to the provisions of Section I.C of this Schedule, and for purposes of carrying out Part A.2 of the Project, the Recipient shall cause the Member Country, through MAG, to comply with the pertinent provisions stipulated in the PRODERS Loan Agreement, as applicable to Community Sub-projects II, which provisions shall constitute an integral part of this Agreement.

**Schedule 2, Section I. G. (a):** For purposes of carrying out any Project activity in which the participation of a Municipality and/or a Department is needed (as determined by the Recipient), the Recipient shall, if applicable, prior to the carrying out of any given Project activity, enter into an agreement (the Participation Agreement) with the corresponding Municipality and/or Department under terms and conditions which shall have been approved by the World Bank which shall include, *inter alia*, the obligation of the pertinent Municipality and/or Department to provide the necessary assistance, and/or to take or permit to be taken all actions, to enable the Recipient to comply with its obligations referred to in this Agreement, as applicable to the relevant Project activity.

**Schedule 2, Section I. H:** Without limitation to the pertinent provisions of this Agreement, and if as a result of the carrying out of the environmental/social screening and/or environmental/social assessment referred to in I.D (a) (ii) of this Schedule it is determined that indigenous peoples are
present in the pertinent area and/or scope of any given Community Sub-Project I, the Recipient shall: (a) prior to the carrying out of the corresponding Community Sub-Project I, prepare and/or cause the pertinent Beneficiary to prepare an indigenous peoples plan (acceptable to the World Bank) for each said Community Sub-Project I (which plan shall be consistent with the provisions of the Indigenous Peoples Planning Framework); and (b) immediately thereafter, implement, and/or cause said pertinent Beneficiary to implement each indigenous peoples plan in accordance with its terms, and in a manner acceptable to the World Bank.

Schedule 2. Section I. I: Without limitation to the pertinent provisions of this Agreement, and if it is determined that indigenous peoples are present in the pertinent area and/or scope of any given Project activity (other than under any given Community Sub-Project), the Recipient shall: (a) prior to the carrying out of any said Project activity, prepare and/or cause to be prepared an indigenous peoples plan (acceptable to the World Bank) for each said Project activity (which plan shall be consistent with the provisions of the Indigenous Peoples Planning Framework); and (b) immediately thereafter, implement and/or cause to be implemented each said indigenous peoples plan in accordance with its terms, and in a manner acceptable to the World Bank.

Schedule 2. Section I. J: Without limitation to the provisions of Section 2.01 (a) (ii) of this Agreement, and upon the selection of an infrastructure investment under Part B.1 (d) of the Project, the Recipient shall: (a) prior to the commencement of any given investment under said Part of the Project, carry out an environmental/social screening and/or an environmental/social assessment (as the case may be) of the pertinent investment, and if determined by the Bank, approve an environmental management plan, acceptable to the World Bank, for each said investment (which plan shall be based on the results of the environmental/social screening and/or environmental/social assessment mentioned herein, and the World Bank’s comments on the results of said screening and/or assessment, if any); and (b) immediately after said approval, implement and/or cause to be implemented (as the case may be) the corresponding environmental management plan in accordance with its terms.

Schedule 2. Section I. K: The Recipient shall ensure, and cause each Beneficiary to ensure, that any works under the Project do not involve any Resettlement.
I. STRATEGIC CONTEXT AND RATIONALE

A. Country and Sector Issues

1. Paraguay is a landlocked country of 406,750 km² with an estimated population of six million inhabitants. Paraguay is one of the poorest and least developed countries in Latin America. According to the latest UNDP report, Paraguay’s Human Development Index ranks 101st out of 186 countries. Although strong economic performance since 2003 resulted in a decline in poverty, it still remained at 37.9 percent in 2008 with extreme poverty at 19 percent. Paraguay has a very unequal distribution of income and assets. For instance, in Paraguay the richest 10 percent of the population accounts for 42 percent of total income, while 2 percent of the agricultural establishments (about 6,400 farms) occupy almost 82 percent of the agriculturally exploited land (namely, 20 million of the 24 million hectares in agricultural use, or one-half of Paraguay’s total area of 40 million hectares).

2. The presidential elections of April 20, 2008 brought a center-left coalition, the Alianza Para el Cambio, headed by President Fernando Lugo to power. The coalition includes one main political party (the Liberals), three minor ones, and about one dozen political movements that span a wide range of ideologies. Despite the range of political views, the coalition shares key priorities that include a deep commitment to improve governance and government institutions and to reduce corruption, to improve the livelihoods and opportunities for the poor in a sustainable fashion, to strengthen the management of the country’s vast hydroelectric resources, and to consolidate the country’s democratic process. The Alianza Para el Cambio has also adopted a pragmatic economic policy stance based on maintaining sound macroeconomic management and a balanced view of the role of the State, while safeguarding the environment.

Key Sector Issues

3. Natural Resources Degradation: Despite its ecological importance, Paraguay suffers from severe environmental degradation. In particular, Paraguay’s deforestation rate was until recently one of the highest in Latin America. Deforestation has greatly reduced both the extent and continuity of Paraguay’s remaining forest cover. Fragmentation and degradation of forest and natural habitats have had a severe impact on the country’s endemic biological diversity and Paraguay’s capacity to connect and support the other portions of the Atlantic Forest in Brazil and Argentina. This deforestation, combined with further unsustainable land management practices including slash-and-burn agriculture, extensive grazing and the practice of mono-cultivation of cotton, and more recently soybeans and sugarcane, are also leading to soil erosion, loss of soil fertility and decreased quantity and quality of water resources—constraining the livelihoods and productivity of farmers within the region. Additionally, erosion is affecting the operation of the country’s main source of public revenue, the Itaipú hydroelectrical dam. This dam provides most of Paraguay’s electricity and generates a significant amount of foreign exchange through the sale of surplus power to Brazil. The high level of poverty within Paraguay has also had a significant impact contributing to the degradation of the country’s natural resources.

4. Paraguay has lost at least 80 percent of its forests over the last 50 years and losses of 500 ha/day occurred between 1966 and 1991. Of the remaining 2 million ha in the Upper Parana Atlantic Forest (UPAF, i.e. forests east of the Paraguay River), only an estimated 800,000 are
still considered productive. This is due to destructive logging practices that have degraded the forests, and a result of deforestation that has fragmented much of the UPAF into unmanageably small remnant patches. While deforestation appears to have slowed recently in the east—due both to resource depletion and some success with a “Zero Deforestation” law—it is estimated to have increased in the Arid Chaco, which is home to 78 percent of Paraguay’s remaining native forests. The evolution of deforestation rate in the Paraguayan UPAF is summarized in Annex 1.

5. **Loss of Biodiversity and Critical Ecosystems:** The UPAF’s rich diversity of habitats and high levels of endemism are due to its placement along a bio-geographical transitional zone, where the Upper Paraná Atlantic Forest merges with the Cerrado and the Humid Chaco eco-regions. However, its relatively fertile soils and location near areas of relatively high population density means it has also been the primary region for agricultural production in Paraguay. The expansion of human activity in the UPAF continues to threaten biodiversity and entire ecosystems within the country. Although indices of fragmentation have not been calculated, maps of remaining forest cover show it to be highly fragmented. By 1997, only 29 fragments larger than 10,000 hectares existed, and only 12 larger than 20,000 hectares. Only one of the latter is under effective protection: the Mbaracayú Forest Nature Reserve, which received assistance from a GEF grant.

**Root Causes of Deforestation and Biodiversity Loss**

6. The underlying causes that contributed to deforestation, and consequently biodiversity loss, in Paraguay were varied. Among the primary causes were the following:

7. **Policy and Legal incentives:** Previous Government policies actively promoted deforestation and unsustainable land management activities, through a combination of subsidized loans for agriculture and livestock ranching, lack of land use planning, and extensive rural colonization programs. Furthermore, prior to the Paraguay Agrarian Statute of 2002 (which promotes rural development with the goal of incorporating rural farming families and landless peasants into the country’s agricultural economy, through a strategy that integrates productivity, environmental sustainability, and distributive equity), many of Paraguay’s laws provided incentives for deforestation practices. Forests were considered “unproductive,” and therefore subject to expropriation. The beginning of invasions on forest property, as well as claims by landless farmers, fueled landowners’ interests in clearing forests in order to reduce the likelihood that their property would be subject to expropriation. The Forest Law of 1973 established legal “forest reserves” to be protected on all rural properties, however the reserves were not required to be set aside through easements or other legally binding mechanisms.

8. **Land Tenure:** Many of Paraguay’s development and conservation challenges have also been accelerated by issues related to private land ownership. About 96% of Paraguay’s land is under private ownership, with 77% owned by less than 1% of the population. Many of these large landowners have cleared forests on their holdings to prevent invasion and subsequent colonization by poor landless farmers. Only land that is “in use” is legally protected from invasion. Furthermore, few state protected areas are publicly owned, and only 122,900 hectares of Paraguay’s UPAF is under some type of regulated protection.

9. **Commodity prices:** In more recent years, high commodity prices, particularly for soybeans, combined with relatively low prices for land and the minimal requirements/costs for clearing
land, have provided significant economic incentives for deforestation. Furthermore, many farming establishments converted to conventional mechanized agriculture which further degrades ecosystems and threatens biodiversity. Periods of high returns to livestock production have also increased land conversion for ranching, primarily in the marginal areas of Eastern Paraguay and the Paraguayan Chaco.

Policies, institutions, laws and environment
10. A series of steps that have been taken over the past decade in Paraguay. Following the National Strategy for the Protection of Natural Resources (1995) and a number of relevant pieces of legislation passed in the 1990s, the Government of Paraguay (GOP) created the Secretary of Environment (SEAM) in August 2000 and passed Law No. 1562/00 creating the national environmental system (SISNAM). In 2003, following its commitments under the Convention on Biological Diversity (CBD), SEAM prepared the National Strategy and Action Plan for the Conservation of Biodiversity (ENPAB), through broad stakeholder consultation and consensus, with financial assistance from GEF. In December 2004 the administration also passed the “Zero Deforestation Law” (Law No. 2524), and in May 2005 the Consejo Nacional del Ambiente (CONAM) approved Paraguay’s National Environmental Policy which provides a framework for conservation of the UPAF. This National Policy recognized the problems of environmental degradation and the driving forces behind it, while establishing broad objectives, principles, and obligations to combat the problem, including the creation and enhanced regulation of public institutions.

11. The aforementioned “Zero Deforestation Law” has contributed to a significant reduction in deforestation rates in Paraguay’s eastern region. In addition, the slowing in the rate of deforestation is also a function of resource depletion according to the Global Land Cover Facility (University of Maryland) and Guyra Paraguay (a local NGO), deforestation rates have fallen from approximately 112,000 hectares/year in 2001 to approximately 20,000 hectares/year in 2005. Under this law, a complete audit of more than 600 forest management plans, for purposes of monitoring land use changes in the UPAF, have been carried out by SEAM and the National Forest Service in 2004 and 2005. Satellite images detected that the actual deforestation rate was three to four times greater than the rate authorized in the plans—thus displaying the need for better enforcement mechanisms. Another factor that has arisen over the past four years since the law and enhanced monitoring have been in place, is the significant increase of forest fires. In general, forest fires in Eastern Paraguay are linked to deforestation activity. The subtropical forests characteristic of the region are not prone normally to fires. Generally, the degradation of the forests opens the understory and has a drying effect that allows landowners to burn in the dryer winter season.

Gaps in Natural Resources Management
12. Through these actions, the GOP has demonstrated commitment to conservation of natural resources and biodiversity. However, gaps and inconsistencies remain, particularly in the form of: a) inappropriate incentives for expanding agriculture and colonization; b) lack of technical expertise and resources for agricultural extension services to introduce conservation activities, both in protected areas and in productive landscapes; c) weak capacity to implement

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1 Such as the “Wildlife Law” (1993) that created the National System for Wildlife (SINAVISI) or the “Protected Areas Law” that created the National System of Protected Wilderness Areas (SINASIP).
environmental protection policies and enforce existing environmental laws (currently in Paraguay’s public protected areas system, there is less than one park guard per 20,000 hectares of protected areas); and d) lack of participation by, and coordination among, major stakeholders (including government, private sector, donors and local communities) to ensure maximum efficiency, sustainability, and replicability of actions and investments.

The Proposed Project
13. The proposed Project would help address those gaps by assisting GOP, in particular SEAM and the Ministry of Agriculture and Livestock (MAG), in their efforts to advance conservation and natural resource management in Paraguay’s Upper Paraná Atlantic Forest. The Project would assist the GOP through consolidation of the national system of protected areas, and by promoting the adoption of economically and environmentally viable integrated production systems among rural producers—complementing the efforts made by MAG in improving the management of productive resources through the Bank-financed Sustainable Agriculture and Rural Development Project (PRODERS, Report No. 41419-PY), approved by the Board in January 2008 and declared effective by the Bank in June 2009, after approval by the Paraguayan Congress.

14. Itaipú Binacional, the bi-national hydroelectric enterprise situated on the Paraná River and jointly owned by Paraguay and Brazil (hereafter referred to as “Itaipú”), has also joined this effort towards improving conservation and natural resources management in Paraguay and will be the recipient of the GEF grant. Together with SEAM, Itaipú has been working to undertake conservation and rural development activities around the Itaipú Dam, aimed at i) ensuring adequate operation of the hydroelectric plant, and ii) fulfilling, in part, Itaipú’s social responsibility objectives as a publicly owned enterprise. Itaipú is well positioned to be the implementing agency for this Project. As mentioned, Itaipú’s facilitation of the Project fulfills, in part, its mission for corporate social responsibility to ensure the environmental sustainability of the reservoir’s catchment area, as well as to improve the quality of life of the people living within its surroundings. Itaipú will be able to provide technical oversight to Project activities, as well as essential institutional coordination with SEAM and MAG for effectively carrying out Project activities.

B. Rationale for Bank Involvement

15. The Bank is well positioned to help Paraguay conserve its globally significant biodiversity and provide an important catalytic effect by combining resources from GEF, IBRD (through PRODERS), and the GOP (through Itaipú), providing needed support to the Republic of Paraguay’s government strategy included in the National Environmental Policy (2005).

16. This Project provides a unique opportunity for GEF and the World Bank to assist the GOP’s efforts as: a) the identified eco-region is extremely important for regional and global biodiversity conservation and is under serious threat; b) the GOP has shown commitment to biodiversity conservation; c) at present there exists an incipient private sector commitment (the participation of some private owners in the creation of private reserves promoted by NGOs is a good example) and potential for partnership between the private sector, NGOs, government and donor agencies
has been demonstrated; and d) the GOP currently has very limited financial resources to achieve the Project objectives.

17. With coordinating support from Itaipú, the Project would also provide effective management of the UPAF’s ecosystems and consolidate the GOP’s priority programs within MAG and SEAM for reversing the trends of biodiversity loss and land degradation through rural development, civil society outreach, and coalition-building. Support through the proposed Project is essential to counter the growing threats to the remaining habitats of the country, particularly in the UPAF.

18. The World Bank has amassed a considerable experience in preparing and managing biodiversity conservation projects around the world and in the region, in particular in the State of Paraná in Brazil (that not only shares the UPAF with Paraguay, but also the Itaipú dam). Most of these related World Bank projects are in areas with rural poverty and severe natural resources degradation. As such, the Bank is an appropriate partner for the GOP in its efforts to reverse the natural degradation trend and conserve the biological diversity in Paraguay which is of national and global significance.

19. The Bank’s support would also indirectly facilitate the GOP’s effort to address rural poverty issues including sustainable management of the natural resource base. The experience in Paraná, combined with the Bank’s experience of working with enterprises such as Itaipú to ensure continued, optimal investment for mutual economic, social and environmental gains, as well as the ability to leverage resources from the PRODERS Project, means the Bank has a significant comparative advantage to support implementation of this Project in Paraguay.

C. Higher Level Objectives to which the Project Contributes

20. The proposed Project is consistent with the World Bank Group’s Country Partnership Strategy (CPS) for Paraguay (2009 - 2013), discussed by Executive Directors on May 5, 2009 (Report No. 48087-PY), connecting with all three CPS pillars. Specifically, the Project will support the third pillar goal of “supporting sustainable growth and environment" by helping farmers improve farming practices in an environmentally-sustainable manner, while strengthening government capacity to mainstream biodiversity successfully in its agricultural interventions. The Project will also support the second pillar, aimed at increasing social inclusion, by closely coordinating actions with the PRODERS Project that will be implemented in the poorest rural areas of Eastern Paraguay. Finally, by including a strong participation strategy and sound accountability mechanisms, the Project will contribute to the first CPS pillar aimed at increasing transparency in public administration.

21. The Project’s objectives are fully consistent with guidelines and decisions of the Conference of the Parties (COP) of the Biodiversity Convention regarding conservation and sustainable use of biological diversity. Specifically, the Project is consistent with the National Biodiversity Strategy of 2001 and the subsequent Action Plan of 2003, within the context of the Convention of Biological Diversity supported by GEF. The Project would also complement the efforts of the “Zero Deforestation” law of 2004, as well as the National Environment Council (CONAM) and National Environmental Policy—both approved in May 2005 to create an enabling environment for the conservation of the UPAF. The most recent actions, that have demonstrated the
government’s priorities for natural resource management and biodiversity conservation, including i) the launch of a debt-for-nature swap with the U.S. Treasury in 2007, and ii) a submission to UNFCC on “avoided deforestation” for discussions in the Conference of Parties (COP) held in Bali in December 2007.

22. The proposed Project is consistent with the GEF Biodiversity Focal Area Strategic Priorities, in particular, (1) SP-4: Strengthening the policy and regulatory framework for mainstreaming biodiversity; (2) SP-3: Strengthening terrestrial PA networks; (3) the Land Degradation Focal Area Strategic Priority 2: Supporting Sustainable Forest Management in Production Landscapes; and (4) Sustainable Forest Management Strategic Objective 2: To promote sustainable management and use of forest resources. Conservation and sustainable management of the Atlantic forest are among the key priorities envisioned in the Sustainable Forest Management Framework being considered by the GEF.

II. PROJECT DESCRIPTION

A. Grant Instrument

23. The proposed Project consists of a GEF grant of US$ 4.5 million and co-financing of US$ 13.79 million. Co-financing will be derived from counterpart funding of US$ 6.0 million from Itaipú Binacional, US$ 6.31 million funded through the partially-blended IBRD PRODERS Project, and approximately US$ 1.48 million derived from beneficiary in-kind contributions. The total budget for the proposed Project is US$ 18.29 million.

B. Project Development/Global Environment Objective and Key Indicators

24. The objective of the Project is to assist the Member Country’s continued efforts to achieve sustainable natural resource-based economic development in the Project Area, by: (a) establishing the Mbaracayú-San Rafael conservation corridor within public and private lands through sustainable native forest management practices for biological connectivity; (b) encouraging sustainable agricultural practices that maintain biodiversity within productive landscapes, while increasing productivity and mainstreaming biodiversity conservation; (c) strengthening the institutional capacity of MAG to implement conservation techniques in the rural landscape; (d) strengthening the institutional capacity of SEAM to improve knowledge on forest and biodiversity conservation activities, including the monitoring and enforcement of said activities; and (e) strengthening the National Protected Areas System.

25. Key indicators include:

- By the end of Project, 250,000 hectares of land within the productive landscape are under sustained effective management for conservation and production, based on the GEF SP2 Tracking Tool. An estimated 250,000 hectares of Mbaracayú-San Rafael Conservation Corridor are conserved and 30,000 hectares restored\(^2\) within the corridor. A total of 2,500 farmers improve forest management and integrate biodiversity conservation into their productive activities.

\(^2\) These target areas include native forest which are still ecologically viable to ensure biodiversity conservation, sustainable management or restoration.
- By the end of Project, an increase of at least 150,000 hectares in 10 private protected areas reserves and 250,000 hectares of the public system strengthened based on the GEF SP1 Tracking Tool.
- By the end of the Project, improved capacity at SEAM and MAG for policy development in the areas of tradable rights and forest conservation; disincentives for the unsustainable use of natural resources; certification of sustainably-produced products; and mechanisms to provide ecosystem services.

C. Project Components

26. The Project would advance conservation and natural resources management in the UPAF by strengthening core biodiversity refuges (established protected areas), and linking these through the creation of the aforementioned Conservation Corridor of 1.14 million hectares (40% of the remaining UPAF forest area).

27. The Corridor is defined as the area linking the Mbaracayú and San Rafael Protected Areas, containing valuable existing forest remnants (see Annex 4 for details). The Corridor model will be presented by the Project to farmers, the private sector, and/or agencies within the government as a biodiversity conservation area in which only conservation-friendly activities should be developed. These conservation friendly land management practices will demonstrate a positive impact on biodiversity conservation, reduction of soil erosion, and improvement of soil fertility. The Corridor would be located in six departments of eastern Paraguay (Alto Paraná, Canindeyú, Caaguazú, Caazapá, Guairá, and Itapúa) and a specific micro-catchment land use planning strategy would be implemented (see Annex 4)3.

28. The corridor strategy builds upon detailed and comprehensive information available on forest cover as well as geographic, socio-economic, and demographic data. The resulting linkages will integrate the surrounding ecosystems, including those portions of the UPAF ecosystem in Brazil and Argentina, within a corridor to maintain the genetic viability of the resident species and enable sustained, integrated conservation of the ecosystems. Lastly, the Project would help to resolve any land titling issues within the Corridor indirectly by requiring that all beneficiaries (especially small farmers) resolve any tenure/titling restrictions before participating in sub-Project activities. Land tenure/titling restrictions will not be a disincentive to participate in Sub-projects. In those cases where there is no clarity in tenure, the Project would provide technical assistance activities.

29. Specifically, the Project consists of the following four components.

30. **Component 1: Re-establishment of Connectivity between Protected Areas (Total US$ 12.005 M of which $ 1.815 M would be funded by the GEF).** This component will finance the following activities:

3 The Project area coincides with Itaipú’s area of environmental influence (upper Paraná basin). The nature conservation activities currently developed by Itaipú under this area are supervised by the Itaipú’s Environmental Directorate, which is under the Itaipú’s Superintendencia de Gestion Ambiental. The Superintendencia has the capacity to plan, supervise or execute environmental management programs related to topics of interest to the company, by means of actions, that are carried out jointly in the area of interactive influence.
The provision of Community Grants I to carry out demand-driven investments on, *inter alia:* (a) sustainable use of forest remnants to generate income while conserving biodiversity; (b) restoration and regeneration of forests to combat habitat degradation and erosion of land in areas with degraded or no forests; and (c) any other investment of similar nature acceptable to the World Bank.

The provision of Community Grants II to carry out demand-driven socio-productive investments on, *inter alia:* (a) adoption of sustainable land use practices; (b) increasing crop and livestock (small animals) production; (c) forest and water conservation practices at farm levels; (d) diversification and improvement of production systems to increase income; (e) adoption of increased carbon sequestration practices; and (f) any other investment of similar nature acceptable to the World Bank.

Provision of technical assistance to potential Beneficiaries in the design of Community Subprojects I.

Preparation of an operational procedures manual for Community Subprojects I, (the Community Subproject I Manual) which manual shall include, *inter alia:* (a) the criteria for selecting Beneficiaries and approving Community Subprojects I; (b) the guidelines to be followed by Beneficiaries in the presentation of Community Subprojects I for approval thereof; (c) the functions and responsibilities of the EC; and (d) the terms of reference for the semi-annual technical audits referred to in Part A.5 of the Grant Agreement.

Carrying out of semi-annual technical audits of Community Subprojects I in a manner and on terms acceptable to the World Bank.

Provision of technical assistance to the Recipient to assist it in the supervision of the implementation of Community Subprojects.

31. The objective of this component would be to maintain or recreate the connectivity between protected areas in the proposed Conservation Corridor, which would provide continuous biological links to enable a crucial flow of genetic resources between the large forest remnants within the corridor. Specifically, GEF-funded activities would include financial and technical assistance to at least 2,500 small farmers to improve forest management and biodiversity conservation. By Project end, at least 250,000 hectares of land within the Project area would have adopted these practices, and at least 25 micro-catchments land use plans would be developed in a participatory way to identify critical areas for biodiversity conservation in each farm.

32. **Component 2: Strengthening and Expansion of the National Protected Areas System** *(Total US$ 1.815 M of which US$ 0.57 M would be funded by the GEF).* This component will finance the following activities:

- Strengthening the management of existing Public Protected Areas and Itaipú-Owned Protected Areas through, *inter alia,* the carrying out of the following activities: (a) the development and approval of voluntary management plans for the Caazapá National Park, the Ybyturuzú Managed Resource Reserve and the Ñacunday National Park; (b) the implementation of voluntary management plans for the Caazapá National Park, the San Rafael Managed Resource Reserve, the Ybyturuzú Managed Resource Reserve and the Ñacunday National Park; (c) the provision of technical assistance to design a demarcation plan of the area covered by the Ybyturuzú Managed Resource Reserve and the Ñacunday National Park; and (d) the carrying out of selected infrastructure investments in the
Caazapá National Park and the San Rafael Managed Resource Reserve, which investments consist of, *inter alia*, rehabilitation of roads (within the existing right-of-way), the construction of park ranger posts, and the installation of a radio system for the communication among park rangers, all in accordance with criteria acceptable to the World Bank.

- Promoting the establishment of Private Protected Areas, through, *inter alia*, the carrying out of the following activities: (a) the elaboration of proposals for the creation of 10 new Private Protected Areas; and (b) the development of at least six voluntary management plans for existing or new Private Protected Areas.
- Establishment of a biological sub-corridor (within the Mbaracayú-San Rafael conservation corridor) to be named as the Carapá Biological Sub-Corridor, through, *inter alia*, the carrying out of the following activities: (a) the definition of micro-corridors; (b) the restoration of natural habitats within said sub-corridor; and (c) the implementation of management plans for six Itaipú-Owned Protected Areas.

33. This component will strengthen Public Protected Areas and Itaipú-owned Protected Areas within the proposed Conservation Corridor. Through this component, by Project end, at least 400,000 hectares will be conserved as core refuges of biodiversity within the Protected Areas System of the UPAF. Key protected areas (public and Itaipú-owned) would be supported to improve their management capacity comprising at least 250,000 hectares, which includes the consolidation and creation of 10 private protected areas as part of their buffer zones, covering 150,000 hectares.

34. **Component 3: Enhanced Policy Framework and Institutional Strengthening (Total US$ 2.951 M of which US$ 1.685 M would be funded by the GEF).** This component will finance the following activities:

- Carrying out, *inter alia*, the following capacity building activities: (a) the provision of training to staff of selected Municipalities and Departments on environmental management; (b) the acquisition and utilization of selected equipment and vehicles for SEAM to assist SEAM in the carrying out of its functions and responsibilities; and (c) the provision of training to MAG’s staff on biodiversity conservation techniques in the rural landscape of the Mbaracayú-San Rafael conservation corridor.
- Carrying out of communication and Project dissemination activities, which include, *inter alia*, the following activities: (a) the design and implementation of communication campaigns; (b) the provision of training and the elaboration/production of training materials; and (c) the dissemination of the National Environmental Policy and the National Strategy for Biodiversity Conservation.
- (a) Design of land use plans for selected Municipalities; and (b) design of a system to monitor compliance with the land use plans mentioned in (a) herein.
- Carrying out of, *inter alia*, the following activities aimed at encouraging sound management of natural resources, and at addressing major gaps in knowledge for sound decision-making on incentives for natural resource management: (a) the design of regulations/mechanisms to implement Law No. 3001/06; (b) the design and implementation of a pilot program on tradable rights (*derechos canjeables*); (c) the elaboration of proposals for establishing disincentives for the irrational use of natural resources; (d) the provision of support for the certification or labeling/marketing of
sustainably-produced products in the marketplace; and (e) the carrying out of a study on a mechanism to provide ecosystem services by the Recipient.

- Design and implementation of an environmental education program.

35. The objective of the proposed component is to strengthen the institutional capacity and coordination of GOP institutions responsible for management of natural resources and biodiversity. By the end of the Project, extension services from the MAG will incorporate biodiversity within the productive system in the whole area of the Conservation Corridor and a sufficient number of studies and actions plans (to be requested by SEAM) for improved policy instruments would have been developed, with Recipient commitment for implementing action plans.

36. Component 4: Project Management, Monitoring and Evaluation (Total US$ 1.52 M of which US$ 0.43 M would be funded by the GEF). This component will finance the following activities:

- Design and implementation of a Project monitoring and evaluation system.
- Design and implementation of a land-use monitoring system.
- Design and implementation of a Project integrated management information system.

37. The objective of this component is to facilitate the efficient execution of the Project and would be achieved through establishment and operation of a Project Management Unit that would be responsible for Project management, administration, and dissemination of information to other Projects within Paraguay. Itaipú and SEAM will develop an adequate land-use monitoring system, which would provide accurate, real-time information to monitor and enforce the application of natural resource management and biodiversity conservation practices in the conservation corridor.

D. Lessons Learned and Reflected in the Project Design

38. The following key lessons learned from other GEF and non-GEF projects (listed in Annex 2), were taken into consideration in the design of the proposed Project:

- The importance of focused consolidation of protected areas and incorporation of fragments in a corridor design in order to form eco-regions sufficiently large to support biodiversity. Related to this point as well is the importance of integrating activities, including macro activities with those occurring at the micro-catchment level, and creating a sense of shared ownership of resources and obligations among stakeholders. Project design addresses the first lesson by creating a conservation corridor as the main territorial framework to conduct sustainable management. The coordination and integration with some of PRODERS’ activities will ensure this the ownership in the sustainable use of natural resources.

- The importance of developing a strategic approach and supporting a policy framework (including targeted government-promoted incentives) to address the social and political root causes of biodiversity loss, particularly covering issues of land tenure mainstreaming, legal incentives, and enforcement. In this sense, the Project includes a set of studies which will economic factors that impel small farmers to slash and burn agriculture and to deforestation to clear land for agriculture.
• A long-term commitment to institutional capacity building at the local and regional levels is essential to provide the necessary skills and knowledge, not only to promote direct biodiversity conservation activities, but also to ensure that an adequate enabling legal and policy framework is in place. This is particularly true for promoting decentralization, which is important for conservation. This Project is a first step towards this long term commitment in hands of SEAM, involving it in the execution of key actions and key participation in the Project Steering Committee.

• Facilitating “direct” biodiversity conservation activities by communities or conservation stakeholders dependent upon conservation for their livelihoods and quality of life can be very helpful for conservation. Specifically, by ensuring that: (i) priority is given to recognizing the expertise and views of small farmers\(^4\), giving them ownership, and ensuring their participation; (ii) there is meaningful involvement of farmers’ organizations and NGOs through the Project cycle in order to ensure quality, avoid problems, and create networks; (iii) there is creative cooperation among implementing agencies and other global organizations working in the area; and (iv) there is adequate monitoring and evaluation of results in order to scale up successful pilot experiences and measure the full impact of activities.

• Plans for sustainability, including innovative financing and support mechanisms, following the end of the Project need to be incorporated in Project design from the outset in order to provide the means for continuing sound practices for biodiversity conservation, especially outside of protected areas.

• Technical assistance that integrates biodiversity conservation and sustainable agricultural practices is key to the objective of mainstreaming biodiversity into the productive landscape.

E. Alternatives Considered and Reasons for Rejection

Alternative: A full eco-region approach to conserving the UPAF rather than prioritizing corridors and key refuges

39. The alternative considered was applying Project resources to the conservation of the biodiversity in the entire Eastern region of Paraguay. Budgetary restrictions meant, however, that the full-area approach would result in patchy, low-intensity interventions that would reduce Project results and impact. Optimal efficiency in conservation would be achieved by concentrating on priority areas to ensure strong connectivity through maintaining and enhancing a conservation corridor, building on PRODERS’ strategy.

III. IMPLEMENTATION

A. Partnership Arrangements

\(^4\) There is evidence in the region about activities which could be friendly in terms of biodiversity conservation and sustainable use of forest. Usually, these are part of the traditional knowledge found in small farmers. Examples of these activities are: honey production, enrichment with herbal mate, palm trees, fruit trees, agro-forestry systems, production of medicinal plants, production of aromatic plants, etc. There are tangible experiences, especially in Argentina which demonstrate that the promotion of these activities can be successful. The Atlantic Forest Program in Fundación Vida Silvestre Argentina has amassed an important experience on this matter which represents an important point of departure for this Project.
40. Given the nature and objectives of the Project, effective partnerships are key to successful implementation. A partnership process between MAG, SEAM, and Itaipú started during Project preparation and will be consolidated during the implementation phase.

41. In particular, the PRODERS and the proposed Project are expected to develop strong synergies and complementarities through their respective Project activities and sites. Considerable synergies and efficiencies between the two Projects are gained through a partial blend design, particularly in the implementation of integrated actions at the micro-catchment level, monitoring and evaluation, technical assistance, education, and institutional aspects.

42. An estimated US$ 6.3 million co-financing from IBRD PRODERS would be invested in on-farm NRM investment Sub-projects within the micro-catchment investment plans. These Sub-projects funded by PRODERS will be carried out within the 12 micro-catchments located in the proposed Conservation Corridor which overlap with Caaguazú, one of the departments in which PRODERS would operate. Counterpart funding from Itaipú would finance on-farm NRM investment Sub-projects in the remaining micro-catchment investment plans of the Corridor. Once micro-catchment investments/ plans, financed by PRODERS or Itaipú, are under implementation, beneficiaries within the micro-catchments in the Corridor would be eligible to receive GEF funding for biodiversity conservation investments.

B. Institutional and Implementation Arrangements

43. The implementing agency for the Project will be the Paraguayan authority within Itaipú. The main co-executors will be SEAM and MAG, which would sign a tri-partite cooperation agreement with Itaipú to formalize their participation in the Project. It is envisaged that SEAM would play primarily a policy setting role in the Project, while providing field support for enforcement in sustainable management of forest through the agency’s fiscalizadores. MAG would be involved in Project implementation activities through PRODERS, including extension services provided by DEAG. Departmental and Municipal Governments will also sign specific agreements with Itaipú and the co-executors, SEAM and MAG, according to their roles in the Project. NGOs and consultants would provide services for specific Project activities. MAG and SEAM capacities have been evaluated during Project preparation, resulting in the set of actions included in Component 3 (Enhanced Policy Framework and Institutional Strengthening), required addressing the institutional weaknesses that were identified.

44. Itaipú, with oversight from SEAM and MAG, will have overall responsibility for Project implementation including financial management and procurement. Implementation will be organized at three different levels:

- **Decision-making level through a Project Management Council** composed by the highest authorities of Itaipú, SEAM, and MAG, as well as the Project Coordinator, in charge of the Project Management Unit mentioned below. This Council will provide primary oversight over and strategic decisions for the Project. This Council will have senior government officials as members, with clear terms of reference (see Annex 6 for more details) and also have the authority to approve work plans and budgets.

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5 As part of its environmental policy, Itaipú Binacional has been focusing on activities that will ensure that the Itaipú dam continues to run effectively i.e. by reducing siltation.
• **An Executive Working Group**, will meet quarterly to coordinate on all operational aspects of the Project’s management, such as: integration/participation of the various actors in Project implementation, ongoing evaluation of Project progress, and resolution of coordination conflicts or unequal priorities that may exist among Project participants. This Executive Working Group will consist of one representative from each of the co-executors (Itaipú, SEAM, MAG/PRODERS), as well as an NGO representative, a representative of the Council of Governors, and a representative of the Association of Municipalities (OPACI).

• **Managerial Level:** a **Project Management Unit (PMU)** within Itaipú would be established, functionally dependent on the *Superintendencia de Medio Ambiente* (the Environmental Unit within the General Directorate of Coordination). The PMU’s duties will include day-to-day management functions, management of the Project cycle and activities, administrative and financial management of the Project, production of reports and audits, and coordination with the World Bank. The PMU structure will also include field coordinators located in each department of the Corridor.

45. The specific arrangements for implementation of individual components, as well as the structure and responsibilities of the PMU, are described in Annex 6.

C. **Monitoring and Evaluation**

46. A detailed Project Monitoring and Evaluation (M&E) system has been developed during Project preparation. The M&E system will employ an adaptive management framework characterized by regular monitoring and concurrent evaluation, a comprehensive mid-term review, and a final assessment. The system will be managed by the PMU and will use a comprehensive list of indicators for tracking the performance, results, and impact of Project components. This system will adopt output standards according to the Bank and GEF requirements for reporting.

47. Implementation of the M&E System would be the responsibility of the PMU, which would prepare semi-annual progress reports. These reports would include progress reports based on the Operational Manual’s timetable for the various Project activities, the Procurement Plan and schedule, and the agreed Annual Operation Plans. In addition, the PMU would use the GEF SP1 and SP2 Tracking Tools to monitor the progress of Project components when required.

48. The PMU will develop an independent monitoring plan based on tracking progress with regard to species (including flora and fauna), sites, and landscapes. Primary aspects to be monitored under this M&E system are: deforestation and fire occurrences; regeneration and recovery of forests; evolution of the Conservation Corridor’s landscape; monitoring of the IBAs and/or KBAs’ globally-threatened species and core zones of the Conservation Corridor; and the overall integrity and connectivity of the Project area. The monitoring of land use change would

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6 Different Project developed by the World Wildlife Fund and Birdlife International in the Upper Paraná Atlantic Forest have made available baseline information for flora and fauna. Regarding jaguar density, WWF has a long tradition in financing monitoring experiences using camera traps. This will allow understanding the incidence of
provide to SEAM “real time” information on illegal logging within the corridor, which will be immediately communicated to the authorities both at the central and local government level for action.

49. Evaluations of Project progress would be carried out at mid-term and at the end of the Project. These evaluations would be the responsibility of the PMU, with the assistance of independent consultants. The Project would support a review workshop or Implementation Completion Report stakeholder meeting, wherein all participating parties (farmers, farmers associations, academia, NGOs, and governmental agencies) would participate to review and assess the Project’s findings at Project completion to develop a post-Project sustainability plan.

D. Sustainability and Replicability

50. This Project is designed to provide the most efficient, sustainable, and replicable model for achieving its objectives. In particular, Components 1 and 2 consist of initial pilot activities, which will then be replicated during the rest of the Project. Component 3 works directly to facilitate sustainability and replication of these activities by ensuring that the activities conducted are supported by changes in policies and institutions. The Project thus provides the potential to later scale-up these activities within Paraguay following Project closure. The Project would also contribute to the sustainability of other GEF activities in Brazil and Argentina as it would link Paraguay’s remaining portions of the UPAF with others in the region.

51. At the same time, this Project would create and/or strengthen strategic partnerships with the private sector, in particular Itaipú, to create the needed synergies for conservation and development in Paraguay. In addition, the strengthening of governmental institutions will involve building capacity in SEAM and MAG to expand beyond Project scope, not only at the national political level but also at the local level. The Project will provide models to local governments and to achieve successful decentralization and delegation of authority for mainstreaming biodiversity conservation in rural development.

52. Awareness-raising and capacity-building at the farm level, as well as eco-regional planning, would also continue after Project completion. The empowerment of the Project’s target group, and its increased social capital and influence over access to and use of development support would reinforce economic and environmental sustainability.

53. Local governments would provide a level of sustainability through the development of strategic plans for Departments and Municipalities. These institutions currently receive royalties from Itaipú used for education, health and social promotion, and with the increased awareness, as a result of this Project interventions, these royalties are expected to be directed towards more biodiversity-friendly activities, achieving a balance between short term and long term interest. Broad participation with other actors, including civil society and private enterprises, will seek to ensure adoption and understanding well beyond the Project completion period. In addition, the Project will strengthen and complement other SEAM investments and policy, seeking to provide incentives to local governments to ensure that costs of oversight and implementation are shared.

conservation policies in the area given that jaguars are good indicator of the ecosystem health in terms of connectivity.
Financial sustainability

54. The Project implementation process will represent an opportunity for SEAM to identify additional funding by providing familiarity with financial mechanisms such as debt-for-nature-swaps (Paraguay is currently negotiating debt swaps with the U.S. Government under the Tropical Forests Conservation Act). This, together with the creation of an Environment Fund (with IDB support) over the next few years, is expected to generate resources for the continuation of activities in these targeted critical areas. The PMU will coordinate with these mechanisms to maintain the flow of investments and incentives needed to consolidate conservation activities over the longer-term. Furthermore, the involvement of local and national NGOs would also increase the likelihood of sustainability given their experience and long term commitment to sustainable, community-led conservation activities.

Replicability

55. Project design is based largely on a current initiative in biodiversity conservation in the rural landscape of the Upper Paraná Atlantic Forest in Paraná, Brazil. Lessons learned from the World Bank/GEF Mbaracayú Forest Nature Reserve Project (MSP) were also used in the design of this Project. Guyra Paraguay and AlterVida, two leading NGOs working with communities in areas of high importance for biodiversity, would learn from this Project not only to expand to other regions but also to intensify actions in the same eco-regions. Through environmental education and dissemination programs, results will reach out to a wider population during and beyond the Project period and will be used beyond this Project by Itaipú, the local decentralized authorities and the local and national NGOs. Publications, websites and other multi-media tools will allow individuals, communities, public and non-governmental institutions to access relevant information and to apply this information to their own areas within the country and within other parts of Latin America, which share similar natural and socio-economic conditions.

E. Critical Risks and Possible Controversial Aspects

56. The public sector in Paraguay exhibits significant weaknesses in the formulation and implementation of public policies as well as in the delivery of public services and controlling corruption. Underlying these findings is the fact that Paraguay’s institutions have suffered from limited political competition, poor checks and balances among state powers and limited accountability and transparency in public administration. The last presidential elections are a clear indication that a healthier and more competitive political process has begun to emerge, with the expectation of improved public debate and social consensus building. There are also increasing efforts in the public administration to offset the systemic practices of patronage and corruption.

57. In the context described above, the proposed Project is a complex operation with high risks aiming at significant positive environmental and social impacts. The following table describes the main risks for the Project (including fiduciary risks), their ratings and the proposed mitigation measures for them:

<table>
<thead>
<tr>
<th>Description of risk</th>
<th>Mitigation Measures</th>
<th>Residual risk level</th>
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<tbody>
<tr>
<td>A. Project Risks:</td>
<td>(i) Tri-partite agreements sets framework for</td>
<td>S</td>
</tr>
<tr>
<td>Description of risk</td>
<td>Mitigation Measures</td>
<td>Residual risk level</td>
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<tr>
<td>Complex Project implementation and governance structure leading to delays(^7).</td>
<td>cooperation among actors and is a condition for grant effectiveness. (ii)The Project has an Operational Manual defining clear roles and responsibilities for each participating agency.</td>
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<tr>
<td>Partnerships among Itaipú, SEAM and MAG, which are key to successful implementation, might not prove robust.</td>
<td>(i) The working arrangements during Project preparation between MAG, SEAM, and Itaipú will be further strengthened and consolidated throughout implementation by means of the Management Council and the Executive Working Group, which are part of the Project design. This will provide a forum for surfaced and resolving differences in terms of priorities and interests among MAG, SEAM and Itaipú.</td>
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<tr>
<td>Low social acceptability of sustainable use activities among farmers</td>
<td>(i) The Project will include dissemination and training activities to create an enabling environment in the field. (ii) PRODERS will help demonstrate that natural resources stewardships and sustainable farm livelihoods are compatible. (iii).The Project will provide technical assistance which will be an initial incentive to pilot new management systems. (iv) As part of the implementation process, the Project will show to its target audiences different successful experiences achieved in the same environment especially in Brazil and Argentina.</td>
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<tr>
<td>Difficulty to provide coverage to the whole universe of stakeholders. Lack of readiness to receive financial support to implement Sub-projects.</td>
<td>(i) The Project will design an implementation strategy to identify key “entry points” (such as NGOs, farmers associations, community based organizations) that will be the nexus with beneficiaries in the field, in order to deliver the financial support in a vast geographic area. (ii) Training will be provided to beneficiaries in order to ensure an effective preparation and implementation of Sub-projects.</td>
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<td>Co financing may not materialize or be delayed.</td>
<td>(i) PRODERS has been declared effective and is launching its field activities in the proposed Project target area. (ii) Itaipú's share is secured. Itaipú will deposit its own funds first before receiving the GEF share.</td>
<td>S</td>
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<tr>
<td>Reputation risk to the Project due to the link of the Project to a controversial dam</td>
<td>(i) A communication and dissemination plan has been included in the Project design to demonstrate the goals of the partnership between the Government of Paraguay and Itaipú.</td>
<td>S</td>
</tr>
<tr>
<td>Funds transfers to NGOs, cooperatives and other</td>
<td>(i) Specific training program to be delivered by Itaipú Binacional staff to beneficiaries receiving funds from</td>
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</tbody>
</table>

\(^7\) The number of actors involved in the management of forest assets and natural resources in Eastern Paraguay, requires an inclusive Project design. At the same time, the participation of many actors increase implementation complexity.
<table>
<thead>
<tr>
<th>Description of risk</th>
<th>Mitigation Measures</th>
<th>Residual risk level</th>
</tr>
</thead>
<tbody>
<tr>
<td>groups of small producers/beneficiaries increases complexity and the risk level of the Project</td>
<td>the Grant. (ii) Semi-annual concurrent audit on Sub-projects. (iii) Specific framework for community grants (See Annex 7 – Section 6 Community Grants Framework)</td>
<td></td>
</tr>
<tr>
<td>Low levels of transparency and accountability and risks of Project capture by elites</td>
<td>(i) The Project will involve NGOs during implementation in order to ensure proper monitoring by civil society. (ii). The Project communication strategy will ensure Project accountability from different target audiences.</td>
<td>M</td>
</tr>
<tr>
<td>B. Risks at country Level</td>
<td>(i) The Project will be supervised by an inter sectoral management council. (ii) The Project will develop specific communication tools to disseminate achievements. (iii) Sub-projects will be audited. (iv) Integrated Fiduciary Assessment (IFA) and related activities (v) Enhanced fiduciary framework</td>
<td>H</td>
</tr>
<tr>
<td>Lack of law enforcement. Absence of transparency. Weak attitude towards control.</td>
<td></td>
<td></td>
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<tr>
<td>C. Risks at Entity Level</td>
<td>(i) Integrated Fiduciary Assessment (IFA) and related activities (ii) Enhanced fiduciary framework</td>
<td>H</td>
</tr>
<tr>
<td>(Itaipú Binacional). Risk of misuse of Projects funds.</td>
<td></td>
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<tr>
<td>D. Overall Project Risk/PMU Level</td>
<td>(i) Administrative Operational Manual (AOM) to include internal control procedures, PMU staffing &amp; organization satisfactory to the Bank, job descriptions, IFRs &amp; financial statement formats, specific sub-Project procedures and description of specific staffing assigned to these procedures and Project audit terms of reference</td>
<td>S</td>
</tr>
<tr>
<td>Partial knowledge of World Bank procedures</td>
<td></td>
<td></td>
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<tr>
<td>E. Overall country-level fiduciary risk</td>
<td>(i) Designating Itaipú as the executing agency, combined with the comprehensive mitigating measures included in Annex 7 (FM) and Annex 8 (Procurement) should contribute to control the inherent risk of Project implementation.</td>
<td>H</td>
</tr>
<tr>
<td>F. Overall risk rating</td>
<td></td>
<td>H</td>
</tr>
</tbody>
</table>

Risk Rating: H (High); S (Substantial); M (Modest); N (Negligible or Low).

F. Grant Conditions and Covenants

Conditions of Effectiveness include:
- The execution and delivery of the Grant Agreement has been duly authorized or ratified by all necessary corporate action, and all governmental action.
- The Implementation Agreement has been executed by the parties involved.

Main grant covenants include:
- **Schedule 2. Section II. B**: Without limitation to the provisions of Section II.B.3 of this Schedule, and for purposes of carrying out Part A.5 of the Project, the Recipient shall: (a) hire an independent financial auditor with experience and qualifications acceptable to the World Bank; (b) each calendar semester (starting with the calendar semester in which the
Effective Date falls) have Part A.1 of the Project audited by the auditor mentioned in (a) herein in accordance with terms of reference set forth in the Operational Manual, and with consistently applied auditing financial standards, all acceptable to the World Bank; and (c) not later than sixty calendar days after the completion of each said audit, furnish and/or cause to be furnished to the World Bank the information as so audited, and such other information concerning the audited information and such auditors, as the World Bank may from time to time reasonably request.

- **Schedule 2, Section I. M:** The Recipient shall, prior to the commencement of each calendar year during Project implementation, create, and thereafter maintain throughout each said calendar year of Project implementation, a specific budget line entry in the relevant annual Recipient budget in order to keep track of the corresponding expenditures incurred during Project implementation.

- **Schedule 2, Section I. C.(a):** For purposes of carrying out Parts A.2, B.1, B.2, and C of the Project, the Recipient shall enter into a tripartite agreement (the Implementation Agreement) with the Member Country, through MAG, and SEAM under terms and conditions which shall have been approved by the World Bank which shall include, *inter alia*, those set forth in Schedule 3 to this Agreement.

- **Schedule 2, Section I. D. (a) (i):** Upon approval of a Community Sub-Project I, the Recipient shall:

  - make available, on a grant basis, part of the proceeds of the Grant allocated to Category (2) (the Community Grant I) to the corresponding Beneficiary under a community sub-Project agreement (the Community Sub-Project I Agreement) to be entered into between the Recipient and said Beneficiary under terms and conditions acceptable to the World Bank, which shall include, *inter alia*, those set forth in Schedule 4 to this Agreement;

- **Schedule 2, Section I. E.:** In addition to the provisions of Section I.D above, the Recipient shall refrain from presenting Grant withdrawal applications to the World Bank and/or withdrawing Grant proceeds from the Designated Account, all under Category (2), until the Recipient has furnished to the World Bank evidence, acceptable to the World Bank, indicating that: (a) the Community Sub-Project I Manual has been approved by the Recipient; (b) an evaluation committee (the EC) of Community Sub-projects I has been established with functions and responsibilities acceptable to the World Bank; and (c) the auditor to carry out the audits referred to in Part A.5 of the Project has been hired as provided in Section II.B.4 (a) of this Schedule.

- **Schedule 2, Section I. F.:** Without limitation to the provisions of Section I.C of this Schedule, and for purposes of carrying out Part A.2 of the Project, the Recipient shall cause the Member Country, through MAG, to comply with the pertinent provisions stipulated in the PRODERS Loan Agreement, as applicable to Community Sub-projects II, which provisions shall constitute an integral part of this Agreement.

- **Schedule 2, Section I. G. (a):** For purposes of carrying out any Project activity in which the participation of a Municipality and/or a Department is needed (as determined by the Recipient), the Recipient shall, if applicable, prior to the carrying out of any given Project activity, enter into an agreement (the Participation Agreement) with the corresponding Municipality and/or Department under terms and conditions which shall have been approved by the World Bank which shall include, *inter alia*, the obligation of the pertinent Municipality and/or Department to provide the necessary assistance, and/or to take or permit to be taken all actions, to enable the Recipient to comply with its obligations referred to in this Agreement, as applicable to the relevant Project activity.
• **Schedule 2. Section I. H:** Without limitation to the pertinent provisions of this Agreement, and if as a result of the carrying out of the environmental/social screening and/or environmental/social assessment referred to in I.D (a) (ii) of this Schedule it is determined that indigenous peoples are present in the pertinent area and/or scope of any given Community Sub-Project I, the Recipient shall: (a) prior to the carrying out of the corresponding Community Sub-Project I, prepare and/or cause the pertinent Beneficiary to prepare an indigenous peoples plan (acceptable to the World Bank) for each said Community Sub-Project I (which plan shall be consistent with the provisions of the Indigenous Peoples Planning Framework); and (b) immediately thereafter, implement, and/or cause said pertinent Beneficiary to implement each indigenous peoples plan in accordance with its terms, and in a manner acceptable to the World Bank.

• **Schedule 2. Section I. I:** Without limitation to the pertinent provisions of this Agreement, and if it is determined that indigenous peoples are present in the pertinent area and/or scope of any given Project activity (other than under any given Community Sub-Project), the Recipient shall: (a) prior to the carrying out of any said Project activity, prepare and/or cause to be prepared an indigenous peoples plan (acceptable to the World Bank) for each said Project activity (which plan shall be consistent with the provisions of the Indigenous Peoples Planning Framework); and (b) immediately thereafter, implement and/or cause to be implemented each said indigenous peoples plan in accordance with its terms, and in a manner acceptable to the World Bank.

• **Schedule 2. Section I. J:** Without limitation to the provisions of Section 2.01 (a) (ii) of this Agreement, and upon the selection of an infrastructure investment under Part B.1 (d) of the Project, the Recipient shall: (a) prior to the commencement of any given investment under said Part of the Project, carry out an environmental/social screening and/or an environmental/social assessment (as the case may be) of the pertinent investment, and if determined by the Bank, approve an environmental management plan, acceptable to the World Bank, for each said investment (which plan shall be based on the results of the environmental/social screening and/or environmental/social assessment mentioned herein, and the World Bank’s comments on the results of said screening and/or assessment, if any); and (b) immediately after said approval, implement and/or cause to be implemented (as the case may be) the corresponding environmental management plan in accordance with its terms.

• **Schedule 2. Section I. K:** The Recipient shall ensure, and cause each Beneficiary to ensure, that any works under the Project do not involve any Resettlement.

• **Schedule 2. Section I. B (a).** Without limitation to the provisions of Section 3.01 of this Agreement, the Recipient shall carry out the Project (other than Part A.2 of the Project) in accordance with the provisions of: (i) the Operational Manual8; (ii) the Community Sub-Project I Manual; and (iii) the Environmental Management Plan.

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8 “Operational Manual” means the Recipient’s manual, dated September 9, 2009, acceptable to the World Bank, which manual sets forth, *inter alia:* (a) the criteria for selecting infrastructure investments of the Project; (b) the criteria for selecting Municipalities and Departments; (c) the criteria for selecting equipment and vehicles; (d) the criteria for selecting Municipalities; (e) the MC, the EWG, and the PMU structures and their functions and responsibilities; (f) the Project’s chart of accounts and internal controls; (g) the format of: (A) the unaudited interim financial reports; and (B) the Financial Statements; (h) the terms of reference for carrying out the Project audits and the audits; (i) the Project indicators (including the results framework); and (j) the Project disbursement and procurement procedures, as said manual may be updated and/or amended from time to time with the agreement of the World Bank.
Schedule 2. Section I - L (b): The Recipient, shall ensure that: (i) the EWG is at all times during Project implementation headed by Project manager; and (ii) the PMU is at all times during Project implementation headed by a Project coordinator and assisted by professional staff (including, *inter alia*, an indigenous peoples specialist, a biodiversity specialist, a natural resource management specialist, an administrative/financial management specialist, a procurement specialist, and a Community Sub-Project coordinator) and administrative staff in numbers and with terms of reference, and qualifications and experience, acceptable to the World Bank.

Schedule 2. Section I – N: The Recipient shall, not later than one year after the Effective Date, establish, and thereafter operate and maintain, at all times during Project implementation: (a) a separate web page, for purposes of disseminating Project information to stakeholders; (b) a digital filing system for purposes of storing documentation related to the Project’s procurement process and contract management (such as, payment certificates, invoices, receipts, and contract guarantees); and (c) a separate Project integrated management information system, all on terms and in a manner acceptable to the World Bank.

IV. APPRAISAL SUMMARY

A. Economic and Financial Analysis

58. The Project has been designed to create the most cost-effective method of conserving the remaining biodiversity in Paraguay’s UPAF, helping to conserve further biodiversity in surrounding areas and, by replication, the rest of Paraguay. Through direct financial and technical assistance to some 2,500 small farmers, the Project aims at improving natural forest management and biodiversity conservation on at least 30,000 hectares, within 250,000 hectares of private lands; restoring degraded native forest; and supporting the adoption of increased carbon sequestration practices. A sample of 8 farm models, representing the most common production systems present in the Project area, was developed during Project preparation to assess the economic and financial viability of the natural resources and biodiversity management and conservation activities that would be promoted under the Project. The results determined that farmers’ net incomes are forecast to increase between 24% and 60%, depending on the farmers’ initial conditions and the cropping pattern. The IRR of these Projects was 14% for the medium and large sized producers and over 50% for the small producers, reflecting the larger gains from biodiversity conservation and improved natural forest management that are potentially available to small farmers.

59. No overall internal economic rate of return (EIRR) of the Project was estimated as the main benefits accrued from the Project are extremely difficult to quantify. These include: (i) conservation of globally-significant biodiversity; (ii) reduced deforestation rate of natural forest and associated biodiversity loss within the productive landscape of the Paraguayan Atlantic Forest; (iii) establishment of a Conservation Corridor within private lands through Sustainable Natural Forest Management practices; (iv) increased adoption of carbon sequestration practices; and (v) implementation of a strengthened Protected Areas System within the Paraguayan Atlantic Forest.
B. Incremental Cost Analysis

60. The baseline scenario for the Project area would entail a number of small disjointed activities as well as large-scale Projects in the area around the Paraná River carried by Itaipú. However, these activities would be limited in their effectiveness and efficiency through a lack of connectivity between areas. The result would be a near complete loss of connectivity within 5 to 10 years with remaining forests being restricted almost entirely to well-run reserves. The consequences for the UPAF’s remaining unique biodiversity would be devastating.

61. The alternative scenario envisions improvements that would promote sustainable land management within the Project area to bring synergies to these activities by connecting them and enabling improved, sustainable conservation of the UPAF’s globally significant biodiversity. The Project would also lead to further investment and benefits for conservation of globally significant biodiversity surrounding the UPAF and throughout the rest of Paraguay through replication efforts. The baseline costs are estimated to be US$ 26.5 million and the incremental costs to achieve this alternative scenario are US$ 18.3 million.

C. Technical

62. From the perspective of conserving biodiversity, the Project is consistent with international best practice and involves a holistic approach in the main areas of interest for the GEF and the Bank to mainstream biodiversity in the productive sector of the rural landscape. The Project is technically sound given that it:

i) Addresses the biodiversity loss in Paraguay by including biodiversity within a strategy of natural resources management and strengthening relevant institutions, thus avoiding the generally ineffective stand-alone approach;

ii) Enhances sustainability by involving biodiversity as a productive factor in the rural landscape with a biological vision from which the key biodiversity areas will be derived and prioritized for Project financing;

iii) Provides the needed capacity and creates other innovative knowledge tools to produce a sound management toolkit for biodiversity;

iv) Provides a framework for stakeholder participation to increase ownership, while at the same time ensuring that several other key cross-sectorial issues are included, such as provision of water resources, forest conservation, reduction of land degradation, etc.;

v) Presents a demand-driven approach from SEAM to promote ideas and innovative methods of adopting sound biodiversity practices and their combination with other natural resources in a broader scope of rural landscape management;

vi) The compliance of individual beneficiary Sub-projects with acceptable technical standards, would be ensured through a combination of instruments, including the participatory preparation of Sub-projects, provision of technical support for management, and the establishment of a detailed M&E system;

vii) Includes private sector participation in biodiversity management, especially outside protected areas, where the conservation of biodiversity is in private hands within key biodiversity areas.
D. Fiduciary

63. A Financial Management (FM) assessment of the adequacy of the proposed financial management arrangements has been carried out in line with the guidelines issued by the Financial Management (FM) Board on November 2005. The assessment conclusion indicates that the proposed financial management (FM) arrangements for the Project meet Bank requirements. The proposed FM & audit arrangements, mitigation measures, and action plan will be implemented to mitigate the High FM risk. Control risk after the implementation of the proposed mitigation measures is considered Moderate. However, the high inherent country risk evidences attitudes and behaviors rooted in the country framework whose weight and relevance materially affect the overall Project risk. Therefore, from the FM perspective, the overall residual risk remains High.

64. With respect to procurement, an in-depth assessment of the Recipient’s capacity was carried out by the team and a detailed action plan was prepared to address all risks identified, as discussed in the Procurement Annex. The overall Project risk for procurement is high, which is the result of: (a) the differences found between Bank and Itaipú procurement procedures, (b) the lack of experience of Itaipú staff in handling selection of consultants according to Bank Guidelines, (c) the risky country procurement environment, mainly due to the remaining challenges in the area of bringing down corruption and the lack of competitiveness of the market, which seems to be compounded by a lack of dissemination of anti-corruption concepts, and (d) the fact that some GEF-financed procurement would consist of a high number of very small, low value purchases done by a high number of in-experienced beneficiaries of Community Participation Sub-projects which are scattered throughout the territory. The corrective measures which have been agreed are: (a) the Special Procurement Provisions listed in Annex 8 will be included in the Grant Agreement, (b) the Project will operate under an Operational Manual to be reviewed by the Bank prior to launching the first procurement process, (c) post and prior review requirements defined in Annex 8 will apply to the Project, (d) key PMU staff will attend training delivered by the Bank on its Anti-Corruption and Procurement policies, (e) Itaipú will appoint an experienced professional acceptable to the Bank as Project Procurement Specialist, (f) use of the SEPA (Sistema de Ejecución de Planes de Adquisiciones) for all GEF-granted Project activities, (g) ample disclosure of Project information through Itaipú’s web page and (h) implementation of an oversight mechanism over community Sub-projects through a concurrent audit to be hired using terms of reference (TORs) acceptable to the Bank. Additional details are available in the Annex 8.

E. Social

65. A social assessment, based on stakeholder consultations, interviews with key informants, literature review, and a field visit was conducted during Project preparation. Its main findings indicate that the key social issues are the following: a) most micro-catchments in the Project area are characterized by a high number of small farmers coexisting with a small number of large farmers; b) high levels of rural poverty and lack of alternative income sources to support

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9 Although Paraguay has made important progress in a number of governance areas in recent years, important challenges still remain, particularly in the area of bringing down corruption. Paraguay ranked 111 out of 163 countries in Transparency International’s 2006 survey.
farmers; c) low educational levels among farmers and capacity to communicate only in Guarani; d) low levels of transparency and accountability and risks of Project capture by elites; e) local governments with weak managerial capacities; and f) low but increasing levels of social participation among small farmers contrasting with high organizational capacity among large farmers. The Project would address these issues through different activities described in detail in Annex 16.

66. Furthermore, as a result of the work conducted during Project preparation and the integration of efforts with the PRODERS Project, the Project will implement an Indigenous Peoples Policy Framework in order to allow for equal access of potential indigenous peoples beneficiaries.

67. Possible conflicts between small farmers and large landholders, between small and large farmers and local government officials and representatives of SEAM will be managed by a participation and conflict resolution strategy, where stakeholders will participate extensively in Project progress. The Project will develop differentiated intervention strategies according to the capabilities, conflicts and needs of each group. These strategies will also encompass mechanisms to overcome the challenges detected for each of the beneficiary groups.

68. The main risk that could affect the Project's objective and in particular its social outcomes is the political capture of the Project by particular groups that may want to use it for clientelistic purposes. The accountability and governance mechanisms that will be in place before the Project starts will help to minimize this risk. In addition, careful World Bank supervision should also contribute to avoid a misuse of resources.

F. Environment

69. The Project was classified as an Environmental Category B, requiring a partial assessment. The Project approach proposed for sustainable integrated renewable resource and biodiversity management is based on over ten years’ successful experience at the World Bank. None of the components poses a significant risk of negative environmental impact.

G. Safeguard Policies

This Project triggers the following safeguard policies:

<table>
<thead>
<tr>
<th>Table 3: Safeguard Policies Triggered by the Project</th>
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</thead>
<tbody>
<tr>
<td>Environmental Assessment <em>(OP/BP 4.01)</em></td>
</tr>
<tr>
<td>Natural Habitats <em>(OP/BP 4.04)</em></td>
</tr>
<tr>
<td>Pest Management <em>(OP 4.09)</em></td>
</tr>
<tr>
<td>Physical Cultural Property <em>(OP 4.11)</em></td>
</tr>
<tr>
<td>Involuntary Resettlement <em>(OP/BP 4.12)</em></td>
</tr>
<tr>
<td>Indigenous Peoples <em>(OP 4.10)</em></td>
</tr>
<tr>
<td>Forests <em>(OP/BP 4.36)</em></td>
</tr>
<tr>
<td>Safety of Dams <em>(OP/BP 4.37)</em></td>
</tr>
</tbody>
</table>
Projects in Disputed Areas (OP/BP/GP 7.60) | X
Projects on International Waterways (OP/BP/GP 7.50) | X

Key safeguards issues raised by the Project:

70. **Environmental Assessment (OP 4.01).** It is expected that the Project will have highly positive environmental impacts, and that it will reduce some of the most important threats to the sustainability of the Upper Paraná Atlantic Forest inside and outside of Paraguay. Positive environmental impacts expected include: reduction in the deforestation rate; improvement of conservation of critical natural habitats; improvement of water quality and protection of watersheds; reduction in soil erosion; improvement of natural resources use to the benefit of local communities; increase in the capacity of local communities to manage both protected areas and their own natural resources; improvement in environmental sustainability of the public protected areas, private reserves and private land; increase in self-financing of protected areas; improvement of degraded lands; and a sustainable land-use planning for agricultural expansion in areas that are strategic for biodiversity conservation. The main area where it is important to guard against possible negative environmental impacts will be the activities designed and financed through Components 1 and 2. Component 2 could involve some infrastructure in protected areas. Mitigation measures are built in to the Environmental Management Plan (EMP). Three levels or categories of Sub-projects have been established based on their environmental risk or potential for impacts and a framework for review, approval, supervision, and monitoring has been established within the EMP. A guide for mitigation measures has been included in the Environmental Assessment (EA).

71. **Natural Habitats (OP 4.04).** By design, the Project would finance activities that promote conservation of natural habitats. All Project activities will be consistent with conservation priorities. It is anticipated that any activity funded by the Project would be consistent with existing protected area management plans or other resource management strategies that are applicable to local situations.

72. **Pest Management (OP 4.09).** In its integration with the PRODERS Project, it is important to mention that this Project’s activities seek as well to reduce use and dependence on harmful agricultural chemicals and will not significantly increase use of pesticides or promote their use to any important level. It should be noted, however, that small amounts of pesticides will probably continue to be used by a small portion of micro-catchments farmers, for which disposal of containers may be requested by communities to reduce health and environmental risks associated with pesticide use. In recognition of this fact, the PRODERS Project has prepared a pest management framework. This framework follows the guidelines set forth under OP 4.09 Bank guidelines, in particular FAO Guidelines for Packaging and Storage of Pesticides (Rome, 1985), Guidelines on Good Labeling Practice for Pesticides (Rome, 1985), and Guidelines for the Disposal of Waste Pesticide and Pesticide Containers on the Farm (Rome, 1985). In addition, pertinent national laws and regulations in this regard will also be followed.

73. The PRODERS Project pest management framework will be applied and will greatly benefit the proposed Project as PRODERS plans to support technical assistance for the adoption of proven, economically and environmentally sustainable Integrated Pest Management practices
(IPM), an approach designed to increase farm productivity (yields) while reducing input costs, human health risk, and/or adverse environmental impacts through the elimination of pesticide use.

74. **Indigenous Peoples (OP 4.10).** The Project will ensure adequate consideration of indigenous peoples by: a) developing differentiated intervention strategies according to the needs and capabilities of the different beneficiary groups; b) providing technical assistance through support and language appropriate for indigenous people; c) establishing participatory and accountability mechanisms aimed at increasing beneficiaries’ voices on Project governance and performance with appropriate monitoring indicators; and d) implementing, together with PRODERS, a series of activities aimed at increasing or strengthening existing participation structures. In particular, as mentioned above, the screening process for Sub-projects will be tailored to ensure that adequate consideration is given to indigenous people, following the Project’s Indigenous Peoples Policy Framework (IPPF) (see Annex 10 and 16 for details).

75. **Forests (OP 4.36).** The Project fully complies with the Bank’s Forest Policy. Project activities will focus on conservation and more sustainable management of forests to protect the vital local and globally-significant forest resources through enhanced community-based natural resources and protected areas management.

76. **Consultation and disclosure.** A total of 203 participants attended the Project’s public consultations and a broader audience has been informed through printed materials and media interviews. Project activities assessed by the EA were identified and discussed in a round of meetings in the country starting by 28 April 2006. Both the EA and the IPPF were available in the Recipient’s dataroom in Paraguay for consultation. The EA was disclosed in-country on 17 April 2008. The IPPF was disclosed in-country on 21 November 2007, based on the partially -blended PRODERS Project. Both documents were disclosed in the Infoshop by 17 April 2008.

77. **Safeguards supervision:** safeguards compliance will be monitored during Bank’s supervision, which will include field visits to Sub-projects.

**H. Policy Exceptions and Readiness**

78. The proposed Project does not require any exceptions from Bank policies and is deemed to be ready for implementation. An acceptable Operational Manual was presented to the Bank at negotiations. In terms of readiness for implementation, the Project complies with the following criteria: financial management and procurement arrangements and measures are in place for Project implementation; appropriate core Project staff is available at Itaipú Binacional, SEAM and MAG; counterpart funds are available as part of Itaipú Binacional budget and PRODERS Project; disclosure requirements have been met for the EA and the IPPF (PRODERS/GEF Projects); and results assessment arrangements completed (M&E institutional obligations and budget are assigned). Itaipú will enter into a tripartite implementation agreement with the Member Country, through MAG, and SEAM in order to ensure the execution of Components 1, 2 and 3 of the Project.
ANNEX I: Country and Sector or Program Background

PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the
Atlantic Forest of Eastern Paraguay Project

Introduction

1. Paraguay is a landlocked country of 406,750 km² with an estimated population of six
million inhabitants. Between the years 2004 and 2008 Paraguay experienced its strongest
economic expansion since the 1970s. GDP grew by 4.3 percent in 2006, by 6.8 percent in 2007
but slowed down to 5.8 percent in 2008 due to the global economic crisis. This strong economic
performance resulted in a decline in overall poverty levels, from 46.4 percent in 2002 to 37.9
percent in 2008. Extreme poverty has also fallen from 21.7 percent to 19 percent in 2008,
although it increased between 2006 and 2007 due to rising food prices and lack of spillovers
from growth to formal employment. At the same time, Paraguay has a very unequal distribution
of income and assets. For instance, in Paraguay the richest 10 percent of the population accounts
for 42 per cent of total income, while 2 percent of the agricultural establishments (about 6,400
farms) occupy almost 82 percent of the agriculturally exploited land (namely, 20 million of the
24 million hectares in agricultural use, or one-half of Paraguay’s total area of 40 million
hectares).

2. The victory of Fernando Lugo in the presidential elections of April 20, 2008, ended 61
years of Colorado Party dominance. With a margin of 10 percentage points above the Colorado
candidate, the victory gave President Lugo and his movement strong legitimacy. President Lugo
heads a center-left coalition, the Alianza Para el Cambio, which includes one main political
party (the Liberals), three minor ones, and about one dozen political movements that span a wide
range of ideologies.

3. Despite the range of political views, the coalition shares key priorities that include a deep
commitment to improve governance and government institutions and to reduce corruption, to
improve the livelihoods and opportunities for the poor in a sustainable fashion, to strengthen
the management of the country’s vast hydroelectric resources, and to consolidate the country’s
democratic process. The Alianza Para el Cambio has also adopted a pragmatic economic policy
stance based on maintaining sound macroeconomic management and a balanced view of the role
of the State, while safeguarding the environment. Lugo’s victory, has opened up an opportunity
for Paraguay to start tackling its long-standing governance, corruption, and poverty issues.

4. While the economy is likely to benefit from this stance, and from reduced levels of
corruption, economic policy reforms may be slow in materializing. 15 months into its mandate,
Mr. Lugo’s Government has not yet succeeded in building political alliances to obtain a majority
in Congress. On the contrary, a strained relationship with the Legislative has moved the
Government’s agenda from its original plan to reach a political agreement to the need to
articulate defensive strategies with regards to several conflictive issues raised in Congress and in
the broader political arena by the media and opposition parties. In parallel, the Partido Liberal
Radical Auténtico (PLRA), the second largest party in Congress and one of the key supporters of
Mr. Lugo during the presidential campaign, deliberately left the Government coalition (APC) in
July 2009. Therefore, the Government support is still fragmented and without a majority of seats
in neither of the two chambers of Congress. Still, the Government has managed to obtain the approval of some critical legislation, in particular a countercyclical fiscal package in 2009. The Government obtained timely approval by Congress of the 2009 budget law as well as critical components of the 2009 anti-crisis plan. Other important achievements have been the expansion of the cash conditional transfer program to protect those most vulnerable affected by the 2009 crisis, the introduction of the gratuity of primary health care services, tax administrative improvements that supported a revenue collection increase of 6.4 percent, streamlining bureaucratic procedures for infrastructure investment that resulted in a substantial capital budget execution, among others.

5. Given its reliance on agriculture and the high percentage of its population in rural areas, effective natural resources management is key to Paraguay’s poverty reduction agenda. Despite its negative consequences, Paraguay’s deforestation rate was until recently one of the highest in Latin America. Deforestation has greatly reduced both the extent and continuity of Paraguay’s remaining forest cover. Fragmentation and degradation of forest and natural habitats have had a severe impact on the country’s endemic biological diversity and Paraguay’s capacity to connect and support the other portions of the Atlantic Forest in Brazil and Argentina. This deforestation, and further unsustainable land management practices including slash-and-burn agriculture, extensive grazing and the practice of mono-cultivation of cotton, and more recently soybeans and sugarcane, are also leading to soil erosion, loss of soil fertility and decreased quantity and quality of water resources—constraining the livelihoods and productivity of farmers within the region.

6. Paraguay has lost at least 80 percent of its forests over the last 50 years and losses of 500 ha/day occurred between 1966 and 1991. Of the remaining 2 million ha in the Upper Parana Atlantic Forest (UPAF, i.e. forests east of the Paraguay River), only an estimated 800,000 are still considered productive. This is due to destructive logging practices that have degraded the forests, and a result of deforestation that has fragmented much of the UPAF into unmanageably small remnant patches. While deforestation appears to have slowed recently in the east—due both to resource depletion and some success with a “Zero Deforestation” law (see table below)—it is estimated to have increased in the Arid Chaco, which is home to 78 percent of Paraguay’s remaining native forests. The evolution of deforestation rate in the Paraguayan UPAF can be summarized as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Deforestation rate (ha/year)</th>
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</thead>
<tbody>
<tr>
<td>1960</td>
<td>123,000</td>
</tr>
<tr>
<td>1970</td>
<td>212,000</td>
</tr>
<tr>
<td>1986</td>
<td>289,000</td>
</tr>
<tr>
<td>1995</td>
<td>113,000</td>
</tr>
<tr>
<td>1997</td>
<td>85,000</td>
</tr>
<tr>
<td>2002</td>
<td>110,000</td>
</tr>
<tr>
<td>2005</td>
<td>20,000</td>
</tr>
<tr>
<td>2006</td>
<td>6,400</td>
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<tr>
<td>2007</td>
<td>5,600</td>
</tr>
<tr>
<td>2008</td>
<td>9,503</td>
</tr>
<tr>
<td>2009</td>
<td>1,894</td>
</tr>
</tbody>
</table>

Source: WWF Paraguay, 2009

10 As of March 2009
7. With the right incentives and institutions, however, Paraguay could exploit its comparative advantage in forestry, as rates of return for key varieties appear to be higher than in other countries in the Southern Cone. To this end Paraguay started to promote forest conservation and payments for ecological services. The country has also started to reform its Forest Management Services by granting the \textit{Instituto Nacional Forestal} greater autonomy.

8. In the agricultural sector, the frontier has essentially vanished in the Eastern region, which contains 97% of the population, as the push to expand soy production has resulted in nearly total deforestation of the native forests (less than 5% remains). Yet the expansion of modern agriculture has left the 300,000 small (and mostly poor) farmers behind, who continue with small-scale farming based principally on cotton and soy-bean production. The challenge here is to improve the livelihoods of farmers alongside ensuring that land is managed sustainably in order that these livelihoods continue. This is largely the aim of the Bank-funded PRODERS Project which is working in the Eastern region to improve the quality of life of small-scale producers and indigenous communities in the Project area in a sustainable manner. In addition to containing a large, poor rural population, this Eastern Region is also the area where the Upper Paraná Atlantic Forest (UPAF) – one of the “Global 200” eco-regions and one of the world’s biodiversity “hotspots”, as defined by Conservation International – still exists complete with much of its globally significant biodiversity, despite being reduced to less than 12% of its original coverage. However, this biodiversity is seriously threatened. Forest destruction and other poor land-management practices are also destroying carbon sinks, increasing siltation, and reducing soil productivity. Also, as a result of deforestation, Paraguay has reached the unthinkable point of becoming a net importer of wood, worsening Paraguay’s balance of payments difficulties, not to mention causing a loss of employment in the previously strong forestry sector.

\textit{Key issues}

\textit{Biodiversity and critical ecosystems}

9. The Upper Paraná Atlantic Forest (UPAF) is a unique ecosystem within the Atlantic Forest Biome and is one of South America’s largest sub-tropical moist forests. However, it is highly threatened and less than 7% of the original total UPAF remains. Paraguay contains the largest portion of this remaining forest with other portions existing in neighboring parts of Argentina and Brazil. In Paraguay, the UPAF once covered 94,000 km$^2$ or 58.8% of the land area in the Eastern Region. However, unfortunately it is now largely destroyed and only about 11,153 km$^2$ (less than 12%) still exists. Less than 6.2% remains in areas greater than 120 km$^2$ and less than 3.5% lies within “protected areas,” many of which unfortunately currently have very little protection.

10. Paraguay’s portion of the UPAF is the largest portion remaining. It harbors several endemic subtropical genera, in addition to tropical forest and Cerrado species at the southern extreme of their ranges. Indeed, despite its high level of degradation, most of the original species in Paraguay’s UPAF still exist, although in small isolated pockets, and the remaining forest forms the last stronghold for several species which have all but disappeared from the rest of their range. Despite the lack of scientific knowledge of the area, studies have shown that Paraguay’s portion of the UPAF contains an estimated 13,000 species of vascular plants (of which 6 species
are globally threatened and endemic to the Atlantic Forest), 100,000 species of invertebrates (including at least 4 threatened species endemic to the Atlantic Forest), of which 765 butterfly species many of which are endemic to the Atlantic Forest and and/or threatened, 46 amphibians (with at least seven endemic to the UPAF), 100 reptiles (including 11 endemic to the Atlantic Forest and at least 1 endemic to the UPAF within Paraguay) and 167 mammals (of which at least 11 are endemic to the Atlantic Forest and 7 are threatened). In addition, 688 bird species have been documented (including 80 that are endemic to the Atlantic Forest, 30 which are threatened). Furthermore, Revenga et al. (2000) identified the Upper Paraná River Basin as a freshwater eco-region of global significance, giving special significance to the Paraguay-Paraná complex. The Paraguay River Basin has 254 documented fish species, 85 of which are endemic.

11. The Paraguayan portion of the UPAF also performs a vital connecting role that is critical for maintaining the genetic viability of biodiversity in the two other remaining portions in Brazil and Argentina, and thus, for increasing the effectiveness of their conservation efforts including one GEF/-World Bank Project in Brazil’s Paraná State and one under preparation in Brazil’s Rio Grande do Sul State. As well as this, the UPAF in Paraguay is essential for maintaining the viability of several important eco-zones as it connects the Northern Cerrado eco-region, the flooded savanna of the lower Chaco, and the natural grasslands and humid soils in the south.

Baseline activities and consequences

12. Indeed, increasing pressure from expanding and unsustainable economic activities such as mechanized soybean farming means that deforestation and land degradation is continuing and placing conservation of the UPAF, the livelihoods of farmers, and the economic productivity of farming under significant immediate threats. This is exacerbated by a lack of coordination in planning at national and local levels as well as weak enforcement of environmental laws.

13. The baseline scenario sees very little activity going towards conservation of Paraguay’s portion of the UPAF and in the absence of this Project, the future of this ecosystem looks bleak. Paraguay’s political and economic isolation result in its insufficient institutional capacity and technical expertise to avoid deforestation and biodiversity loss in the short term without the proposed Project’s support.

14. Under the baseline scenario, there is currently some investment in conservation of Paraguay’s Atlantic Forest, notably by Itaipú, which is supporting conservation activities in the region bordering the Paraná River upstream of the Itaipú dam. Other investment is being done by the GOP through SEAM, as well as by the IDB Project which supports the National Environmental System and is working to build the institutional capacity for conservation practices within SEAM.

15. However, the work of Itaipú does not cover a large area of the UPAF nor does it cover the most significant areas of remaining forest, located in the West and South of the area covered by Itaipú. Also the technical expertise to efficiently carry out conservation activities is low and the work that is carried out is largely directed at ensuring conditions exist for the Itaipú dam to run efficiently, such as reducing the negative effects of siltation. However, through the proposed Project, it would be possible to leverage these resources to perform activities which would result
in sustainable and globally significant conservation outcomes that would have a much greater
collection to conserving the globally important biodiversity in the UPAF.

16. SEAM itself has a very limited budget of US$ 2.7 million in 2009 to support
conservation, 80% of which is spent on staff salaries. This means that many of the declared
national protected areas have very little effective management plans and little prospect of
improving in the near future. Indeed, SEAM, through the National Protected Area System
(SINASIP), is theoretically protecting 277,860 km² of the UPAF in Paraguay. However, this is
not happening in reality. Significant strengthening and technical support is needed if these are to
offer adequate protection.

17. Institutional strengthening of SEAM is currently being supported by a US$ 6 million IDB
loan which is financing capacity building of SEAM’s sub-organizations, the National
Environmental Council (CONAM), and the SINASIP. But for this to conserve the UPAF
effectively, it will require significant further investment in the short term for mainstreaming
biodiversity conservation, directly strengthening protected areas, and increasing the institutional
capacity to continue support for these activities.

18. There are also three GEF Projects carried out or closed in the area. One MSP is the
aforementioned Project providing capacity strengthening to SEAM and the other MSP is the
already closed Project for biodiversity conservation in the Mbaracayú National Park. The third
Project is a full sized project which covers all of Paraguay and which includes strengthening the
San Rafael Managed Resources Reserve in the UPAF.

19. In the absence of this Project, little effort is therefore likely to promote conservation of
the UPAF, and as such, the main drivers towards loss of biodiversity will remain, including:
perverse incentives towards colonization and clearing land for extension of agriculture; lack of
technical knowledge, policies and activities to ensure conservation within the productive
landscape; lack of effective protection and enforcement of existing laws; expanding agriculture,
particularly for soy-bean farming, logging and land colonization. Without this Project, it is
highly unlikely that this scenario would change significantly over the next five to ten years.

20. Indeed, over the last 30 years, destruction has been fairly constant, averaging around
1,320 km² per year, mostly for conversion to agriculture and clearing for claiming land. If this
rate continues, it is likely that in 10 years the UPAF will only exist in the small areas under
effective protection of the Mbaracayú and San Rafael Managed Resources Reserves and possibly
along the boundaries of the Paraná River. Connectivity and most of the area will be lost, along
with much of the UPAF’s outstanding and unique biodiversity.

Causes of Deforestation and Land Degradation in the UPAF

21. The concept that lands that are not being used for agriculture are unproductive pervades
Paraguayan society at all levels, with the result that there is little attempt to prevent forest
clearance and little incentives to encourage many sustainable land management practices. The
main cause of forest loss has been indiscriminate clearance for agriculture, a process that
continues unabated. Commercial logging is also a major threat. Although timber export is illegal,
large scale trafficking still occurs, with the commercial value of timber easily offsetting bribes
paid at all levels. These problems are exacerbated by 97% of Paraguay’s land being in private ownership, with 77% owned by less than 1% of the population. Many of these large landowners clear their forests to prevent invasion and subsequent colonization by “campesinos” (landless poor farmers). Only land that is ‘in use’ is legally protected from invasion. Furthermore, few state-protected areas are actually publicly-owned, and only 1,229 km² of Paraguay’s Atlantic Forest is effectively protected, most within just one privately-owned nature reserve (the Mbaracayú Forest Nature Reserve). Trends of destruction over the last 35 years have been fairly constant averaging about 1300 km² / year. If current trends continue, in 5-10 years there will be almost no forest left outside the few well-managed protected areas, in particular San Rafael, Mbaracayú and the fringes of the Río Paraná managed by Itaipú.

Social Issues
22. The UPAF in Paraguay is composed of 72 districts located in 9 departments (Concepción, San Pedro, Canindeyú, Alto Paraná, Caaguazú, Caazapá, Guairá, Amambay and Itapúa). These include 963,765 rural dwellers grouped in 455,351 households that account for 43% of the total rural population in the country. Of them 54% are male and 46% are female. Of total households 17% are headed by women. The majority of the population is involved in agricultural activities. Within the Project area, there are 782,796 inhabitants in the urban area (52% males and 48% females) and 581,489 inhabitants in the rural area (54% males and 46% females). This represents 74% of the total population of the 45 districts within the 46,000 Km² Corridor. Rural communities, mainly those living in low productivity areas, are more dependent on biodiversity for their subsistence. Biological diversity leads to increased health and nutritional well-being, reducing populations' vulnerability and contributing to their agricultural and non-agricultural productive activities. According to the last agricultural census there were 120,277 farmers in the Project area. The majority of them are small farmers but they farm a low share of the total agricultural land. The Gini Coefficient for land tenure in the Project area is around 0.77 and in many departments it surpasses 0.95 – which reveals a very unequal situation. The main problems affecting small or poor farmers are the lack of proper credit services, technical assistance and organizational capacity. There is a generalized complaint that the access and quality of technical assistance is poor and not properly adapted to the farmer's needs. In addition, farmers in Paraguay are not well organized. Researchers and key informants highlighted the individualistic mentality that Paraguayan farmers have. In the Project area only 17% all farmers belonged to some organization.

Indigenous People and Forests
23. The National Indigenous Census of 2002 (Dirección General de Estadísticas, Encuestas y Censos-DGEEC) shows that 1.7% of Paraguay's population is indigenous and that the vast majority of them (91.5%) live in rural areas. The indigenous population is growing at a faster rate (3.9%) than the national population (2.7%). There are 7,948 indigenous people in the Project area. Canindeyú is a department that accounts for more than 50% of the indigenous people in the total Project area. Despite the low number of indigenous peoples, as related to the overall population, over 82% of the rural population speaks primarily Guarani, and only 6% of the total population speaks primarily Spanish. Indigenous people are the most vulnerable population of Paraguay. Indigenous communities have very poor living conditions: among those living in the rural areas infant mortality is around 95 per thousand, 83% do not have sanitary installations and 53% of them are illiterate. The main problems faced by indigenous communities are land access
and poor natural resources management. Census data shows that 22% of the 423 recognized indigenous communities do not have proper land titles and about 23% do not have land. Delays in land right transfers are primarily bureaucratic in nature within the Instituto Nacional del Indígena (INDI). Economic activities of indigenous communities combine hunting, fishing, and gathering with subsistence agriculture and seasonal wage labor. About 45% of the economically active indigenous population has some time of seasonal work, with wages significantly below the minimum wage. Another 41% do not have economic activities other than subsistence agriculture, fishing, hunting, and gathering.

24. The accelerated deforestation and other forms of environmental degradation, such as erosion and water pollution, with their consequent reduction of wildlife and fish, have negative consequences for indigenous livelihood, which are highly dependent on these resources. Out of necessity and being compelled by pressure from wood demand, Paraguayan indigenous communities have deforested an important share of their area to sell wood at extremely low prices.

Government Strategy
25. The GOP’s has made the following improvements in environmental policy and legislation that have created an enabling environment for current conservation interventions. In 1994 the “law of protected areas” was passed creating the National System of Protected Wild Areas (SINASIP). In 1995, after a series of participatory workshops, the National Strategy for the Protection of Natural Resources was developed which prioritizes the creation of additional protected areas to include portions of all the eco-regions present in the country. In 2000, Law No 1562/00 was passed which created a national environmental system (SISNAM). This system had been strengthened by the last administration that in its 2003 strategy placed conservation of natural resources as one of its three main pillars and passed the “Zero Deforestation Law” (Law No. 2524) in December 2004. This law has been very significant as it has contributed to a significant reduction in deforestation rates in Paraguay’s eastern region. According to the Global Land Cover Facility (Univ. of Maryland) and Guryá Paraguay, deforestation rates have fallen from approximately 112,000 hectares/year in 2001 to approximately 20,000 hectares/year in 2005. Furthermore, under this law a complete audit of more than 600 forest management plans (between 2004 and 2005) for purposes of monitoring land use changes in the UPAF has been carried out by SEAM and National Forest Service. Satellite images used for this audit revealed that the actual deforestation rate was three to four times greater than the rate authorized in the plans—thus displaying the need for better enforcement mechanisms. Another factor that has arisen, over the past four years since the law has been in place and enhanced monitoring taking place, is the significant increase of forest fires. This phenomenon has illustrated further the pending need to redouble efforts of real-time monitoring, to avoid further loss of native forest by degradation caused by fires. Finally, in May 2005 the Consejo Nacional del Ambiente (CONAM) approved Paraguay’s National Environmental Policy that amongst others creates an enabling environment for conservation in the UPAF, particularly through recognizing the problems of environmental degradation and the driving forces behind these and establishing broad objectives, principles and obligations to combat these, including creation and regulation of public bodies.
26. During 2008, the National Forest Institute (INFONA) was established by a new law passed by the Paraguayan Congress. The Institute includes the operative body for all issues related to forestry, reforestation, and related issues. INFONA created to establish either temporal or permanent special regimes for the management and protection of forest resources, the promotion of plans for reforestation and forestation, and the management of standing forests with private or public resources (national and/or international). The Institute is composed of a Presidency, an Advisory Council, and five Directives (forest, forest plantations, regional offices, education and extension, administration and finances). In Article 21 of the 2008 law, INFONA is authorized to pay subsidies or financial contributions to other institutions and/or private and public entities, which by themselves or third parties would have carried out technical activities related for the implementation of the objectives of this law.

27. The GOP has thus demonstrated renewed and long-term commitment to conservation. However, gaps and inconsistencies remain, particularly in the form of perverse incentives for expanding agriculture and colonization; lack of technical expertise to introduce optimal conservation activities both in protected areas and in the productive landscape; weak capacity to implement environmental policies and enforcement of environmental laws, and lack of participation and integration of the activities of the multitude of stakeholders including the government, the private sector, donors and local communities to ensure maximum investment, efficiency, sustainability and replication.

The Project’s Approach
28. This Project intends to fill these gaps, particularly through mainstreaming conservation and sustainable land management practices within the productive landscape, integrating the activities of different stakeholders, ensuring full participation particularly of local communities, building the capacity of stakeholders and institutions, and transferring the latest knowledge and technology to ensure optimal conservation. The institutional system created and the lessons learned about catalyzing further successful conservation activities would be specifically targeted at replication throughout Paraguay and would build on and contribute to other Projects in the region to form an essential part of the conservation package for the UPAF and the rest of Paraguay. The proposed Project represents an opportunity to make such an impact to save the globally significant and unique biodiversity of the Atlantic Forest ecosystem which otherwise is likely to be all but destroyed within the next decades.

29. The strategy of the Project is based on strengthening the conservation capacity of core areas (protected areas) within the 1.14 million hectares Conservation Corridor (see Annex 4 for detailed description of methodology of site selection) and conserving the privately-owned lands between the core areas by restoring habitats, promoting sustainable use of natural resources, creating new protected areas and working with local authorities in institutional strengthening and environmental education.
ANNEX 2: Major Related Projects Financed by the Bank and/or other Agencies

PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

The following chart presents the IBRD Projects related to this proposal.

<table>
<thead>
<tr>
<th>Funding agency/Project</th>
<th>Latest Supervision (Form 590) Ratings</th>
<th>Implementation Progress (IP)</th>
<th>Development Objective (DO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEF / IBRD TF051577</td>
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<td>S</td>
<td>S</td>
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<tr>
<td><em>The Mbaracayú Biodiversity Project</em> (which ended in 2007) was a US$ 1 million MSP to support biodiversity conservation and sustainable use of natural resources in the Mbaracayú Forest Natural Reserve in the UPAF. The proposed Itaipu Project will build on the valuable work this MSP was able to accomplish.</td>
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<tr>
<td>GEF / IBRD TF051007</td>
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<td>MS</td>
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<tr>
<td><em>Paraná Biodiversity</em> in Brazil’s Paraná State is a US$ 8 million Project working to conserve the biodiversity of the UPAF in Paraná State through a combination of protected area and corridor management, education and mainstreaming conservation within the productive landscape. It is planning to work closely with this proposed Project.</td>
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<tr>
<td>GEF TF52042 / IBRD7305</td>
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<tr>
<td><em>Uruguay Natural Resources Management</em>, which fully blends a GEF grant with an IBRD loan and is working in part to mainstream biodiversity conservation within the productive landscape in key locations for future extension throughout Uruguay.</td>
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</table>
The following chart presents the Projects related to this proposal, but funded by other donors.

<table>
<thead>
<tr>
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<th>implement by other development agencies</th>
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<tr>
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<td>IBRD 75030 PRODERS, a US$ 37.5 million rural Project that began in 2009 and seeks to improve the quality of life of small-holder farming and indigenous communities in the Project areas in San Pedro and Caaguazu departments in a sustainable manner, by supporting actions that will: (a) strengthen community organization and self-governance; (b) improve natural resources management; (c) enhance the socio-economic condition of the target population, and (d) address animal health issues in the Project areas.</td>
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The following chart presents the Projects related to this proposal, but funded by other donors.

<table>
<thead>
<tr>
<th>Projects Implemented by other development agencies</th>
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</thead>
<tbody>
<tr>
<td>GEF / UNDP Paraguayan Wildlands Protection Initiative [Iniciativa Paraguaya para la Protección de Áreas Silvestres], a US$ 9.2 million FSP begun in 1999 and ended in 2006 that supports conservation of 4 protected areas in Paraguay, one of which, the San Rafael Reserve, lies within the UPAF. Information about this UNDP/GEF Project has been considered fully during preparation of this IBRD/GEF Project.</td>
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<td>IDB</td>
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<td>Itaipú Binacional’s programs and projects.</td>
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1. This proposed Project, in part, is partially integrated with the already effective World Bank-funded Sustainable Rural Development Project (PRODERS). The two Projects have already agreed on synergies to enhance overall Project impacts. Through the territorial overlap and operational coordination that would be developed between both Projects, full integration of efforts to support natural resource management (loan) and biodiversity conservation (GEF) within the micro-catchments located within the conservation corridor will exist. Section B.3 and in particular Annex 4 demonstrate the integration of both Projects by means of Component 1, by promoting sustainable land management in connecting corridors, including the implementation of sustainable farming practices and the provision of technical assistance to farmers. In particular, Component 1 illustrates the target Sub-projects to be financed by PRODERS (socio-productive sub Projects) and the Sub-projects to be financed with grant proceeds (sustainable use Sub-projects and restoration and regeneration Sub-projects). In line with this, Section 3 in Annex 6 explains the spatial overlap between both Projects to identify those priority micro catchments for Project investments. In terms of institutional arrangements, Section C.2 explains that Itaipú, with oversight from SEAM and MAG, will have overall responsibility for Project implementation. The Executive Working Group for the Project, involving the active participation of MAG/PRODERS will, amongst others issues, articulate the participation of various actors who will participate in Project implementation; and ensure proper execution of the Project through the effective use of technical instruments.

2. The IDB has recently financed a second operation to support the National Environmental System The objective of the program is to apply four priority instruments of the National Environmental Plan: environmental land use planning, the National System for Environmental Control, the National System of Environmental Information, and citizen participation in environmental management, in accordance with the strategy set forth in the National Environmental Plan. The program has three components: (i) an environmental management and land use planning strategy; (ii) environmental quality and information systems; and (iii) a strategy and financing for citizen participation in environmental management. The GEF Project
is fully complementary with this IDB program as the latter will be providing a strategic framework for the activities linked to forest management, conservation and control, as well as consultations promoted by the grant. The coordination between both Projects will be ensured by the SEAM which will be participating in the GEF Project Management Council and in its Executive Working Group, and at the same time is the executing agency for the IDB loan.

3. With regards to institutional strengthening and protected areas consolidation, the proposed Project will also build upon the experience of the GEF-funded/UNDP-implemented Paraguayan Wildlands Protection Initiative, closed during 2008, as well as on the successes of the already completed GEF MSP in Mbaracayú. These Projects have already been closed but they will represent a platform of experience rather than a concrete potential to articulate concrete activities. The Paraguayan Wildlands Protection Initiative Project implemented by SEAM, has designed a biological corridor between the San Rafael and Caaguazu Protected Areas, and it has moved towards the creation of local management committees for park planning and monitoring, training and capacity building for parks personnel and local inhabitants, including demonstrations of sustainable uses of wild resources. This Project will complement this initiative, contributing to the mainstreaming of lessons learned in the areas of tourism and medicinal herbs among other activities. The experiences generated by this Project from buffer-zones that are in direct contact with protected areas will be brought to more degraded landscapes throughout the Eastern Region, including this time a strong framework for participation and consultation (see Annex 10). The MSP WB-sponsored Biodiversity Conservation and Sustainable use in Mbaracayú Project implemented by Fundación Moisés Bertoni promoted biodiversity conservation and sustainable practices in the Upper Jejui River Watershed, with the Mbaracayu reserve as a core conservation area, and the buffer zone as a model for sustainable use. The proposed Project will provide inputs and expertise according the interventions already done in another block of conservation importance. The Mbaracayu lessons regarding mainstreaming biodiversity, private sector-smallholder partnerships, municipal governments and work with indigenous communities will provide valuable inputs.

4. Furthermore, the Project is expected to develop linkages with other projects funded by GEF in the region. The UNDP/UNEP PES Project will provide an interesting opportunity to exchange experiences in the establishment of schemes for payments for ecosystem services, considered for Component 3 of this Project. At the same time, the GEF Project Sustainable Forest Management in the Transboundary Gran Chaco Americano Ecosystem to be implemented in parallel to this Project, and although working on other target eco-regions, will provide a clear opportunity to compare approaches to reverse land degradation trends through supporting sustainable land management in the productive landscape in the country.
ANNEX 3: Results Framework and Monitoring
PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

<table>
<thead>
<tr>
<th>Global Environmental Objective (GEO)</th>
<th>2015 Outcome Indicators</th>
<th>Use of Outcome Information</th>
</tr>
</thead>
</table>
| The objective of the Project is to assist the Member Country’s continued efforts to achieve sustainable natural resource-based economic development in the Project Area, by: (a) establishing the Mbaracayú-San Rafael conservation corridor within public and private lands through sustainable native forest management practices for biological connectivity; (b) encouraging sustainable agricultural practices that maintain biodiversity within productive landscapes, while increasing productivity and mainstreaming biodiversity conservation; (c) strengthening the institutional capacity of MAG to implement conservation techniques in the rural landscape; (d) strengthening the institutional capacity of SEAM to improve knowledge on forest and biodiversity conservation activities, including the monitoring and enforcement of said | - By the end of Project, 250,000 hectares of land within the productive landscape are under sustained effective management for conservation and production, based on the GEF SP2 Tracking Tool. An estimated 250,000 hectares of Mbaracayú-San Rafael Conservation Corridor are conserved and 30,000 hectares restored\(^\text{11}\) within the corridor. A total of 2,500 farmers improve forest management and integrate biodiversity conservation into their productive activities.  

- By the end of Project, an increase of at least 150,000 hectares in 10 private protected areas reserves and 250,000 hectares of the public system strengthened based on the GEF SP1 Tracking Tool.  

- By the end of the Project, improved capacity at SEAM and MAG for policy development in the areas of tradable rights and forest conservation; disincentives for the unsustainable use of natural resources; certification of sustainably-produced products; and mechanisms to provide ecosystem services.                                                                 | Set Project outcomes in context of long-term vision.  
Use of species, sites and landscape monitoring to assess progress in conservation.                                                                                                                        |

\(^{11}\) These target areas include native forest which are still ecologically viable to ensure biodiversity conservation, sustainable management or restoration.
activities; and (e) strengthening the National Protected Areas System.

<table>
<thead>
<tr>
<th>Intermediate Results</th>
<th>Results Indicators for Each Component</th>
<th>Use of Results Monitoring</th>
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</thead>
<tbody>
<tr>
<td>Component 1: Re-Establishment of Connectivity between Protected Areas</td>
<td>- By the end of Project, 250,000 hectares of land within the productive landscape are under sustained effective management for conservation and production, based on the GEF SP2 Tracking Tool. An estimated 250,000 hectares of Mbaracayú-San Rafael Conservation Corridor are conserved and 30,000 hectares restored(^\text{12}) within the corridor. A total of 2,500 farmers improve forest management and integrate biodiversity conservation into their productive activities.</td>
<td>Low levels may flag constraints in flow of funds, capacity, or operational arrangements, methodologies, or unrealistic expectations.</td>
</tr>
</tbody>
</table>

1.\text{A}: Sustainable use of forest remnants

- At least 318 Sub-projects granted for supporting sustainable use of biodiversity and natural resources.

1.\text{B}: Habitat restoration activities

- At least 278 Sub-projects for habitat restoration or regeneration supported.

1.\text{C}: Environmental socio-productive Sub-projects

- At least 358 Sub-projects for environmental socio-productive initiatives supported.

1.\text{D}: Micro-catchments planned in a participatory way

- At least 75 micro catchment areas planned in a participatory way.

Component 2: Strengthening and Expansion of the National Protected Areas System

- By the end of Project, an increase of at least 150,000 hectares in 10 private protected areas reserves and 250,000 hectares of the public system strengthened based on the GEF SP1 Tracking Tool.

\(^{12}\) These target areas include native forest which are still ecologically viable to ensure biodiversity conservation, sustainable management or restoration.
<table>
<thead>
<tr>
<th>Intermediate Results</th>
<th>Results Indicators for Each Component</th>
<th>Use of Results Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2.A: Public Protected Areas</strong></td>
<td>• By the end of the Project, at least 3 new management plans for existing public protected areas are created in a participatory way.</td>
<td>Low levels may flag constraints in contracting arrangements, flow of funds, capacity, operational arrangements, methodologies, or unrealistic expectations.</td>
</tr>
<tr>
<td></td>
<td>• Four protected areas under implementation with management plans and two of them with infrastructure in place.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• By the end of Project, diagnostic analysis on land tenure in protected areas is completed and land titles are granted to at least 3 protected areas that previously lacked formal land title.</td>
<td></td>
</tr>
<tr>
<td><strong>2.B: Private protected areas</strong></td>
<td>• By the end of Project, at least 10 legally recognized private protected areas have been proposed to SEAM for creation comprising 150,000 hectares.</td>
<td>Low levels may flag constraints in flow of funds, capacity, or operational arrangements, methodologies, or unrealistic expectations.</td>
</tr>
<tr>
<td><strong>2.C: Capara Biological Corridor</strong></td>
<td>• Corridor defined, created and implemented by the end of the Project with 1,000 hectares of forest restored.</td>
<td>Low levels may flag constraints in flow of funds, capacity, or operational arrangements, methodologies, or unrealistic expectations.</td>
</tr>
<tr>
<td><strong>Component 3: Enhanced Policy Framework and Institutional Strengthening</strong></td>
<td>- By the end of the Project, improved capacity at SEAM and MAG for policy development in the areas of tradable rights and forest conservation; disincentives for the unsustainable use of natural resources; certification of sustainably-produced products; and mechanisms to provide ecosystem services.</td>
<td></td>
</tr>
<tr>
<td>Intermediate Results</td>
<td>Results Indicators for Each Component</td>
<td>Use of Results Monitoring</td>
</tr>
<tr>
<td>----------------------</td>
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<td>---------------------------</td>
</tr>
<tr>
<td><strong>3A: Policies and Institutional strengthening</strong></td>
<td>• By the end of the Project, client demand-driven studies (including action plans to implement activities) for improved policy instruments developed incorporating action plans for the appropriate agencies. These studies will include the following topics: (i) debt-for-nature swaps, (ii) payments for environmental services by Itaipú Binacional, (iii) a tradable rights scheme, (iv) economic value of biodiversity, (v) certification of sustainable biodiversity-friendly produce, and possibly (vi) promotion of Programmatic CDM programs.</td>
<td>Low levels may flag constraints in fund flow, capacity, or operational arrangements, methodologies, or unrealistic expectations.</td>
</tr>
<tr>
<td><strong>3B: Formal Environmental Education about the importance of the Upper Paraná Atlantic forest</strong></td>
<td>• By the end of Project, environmental themes are implemented in programs for elementary school education.</td>
<td>Flag progress on this subcomponent.</td>
</tr>
<tr>
<td><strong>3C: Technical and capacity building</strong></td>
<td>• By the end or Project, at least 200 training events are carried out.</td>
<td>Low levels may flag constraints in flow of funds, capacity, or operational arrangements, methodologies, or unrealistic expectations.</td>
</tr>
<tr>
<td><strong>3D: Communication and dissemination of the Project</strong></td>
<td>• Dissemination plan is in place and operating.</td>
<td>Low levels may flag constraints in flow of funds, capacity, or operational arrangements, methodologies, or unrealistic expectations.</td>
</tr>
<tr>
<td><strong>Component 4: Project Management, Monitoring and Evaluation</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Intermediate Results

<table>
<thead>
<tr>
<th>Intermediate Results</th>
<th>Results Indicators for Each Component</th>
<th>Use of Results Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4A: Project Management</strong></td>
<td>- By year 1, decentralized Project coordination unit functioning and continues functioning satisfactorily throughout Project period, including a Project integrated management information system.</td>
<td>Low levels may flag constraints in fund flow, capacity, or operational arrangements, methodologies, or unrealistic expectations.</td>
</tr>
<tr>
<td><strong>4B: Monitoring and evaluation</strong></td>
<td>- A financial, physical and ecological monitoring system is in place and providing accurate information to users and the audience.</td>
<td></td>
</tr>
</tbody>
</table>

### Arrangements for results monitoring and Progress towards achieving Project’s Global Environment Objective

1. Monitoring and evaluation are the primary responsibility of subcomponent 4.A. To facilitate this, monitoring and evaluation have been mainstreamed into all components and subcomponents and will be conducted at three levels: (i) contract compliance, (ii) impact monitoring, and (iii) Project implementation. In terms of results monitoring, the table below presents the outline of key indicators for key components and subcomponents and when they would be monitored. Monitoring and Evaluation budget will contribute to the design and implementation of an M&E System for the Project management and its impacts.

2. Specifically, Project outputs will contribute to a system for monitoring relevant impacts, achievement of global environmental benefits and the Project’s GEO. The system will be based on the following M&E milestones, which also contribute to ecoregional monitoring requirements as part of on-going transboundary conservation efforts among Argentina, Brazil and Paraguay:

   - Contribution to conservation, research, and monitoring program for populations of umbrella species (jaguars, white-lipped peccaries, tapirs), already underway by other partners (WWF in Paraguay, Centro para el Estudio del Bosque Atlantico in Argentina).
   - Monitoring of: forest cover and land uses (using compatible methodologies in all three countries sharing the UPAF), water quality, presence of exotic species and their impact on biodiversity, effective implementation of protected areas, and effectiveness of public policies. These indicators will be monitored in the context of the proposed conservation corridors.
   - Mechanisms for coordination of efforts among institutions (SEAM, Departments/Municipalities, MAG, Itaipu Binacional, NGOs, etc.) within the ecoregion, including periodic review and adjustment of goals and strategies by 2014.
   - Mechanisms in place for coordination of protected area management and law enforcement activities among different governmental agencies (i.e., SEAM, Departments and Municipalities) within the ecoregion by 2014.
3. The M&E plan under the proposed Project, to be developed in detail during Project implementation, will include monitoring and assessment the following:

(i) **The effectiveness of the proposed conservation and sustainable development strategy** based on adoption of sustainable use of forest remnants, habitat restoration activities, environmental socio-productive Sub-projects, and micro-catchments planned in a participatory way.

To determine the effectiveness of said strategy, a sample of farmers selected from eligible beneficiaries (identified during the Project’s first year) will be monitored once a year to determine the adoption of sustainable practices, establish the socioeconomic and environmental baseline, and measure land use changes adopted and compared against baseline values determined during initial farm surveys to be conducted by the Project. Annual verification of land use changes (and forest cover) will serve to certify compliance with the proposed practices. By Project end, data for this land use change indicator will enable a comparison as to the effectiveness of the Project strategy to induce adoption of related land use changes and conservation activities at farm level.

(ii) **The environmental impact of sustainable use of forest remnants, habitat restoration activities and environmental socio-productive actions.** Such Project activities translate into benefits in the connectivity corridors, particularly regarding biodiversity conservation at the landscape and ecoregional levels. Improvements and increases in connectivity lead to enhanced biodiversity conservation, habitat restoration, carbon sequestration and water quality;

- **Impact on biodiversity conservation.** The impact on biodiversity conservation of prioritizing Project interventions in connectivity corridors will be measured by monitoring the presence of important bird, animal, and plant species in different land uses in beneficiary farms located in connectivity corridors against baseline values from these farms. A representative number of plots per land use will be monitored in the Project area on an annual basis. Biodiversity of aquatic organisms will be assessed in riparian connectivity corridors which resulted from Project design. In particular, the presence and distribution of jaguars will be monitored as a key indicator of UPAF forest health and connectivity. There are currently sufficient experience and tools in the ecoregion to perform such monitoring thanks to support provided by WWF.

- **Impact of land restoration.** The impact of introducing land restoration will be measured on beneficiary farms that implement restoration Sub-projects. These farms are located in critical sectors of the corridor. On farms with degraded areas, changes in forest cover (has) due to restoration will be measured annually on-site and assessed against baseline values.

- **Benefits in carbon sequestration.** The impact of introducing sustainable use of forest remnants, habitat restoration activities, and environmental socio-productive actions in farms on carbon sequestration will be measured in a representative subset of beneficiary farms to be determined during PY1. Plots will be set up according to land use to measure sequestration potential before the adoption of the
relevant Project actions and in PY3 in order to compare tons of CO2 equivalent present in each plot over time.

- **Benefits in terms of water quality.** The impact of introducing sustainable use of forest remnants, habitat restoration activities, and environmental socio-productive actions on water quality and flow regulation will be measured in different micro catchments which have been prioritized for the establishment of conservation corridors, and in particular in the Carapá sub-corridor, where Itaipu is concentrating its restoration efforts. In each micro catchment, two nearby plots of similar topographic and ecological characteristics will be monitored: one where Project activities are taking place and the other without Project intervention. Water flow and sedimentation levels will be monitored in each micro catchment throughout Project. Itaipu experience in the area will be essential to provide guidance on the design and implementation of this specific monitoring activity given the importance of sedimentation control for dam operation.

(iii) **Effective implementation of protected areas.** In terms of protected areas, the effective implementation of those PAs to be strengthened by this Project will be monitored each PY using the GEF SP1 tracking tool to determine their progress in management.

4. Final and intermediate outcome indicators included in the Project’s results framework will be monitored as per the arrangements included in the table below indicating the type and frequency of reports and the Project partner responsible for data collection. The information will be compiled by the PMU with the co-executants support (SEAM and MAG).

5. An M&E protocol will be developed by a specific consultancy detailing procedures and indicators. Changes in land use will be monitored with the support of remote sensors such as satellite images, aerial photographs, and Global Positioning Systems (GPS) according to the availability of these resources in each area. Information provided by these sensors will be processed in Geographic Information System (GIS) software, once land use changes have been verified in situ. Professional services, consultants, or specialized agencies will be hired to perform selected M&E activities, particularly regarding the Project’s impact evaluation.
### Arrangements for Results Monitoring

<table>
<thead>
<tr>
<th>Outcome Indicators</th>
<th>Target Values</th>
<th>Data Collection and Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>YR1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>250,000 hectares of land within the productive landscape are under sustained effective management for conservation and production, based on the GEF SP2 Tracking Tool. An estimated 250,000 hectares of Mbaracayú-San Rafael Conservation Corridor conserved and 30,000 hectares restored(^{13}) within the corridor. A total of 2,500 improve forest management and integrate biodiversity conservation into their productive activities.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>An increase of at least 150,000 hectares in 10 private protected areas reserves and 250,000 hectares of the public system</td>
</tr>
</tbody>
</table>

\(^{13}\) These target areas include native forest which are still ecologically viable to ensure biodiversity conservation, sustainable management or restoration.
<table>
<thead>
<tr>
<th>Results Indicators for Each Component</th>
<th>Target Values</th>
<th>Data Collection and Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inputs from field surveys.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quarterly and Annual Project implementation reports and monitoring using GEF SP1 tracking tool. Inputs from field surveys.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project Management Unit (PMU)</td>
</tr>
</tbody>
</table>

### Component 1: Re-Establishment of Connectivity Between Protected Areas

<p>| At least 318 Sub-projects for supporting sustainable use of biodiversity and natural resources | None | Sub-projects planned with at least 300 beneficiaries and 30% of Sub-projects granted | Sub-projects being carried out with at least 300 beneficiaries and 30% of Sub-projects granted | Sub-projects scaled up to cover at least 1,000 people with technical assistance and 40% of Sub-projects granted | 1,000 people benefiting from high quality technical assistance and 318 Sub-projects granted | Quarterly and Annual Project implementation reports. Inputs from field surveys. | Project management information system | MAG/ITAIPÚ, PMU |
| At least 278 Sub-projects for habitat restoration or regeneration supported. | None | Sub-projects planned with at least 300 beneficiaries and 30% of Sub-projects granted | Sub-projects being carried out with at least 300 beneficiaries and 30% of Sub-projects granted | Sub-projects scaled up to cover at least 1,000 people with technical assistance and 30% of Sub-projects granted | 1,000 people benefiting from high quality technical assistance and 278 Sub-projects granted | Quarterly and Annual Project implementation reports. Inputs from field surveys. | Project management information system | MAG/ITAIPÚ, PMU |
| Component 2: Strengthening and Expansion of the National Protected Areas System |
|---|---|---|---|---|
| At least 3 new management plans for existing public protected areas are created in a participatory way. Four protected areas under implementation with management plans and two of them with infrastructure in place. | Currently there exist 5 public protected areas within the UPAF. At least three have inadequate management plans | 1 public protected areas management plan created and 1 under implementation | 1 another public area with management plan and 2 others with implementation of their plans | Scale up to 3 public protected areas with management plans and 3 under implementation | Completed 3 management plans and 4 implemented with 2 areas awarded for infrastructure |
| Diagnostic analysis | 2 Protected | Diagnostic | Diagnostic | Develop with | Operational |
| Data Collection and Reporting | 278 Sub-projects granted | 1,000 people benefiting from high quality technical assistance and 358 Sub-projects granted | Quarterly and Annual Project implementation reports. Inputs from field surveys. | Project management information system | MAG/PRODERS, PMU | Project Management Unit (PMU) | Reports and Supervision missions | Project Management Unit (PMU) in association with civil society organizations |</p>
<table>
<thead>
<tr>
<th>Target Values</th>
<th>Data Collection and Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>on land tenure in protected areas is completed and land titles are granted to at least 3 protected areas that previously lacked formal land title.</td>
<td>Annual Project implementation reports</td>
</tr>
<tr>
<td>areas currently have legal land titles</td>
<td>supervision missions</td>
</tr>
<tr>
<td>analysis of land tenure begun.</td>
<td>Management Unit (PMU)</td>
</tr>
<tr>
<td>completed and Land title developed in 1 public protected areas</td>
<td></td>
</tr>
<tr>
<td>further protected areas</td>
<td></td>
</tr>
<tr>
<td>management committees in at least 5 public protected areas</td>
<td></td>
</tr>
<tr>
<td>Data Collection and Reporting</td>
<td></td>
</tr>
<tr>
<td>on land tenure in protected areas is completed and land titles are granted to at least 3 protected areas that previously lacked formal land title.</td>
<td>Annual Project implementation reports</td>
</tr>
<tr>
<td>areas currently have legal land titles</td>
<td>supervision missions</td>
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<tr>
<td>analysis of land tenure begun.</td>
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<tr>
<td>completed and Land title developed in 1 public protected areas</td>
<td></td>
</tr>
<tr>
<td>further protected areas</td>
<td></td>
</tr>
<tr>
<td>management committees in at least 5 public protected areas</td>
<td></td>
</tr>
<tr>
<td>Data Collection and Reporting</td>
<td></td>
</tr>
<tr>
<td>On land tenure in protected areas is completed and land titles are granted to at least 3 protected areas that previously lacked formal land title.</td>
<td>Annual Project implementation reports</td>
</tr>
<tr>
<td>areas currently have legal land titles</td>
<td>supervision missions</td>
</tr>
<tr>
<td>analysis of land tenure begun.</td>
<td>Management Unit (PMU)</td>
</tr>
<tr>
<td>completed and Land title developed in 1 public protected areas</td>
<td></td>
</tr>
<tr>
<td>further protected areas</td>
<td></td>
</tr>
<tr>
<td>management committees in at least 5 public protected areas</td>
<td></td>
</tr>
<tr>
<td>Data Collection and Reporting</td>
<td></td>
</tr>
<tr>
<td>At least 10 legally recognized private protected areas have been proposed to SEAM for creation comprising 150,000 hectares.</td>
<td>Quarterly and Annual Project implementation reports. Use of GEF SP1 tracking tool.</td>
</tr>
<tr>
<td>Communication and awareness campaign to attract potential land-owners</td>
<td>Reports and supervision missions</td>
</tr>
<tr>
<td>Creation of at least 2 new reserves</td>
<td>Project Management Unit (PMU)</td>
</tr>
<tr>
<td>Further awareness campaign and creation of 5 further reserves</td>
<td></td>
</tr>
<tr>
<td>Creation of at least 3 further reserves and consolidation of existing reserves</td>
<td></td>
</tr>
<tr>
<td>Data Collection and Reporting</td>
<td></td>
</tr>
<tr>
<td>Corridor defined, created and implemented by the end of the Project with 1,000 hectares restored</td>
<td>Quarterly and Annual Project implementation reports. Use of GEF SP2 tracking tool.</td>
</tr>
<tr>
<td>Corridor concept non-existent</td>
<td>Reports and supervision missions</td>
</tr>
<tr>
<td>Corridor definition and specified</td>
<td>Project Management Unit (PMU)</td>
</tr>
<tr>
<td>Support to local producers for the management of natural resources in micro-catchments</td>
<td></td>
</tr>
<tr>
<td>Restoration activities between Mbaracayú and Itaipú along Carapa River</td>
<td></td>
</tr>
<tr>
<td>Corridor under implementation and future needs with a business plan</td>
<td></td>
</tr>
<tr>
<td>Data Collection and Reporting</td>
<td></td>
</tr>
<tr>
<td>Component 3: Enhanced Policy framework and Institutional Strengthening</td>
<td></td>
</tr>
<tr>
<td>Client demand-driven studies (including action plans to implement activities) for improved policy instruments developed incorporating action plans for the appropriate agencies. These studies will</td>
<td>Quarterly and Annual Project implementation reports</td>
</tr>
<tr>
<td>0</td>
<td>Reports and supervision mission reports</td>
</tr>
<tr>
<td>Created as and when needed for fulfillment of other components, compendium of current laws and gaps in the national legislation put together. Implementation follow-up</td>
<td>Project Management Unit (PMU)</td>
</tr>
<tr>
<td>Created as and when needed for fulfillment of other components. Implementation follow-up</td>
<td></td>
</tr>
<tr>
<td>Created as and when needed for fulfillment of other components. Implementation follow-up</td>
<td></td>
</tr>
<tr>
<td>Created as and when needed for fulfillment of other components. Implementation follow-up</td>
<td></td>
</tr>
<tr>
<td>Quarterly and Annual Project implementation reports</td>
<td>Reports and supervision mission reports</td>
</tr>
<tr>
<td>Repots and supervision mission reports</td>
<td>Project Management Unit (PMU)</td>
</tr>
<tr>
<td>Quarterlly and Annual Project implementation reports</td>
<td></td>
</tr>
<tr>
<td>Repots and supervision mission reports</td>
<td>Project Management Unit (PMU)</td>
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<tr>
<td>Quarterlly and Annual Project implementation reports</td>
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<tr>
<td>Quarterlly and Annual Project implementation reports</td>
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<tr>
<td>Quarterlly and Annual Project implementation reports</td>
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<tr>
<td>Quarterlly and Annual Project implementation reports</td>
<td></td>
</tr>
</tbody>
</table>
include the following topics: (i) debt-for-nature swaps, (ii) payments for environmental services by Itaipú Binacional, (iii) a tradable rights scheme, (iv) economic value of biodiversity, (v) certification of sustainable biodiversity-friendly produce, and possibly (vi) promotion of Programmatic CDM programs.

<table>
<thead>
<tr>
<th>Environmental themes are implemented in programs for elementary school education</th>
<th>None</th>
<th>Diagnosis of Environmental education program for elementary school with reference to conservation of the Atlantic Forest in the National Curriculum</th>
<th>Environmental themes introduced into the national curriculum for elementary education. Dedicated educational program in the educational centers of the Project area</th>
<th>Reports on success of education and improvements made.</th>
<th>Consolidation of activities and securing of sustainability.</th>
<th>Quarterly and Annual Project implementation reports</th>
<th>Repots and supervision mission reports</th>
<th>Project Management Unit (PMU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 training events are carried out.</td>
<td>None</td>
<td>Timetable for training events planned.</td>
<td>At least 25 training events held in total.</td>
<td>At least 100 training events held in total.</td>
<td>At least 200 training events held in total.</td>
<td>Quarterly and Annual Project implementation reports</td>
<td>Repots and supervision mission reports</td>
<td>Project Management Unit (PMU)</td>
</tr>
<tr>
<td>Dissemination plan is in place and operating</td>
<td>None</td>
<td>Draft dissemination plan produced and implementation begun</td>
<td>Final Dissemination plan produced and implementation continued</td>
<td>Implementation continued</td>
<td>Quarterly and Annual Project implementation reports</td>
<td>Repots and supervision mission reports</td>
<td>Project Management Unit (PMU)</td>
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</tbody>
</table>

**Component 4: Project Management, Monitoring and Evaluation**

<table>
<thead>
<tr>
<th>Decentralized Project management unit functioning, including an integrated Project management system.</th>
<th>None</th>
<th>Set up within the first weeks of operation</th>
<th>Continues functioning satisfactorily</th>
<th>Continues functioning satisfactorily</th>
<th>Continues functioning satisfactorily</th>
<th>Quarterly and Annual Project implementation reports</th>
<th>Repots and supervision mission reports</th>
<th>Itaipú, SEAM, IBRD</th>
</tr>
</thead>
<tbody>
<tr>
<td>A financial, physical and ecological monitoring system is in place and providing accurate information to users and the audience.</td>
<td>None</td>
<td>Set up during the first 3 months of operation</td>
<td>Continues functioning satisfactorily</td>
<td>Continues functioning satisfactorily</td>
<td>Continues functioning satisfactorily</td>
<td>Quarterly and Annual Project implementation reports</td>
<td>Repots and supervision mission reports</td>
<td>Itaipú, SEAM and MAG</td>
</tr>
</tbody>
</table>
ANNEX 4: Detailed Project Description

PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

Details on Project Components:

1. The Project objective is to assist the Member Country’s continued efforts to achieve sustainable natural resource-based economic development in the Project Area, by: (a) establishing the Mbaracayú-San Rafael conservation corridor within public and private lands through sustainable native forest management practices for biological connectivity; (b) encouraging sustainable agricultural practices that maintain biodiversity within productive landscapes, while increasing productivity and mainstreaming biodiversity conservation; (c) strengthening the institutional capacity of MAG to implement conservation techniques in the rural landscape; (d) strengthening the institutional capacity of SEAM to improve knowledge on forest and biodiversity conservation activities, including the monitoring and enforcement of said activities; and (e) strengthening the National Protected Areas System.

2. As described in the main text, in order to achieve the Project objectives, the following components would be implemented:

3. Component 1: Re-Establishment of Connectivity between Protected Areas (Total US$ 12.005 M of which $ 1.815 M would be funded by the GEF). This component will finance the following activities:

- The provision of Community Grants I to carry out demand-driven investments on, *inter alia*: (a) sustainable use of forest remnants to generate income while conserving biodiversity; (b) restoration and regeneration of forests to combat habitat degradation and erosion of land in areas with degraded or no forests; and (c) any other investment of similar nature acceptable to the World Bank.

- The provision of Community Grants II to carry out demand-driven socio-productive investments on, *inter alia*: (a) adoption of sustainable land use practices; (b) increasing crop and livestock (small animals) production; (c) forest and water conservation practices at farm levels; (d) diversification and improvement of production systems to increase income; (e) adoption of increased carbon sequestration practices; and (f) any other investment of similar nature acceptable to the World Bank.

- Provision of technical assistance to potential Beneficiaries in the design of Community Subprojects I.

- Preparation of an operational procedures manual for Community Subprojects I, (the Community Subproject I Manual) which manual shall include, *inter alia*: (a) the criteria for selecting Beneficiaries and approving Community Subprojects I; (b) the guidelines to be followed by Beneficiaries in the presentation of Community Subprojects I for approval thereof; (c) the functions and responsibilities of the EC; and (d) the terms of reference for the semi-annual technical audits referred to in Part A.5 of the Grant Agreement.

- Carrying out of semi-annual technical audits of Community Subprojects I in a manner and on terms acceptable to the World Bank.
• Provision of technical assistance to the Recipient to assist it in the supervision of the implementation of Community Subprojects.

4. The objective of this component would be to maintain or recreate the connectivity between protected areas in the proposed conservation corridor, which would provide continuous biological links to enable a crucial flow of genetic resources between the large forest remnants within the corridor. Specifically, GEF-funded activities would include financial and technical assistance to at least 2,500 small farmers to improve forest management and biodiversity conservation. By project end, at least 250,000 hectares of land within the project area would have adopted these practices, and at least 25 micro-catchments land use plans would be developed in a participatory way to identify critical areas for biodiversity conservation in each farm.

5. GEF funds would provide grants to finance forest management and biodiversity conservation practices among small farmers located in micro-catchments within the Conservation Corridor. This assistance will be delivered as community grants to fund two types of Sub-projects: (i) sustainable use Sub-projects and (ii) restoration and regeneration Sub-projects (Community Sub-projects I in the Grant Agreement) and any other investment of similar nature acceptable to the Bank. This would be complemented by financial assistance and training granted by MAG through PRODERS (counterpart funds from the loan), and Itaipú for on-farm natural resource management practices (counterpart funds from the company). In particular, these complementary funds will support a third type of sub-Project, (iii) demand driven socio productive Sub-projects (Community Sub-projects II in the Grant Agreement).

6. Specifically, GEF-funded activities would include financial and technical assistance to at least 2,500 small farmers to improve forest management and biodiversity conservation. By Project end, at least 250,000 hectares of land within the Project area would have adopted these practices, and at least 25 micro-catchments land use plans would be developed in a participatory way to identify critical areas for biodiversity conservation in each farm.

7. An important and crucial aspect for the implementation of this Project is the willingness of small, medium-sized and large landowners to participate in practices of sustainable agriculture and the integration of biodiversity into the management of their properties. Except for the protected areas, poor farming colonies and indigenous communities, a large part of the Project area is privately owned. Landholders’ participation will allow recreating the connectivity lost or maintaining important forest remnants among the protected areas. This component is based on the assumption that:

i) Small farmers have not yet established a means for juridical responsibility, a legal framework, and/or implemented an economic model for determining best uses of their lands. With small farmers, the Project will work on the basis of incentives: 1) financially, by providing grant investments on their lands; and 2) technically, by providing technical assistance and training;

ii) Medium and large-sized farmers are either not operating legally (due to lack of environmental licensing, properties being completely deforested and not respecting legal reserve requirements and the protection of water courses/springs, among others). The incentives for these farmers will be
based on direct grants for better management of their properties and incentives for environmental services for large landholders;

iii) For those landholders in compliance with the environmental framework, an expected minority in the Project area, recognition of and support for expanding their environmental responsibility is planned;

iv) A strong link with the Public Ministry (fiscales) and SEAM’s law enforcers (fiscalizadores) will be promoted to monitor law application in the Project area. This partnership will allow for an effective monitoring and enforcement mechanism of land use changes within the conservation corridor.

8. Promotion of sustainable agricultural practices will be aimed at restoring soils, landscapes, and degraded forests, conserving biodiversity and reducing erosion and siltation. The following kinds of sub-Project have been defined in two categories:

- **Community Grants I** to carry out demand-driven investments on, *inter alia*: (a) sustainable use of forest remnants to generate income while conserving biodiversity; (b) restoration and regeneration of forests to combat habitat degradation and erosion of land in areas with degraded or no forests; and (c) any other investment of similar nature acceptable to the World Bank.

- **Community Grants II** to carry out demand-driven socio-productive investments on, *inter alia*: (a) adoption of sustainable land use practices; (b) increasing crop and livestock (small animals) production; (c) forest and water conservation practices at farm levels; (d) diversification and improvement of production systems to increase income; (e) adoption of increased carbon sequestration practices; and (f) any other investment of similar nature acceptable to the World Bank.

9. Project beneficiaries are those living within the conservation corridor for small farmers (<20 ha and less than an official monthly wages as income), medium-sized farmers (with 20-100 ha and less than 6 official monthly wage as income), and large landowners (with more than 100 ha). In these cases, accepted Sub-projects for biodiversity conservation will be granted with 100% of the investment. In the particular case of indigenous communities and given that most of the farm practices are conservationist, technical assistance in production will be given, to maximize consumption products and produce related to the sustainable use of biodiversity (handicrafts, medicinal herbs, etc.).

10. Sub-Project design will be done by a broad audience from individuals to institutions who will be accompanied by rural extensionists (sub-Project agents), local authorities and eligible beneficiaries. The Project strategy involves actions to involve groups of small farmers and make them eligible to receive funds and implement Sub-projects. Eligible Sub-projects with a previous positive screening with an incremental gain from the baseline will be awarded. Grants will be in the range of US$ 2,000-10,000 depending on costs and activities to positively impact biodiversity and natural resources. Administrative costs of Sub-projects will be no more than 10%, and within group Sub-projects, no more than US$ 900 per property. A list of eligible Sub-projects has been prepared and though it is not exhaustive, gives an idea of the type of initiatives to be granted.
<table>
<thead>
<tr>
<th><strong>Type of Sub-projects (Community grants)</strong></th>
<th><strong>Sources of funding</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable use (Community Sub-projects I in the grant agreement)</td>
<td></td>
</tr>
<tr>
<td>1. Use of forest and flora, forestry</td>
<td>GEF</td>
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<tr>
<td>2. Use of non-wood products</td>
<td></td>
</tr>
<tr>
<td>3. Honey production</td>
<td></td>
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<tr>
<td>Restoration and regeneration (Community Sub-projects I in the grant agreement)</td>
<td></td>
</tr>
<tr>
<td>1. Reforestation with native species</td>
<td></td>
</tr>
<tr>
<td>2. Enrichment with woody commercial trees</td>
<td>GEF/Itaipú</td>
</tr>
<tr>
<td>3. Adoption of windbreaks</td>
<td></td>
</tr>
<tr>
<td>4. Natural regeneration</td>
<td></td>
</tr>
<tr>
<td>5. Enrichment with herbal mate, palm trees, fruit trees</td>
<td></td>
</tr>
<tr>
<td>6. Agro-forestry systems</td>
<td></td>
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<tr>
<td>7. Production of medicinal plants</td>
<td></td>
</tr>
<tr>
<td>8. Production of aromatic plants</td>
<td></td>
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<tr>
<td>9. Organic production</td>
<td></td>
</tr>
<tr>
<td>10. Wildlife ranching and farming</td>
<td></td>
</tr>
<tr>
<td>Socioproductive Sub-projects (Community Sub-projects II in the grant agreement)</td>
<td></td>
</tr>
<tr>
<td>1. Adoption of green manure</td>
<td>PRODERS/Itaipú</td>
</tr>
<tr>
<td>2. Adoption of soil management techniques</td>
<td></td>
</tr>
<tr>
<td>3. Production of manioc starch</td>
<td></td>
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<tr>
<td>4. Production of essence of Petit Grain</td>
<td></td>
</tr>
<tr>
<td>5. Production of animal fodder</td>
<td></td>
</tr>
<tr>
<td>6. Production of vegetable oil</td>
<td></td>
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<tr>
<td>7. Production of seeds</td>
<td></td>
</tr>
<tr>
<td>8. Production of vegetables</td>
<td></td>
</tr>
<tr>
<td>9. Adoption of carbon sequestration practices</td>
<td></td>
</tr>
</tbody>
</table>

11. The strategy for funding Sub-projects is a) elaboration of an operational procedure manual detailing procedures, b) hiring an institution to supervise technically and administratively the GEF financed Sub-projects, c) creating an evaluation committee, d) elaborating guidelines for sub-Project design, e) nominating sub-Project promoters, f) hiring recurrent audits. The Operational Manual for the Project includes a draft guide for this subcomponent, from elaboration, through calling and selection, up to implementation and monitoring and evaluation.

12. Regarding the partially-blended nature of this Project with PRODERS, an estimated US$ 6.3 million of PRODERS’ on-farm NRM investment Sub-projects (Community Sub-projects II) within the micro-catchment investment plans will constitute counterpart funding for this Project under Component 1. These Sub-projects funded by PRODERS will be carried out within the 12 proposed micro-catchments of Caaguazú that reside both within PRODERS’ Project area and this Project’s proposed Conversation Corridor. Counterpart funding from Itaipú will be used for on-farm NRM investment Sub-projects within the other micro-catchments investment plans of the Corridor, but that reside outside the PRODERS’ area of coverage, covering a total of 25 micro-catchments (including the 12 financed by PRODERS). More information about the coordination between both project is included in Appendix 1 to this Annex.
13. Once micro-catchments investments plans, financed by both PRODERS and Itaipú, are being implemented, then farmers within these micro-catchments will be eligible to receive resources from the US$ 1.8 million of the Project’s GEF funds for biodiversity conservation-related activities.

14. **Component 2: Strengthening and Expansion of the National Protected Areas System (US$ 1.815 M of which US$ 0.57 M would be funded by the GEF).** This component will finance the following activities:

- Strengthening the management of existing Public Protected Areas and Itaipú-Owned Protected Areas through, *inter alia*, the carrying out of the following activities: (a) the development and approval of voluntary management plans for the Caazapá National Park, the Ybyturuzú Managed Resource Reserve and the Ñacunday National Park; (b) the implementation of voluntary management plans for the Caazapá National Park, the San Rafael Managed Resource Reserve, the Ybyturuzú Managed Resource Reserve and the Ñacunday National Park; (c) the provision of technical assistance to design a demarcation plan of the area covered by the Ybyturuzú Managed Resource Reserve and the Ñacunday National Park; and (d) the carrying out of selected infrastructure investments in the Caazapá National Park and the San Rafael Managed Resource Reserve, which investments consist of, *inter alia*, rehabilitation of roads (within the existing right-of-way), the construction of park ranger posts, and the installation of a radio system for the communication among park rangers, all in accordance with criteria acceptable to the World Bank.

- Promoting the establishment of Private Protected Areas, through, *inter alia*, the carrying out of the following activities: (a) the elaboration of proposals for the creation of 10 new Private Protected Areas; and (b) the development of at least six voluntary management plans for existing or new Private Protected Areas.

- Establishment of a biological sub-corridor (within the Mbaracayú-San Rafael conservation corridor) to be named as the Carapá Biological Sub-Corridor, through, *inter alia*, the carrying out of the following activities: (a) the definition of micro-corridors; (b) the restoration of natural habitats within said sub-corridor; and (c) the implementation of management plans for six Itaipú-Owned Protected Areas.

15. This component will strengthen Public Protected Areas and Itaipú-owned Protected Areas within the proposed Conservation Corridor. Through this component, by Project end, at least 400,000 hectares will be conserved as core refuges of biodiversity within the Protected Areas System of the UPAF. Key protected areas (public and Itaipú-owned) would be supported to improve their management capacity comprising at least 250,000 hectares, which includes the consolidation and creation of 10 private protected areas as part of their buffer zones, covering 150,000 hectares.

16. The Project does not include any activities involving involuntary resettlement.

17. **Component 3 Enhanced Policy Framework and Institutional Strengthening (US$ 2.951 M of which US$ 1.685 M would be funded by the GEF).** This component will finance the following activities:

- Carrying out of, *inter alia*, the following capacity building activities: (a) the provision of training to staff of selected Municipalities and Departments on environmental management; (b) the acquisition and utilization of selected
equipment and vehicles for SEAM to assist SEAM in the carrying out of its functions and responsibilities; and (c) the provision of training to MAG’s staff on biodiversity conservation techniques in the rural landscape of the Mbaracayú-San Rafael conservation corridor.

- Carrying out of communication and Project dissemination activities, which include, *inter alia*, the following activities: (a) the design and implementation of communication campaigns; (b) the provision of training and the elaboration/production of training materials; and (c) the dissemination of the National Environmental Policy and the National Strategy for Biodiversity Conservation.

- (a) Design of land use plans for selected Municipalities; and (b) design of a system to monitor compliance with the land use plans mentioned in (a) herein.

- Carrying out of, *inter alia*, the following activities aimed at encouraging sound management of natural resources, and at addressing major gaps in knowledge for sound decision-making on incentives for natural resource management: (a) the design of regulations/mechanisms to implement Law No. 3001/06; (b) the design and implementation of a pilot program on tradable rights (*derechos canjeables*); (c) the elaboration of proposals for establishing disincentives for the irrational use of natural resources; (d) the provision of support for the certification or labeling/marketing of sustainably-produced products in the marketplace; and (e) the carrying out of a study on a mechanism to provide ecosystem services by the Recipient.

- Design and implementation of an environmental education program.

18. The objective of the proposed component is to strengthen the institutional capacity and coordination of GOP institutions responsible for management of natural resources and biodiversity. By the end of the Project, extension services from the MAG will incorporate biodiversity within the productive system in the whole area of the Conservation Corridor and a sufficient number of studies and actions plans (to be requested by SEAM) for improved policy instruments would have been developed, with Recipient commitment for implementing action plans. The Project would also strengthen MAG’s capacity to integrate forest management and biodiversity in its rural extension programs, particularly at the micro-catchment level. This component would also implement sustainable practices at the institutional level, as well as strengthen selected decentralized units of SEAM to work within the conservation corridor. The strengthening of SEAM would result in at least 5 new proposals for policy improvement to the Congress or revision of regulatory frameworks for existing laws; municipal and departmental authorities trained in environmental management in their respective jurisdictions; innovative materials produced and an environmental education program in place; and the extension staff of MAG trained in biodiversity conservation techniques in the rural landscape of the proposed conservation corridor.

19. **Component 4: Project Management, Monitoring and Evaluation (US$ 1.52 M of which US$ 0.43 M would be funded by the GEF).** This component will finance the following activities:

- Design and implementation of a Project monitoring and evaluation system.
- Design and implementation of a land-use monitoring system.
- Design and implementation of a Project integrated management information system.
20. The objective of this component is to facilitate the efficient execution of the Project and would be achieved through establishment and operation of a Project Management Unit that would be responsible for Project management, administration, and dissemination of information to other projects within Paraguay. Itaipú and SEAM will develop an adequate land-use monitoring system, which would provide accurate, real-time information to monitor and enforce the application of natural resource management and biodiversity conservation practices in the conservation corridor.
Appendix 1

Coordination between the PRODERS Project and the Conservation of Biodiversity and Sustainable Land management in the Atlantic forest of Eastern Paraguay Project

- The Atlantic Forest in general, and the Upper Parana Atlantic Forest in particular, is one of the most endangered biomes globally and the biodiversity it holds is highly threatened. The survival of this biodiversity greatly depends on the conditions the land is being managed outside protected areas and by integrating biodiversity into the productive systems at the farm level.

- Based on this particular situation, the proposed Project would be associated to an already effective IBRD Project (PRODERS). This association would result in the integration of NRM and biodiversity conservation efforts in selected areas of the PRODERS’ Project.

- The Project would be implemented in an area of approximately 1.4 million hectares, representing a north-south conservation corridor along five departments of Eastern Paraguay. Within this area, implementation of PRODERS would overlap in 12 of the 84 micro-catchments that would be assisted by this Project.

- In these micro-catchments, financial resources from the IBRD PRODERS project would be applied, as in the rest of the PRODERS’ area, to implement NRM and sustainable production practices at the farm level which would provide the basis for the subsequent implementation of appropriate biodiversity conservation practices financed by this Project. The allocation of financial resources by PRODERS, confirmed at USS 6.31 million would represent the IBRD co-financing.

- In addition to above described co-financing, for the arrangements at the field level, the GEF Project would aim at achieving the objective of mainstreaming biodiversity conservation in the productive landscape by financing a series of activities oriented at the incorporation of biodiversity in the activities of MAG rural extension by providing training and technical assistance to extensionists.

- GEF resources would also be used for training the Project’s staff in the promotion of biodiversity conservation and sustainable use, for awareness activities aimed at Project beneficiaries within the micro-catchments with respect to the importance of biological diversity, and educational programs including workshops and seminars on legal issues, conservation and sustainable use of biodiversity, identification of local flora and fauna, and planning of income generation activities such as ecotourism activities, organic production, and traditional crops, among others.
During the final stage of PRODERS preparation, both Projects’ preparation units strengthened their relations in a continuous and effective way. This resulted in agreements for Project activities in the overlapping area and advantages of jointly developed operational tools. These agreements will be accordingly reflected in the Implementation Agreement to be executed by the parties (condition of effectiveness).
## ANNEX 5: Project Costs

### PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

<table>
<thead>
<tr>
<th>Project Cost By Component</th>
<th>Local US$</th>
<th>Foreign US$</th>
<th>Total US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component 1: Re-Establishment of Connectivity between Protected Areas</td>
<td>12,005,450</td>
<td>0.0</td>
<td>12,005,450</td>
</tr>
<tr>
<td>Component 2: Strengthening and Expansion of the National Protected Areas System</td>
<td>1,815,000</td>
<td>0.0</td>
<td>1,815,000</td>
</tr>
<tr>
<td>Component 3 Enhanced Policy Framework and Institutional Strengthening</td>
<td>2,951,000</td>
<td>0.0</td>
<td>2,951,000</td>
</tr>
<tr>
<td>Component 4: Project Management, Monitoring and Evaluation (including contingencies)</td>
<td>1,520,000</td>
<td>0.0</td>
<td>1,520,000</td>
</tr>
<tr>
<td><strong>Total Baseline costs</strong></td>
<td><strong>18,291,450</strong></td>
<td><strong>0.0</strong></td>
<td><strong>18,291,450</strong></td>
</tr>
<tr>
<td><strong>Price Contingencies</strong></td>
<td><strong>0.0</strong></td>
<td><strong>0.0</strong></td>
<td><strong>0.0</strong></td>
</tr>
<tr>
<td><strong>Total Project Costs</strong></td>
<td><strong>18,291,450</strong></td>
<td><strong>18,291,450</strong></td>
<td></td>
</tr>
<tr>
<td>Front-end Fee</td>
<td></td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total Financing Required</strong></td>
<td><strong>18,291,450</strong></td>
<td><strong>0.0</strong></td>
<td><strong>18,291,450</strong></td>
</tr>
</tbody>
</table>
ANNEX 6: Implementation Arrangements

PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

A. Institutions, Preliminary diagnosis and Evaluation

1. The principal institutional players working on biodiversity in Paraguay are: (i) the Secretariat of Environment (SEAM), the central organ of the National Environment System, created by Law 1561/00; (ii) Itaipú Binacional, through its supervision of environmental management in Protected Area’s owned by the company and included in the National System of Protected Areas in Paraguay; (iii) The Ministry of Agriculture and Livestock (MAG), through its Natural Resource Conservation Program (PRODERS); (iv) civil society entities such as the farmers associations and NGOs, which are very active in Paraguay, and some of which operate and maintain private Environmental Protection Areas; and (v) the Governments of the Municipalities and Departments.

The Secretary of Environment (SEAM)

2. SEAM, created in 2000, is still improving its capacity to achieve all its goals, particularly since the legislation provided it with the power to deal with environmental issues. The head of SEAM is an Executive Secretary, with the rank of a State Minister, appointed by the President of the Republic, and with a Cabinet formed by a Secretary General, an Internal Audit Unit, a Judicial Advisory Unit and a Strategic Planning Administration Unit, which also manages CONAM (National Environment Council) and the Coordination of Environmental Projects Unit; the National Strategy of Natural Resources Protection (ENAPRENA), and a Finance Administration Unit. Under this framework, there are four Departments: (i) Department of Environmental Management; (ii) Department of Environmental Quality Control and Natural Resources; (iii) Department of Biodiversity Protection and Conservation; and (iv) Department of Protection of Conservation of Water Resources. It is also worth mentioning that the National Forestry Area continues to be overseen by MAG.

3. SEAM has a total of 284 employees, with an average salary of US$ 250 per month. Approximately 60% of total employees have received a university degree. SEAM does not have a continuous training program; training is provided without systematic planning. SEAM’s budget, which was US$ 3.0 million in the year of its creation, is today US$2.7 million. In the past, SEAM has invested approximately US$ 50,000 per year in conservation activities, amounts insufficient for appropriate implementation of protection. SEAM has a very positive relationship with leading civil society organizations regarding actions within the UPAF. WWF-Paraguay, IDEA, Guyra Paraguay, Moisés Bertoni Foundation (among others) are cooperating with SEAM for Project implementation in the field.

Itaipú Binacional

4. Itaipú Binacional is a structured and organized entity that manages a large volume of resources. Itaipú has experience in environmental issues and manages Protected Areas owned by the company, included in the National System of Protected Areas. Itaipú is governed by an Administration Council, formed by 14 members, including 7 representatives from Paraguay and 7 from Brazil. The Council meets twice a month and considers the company’s major decisions, countersigning the decisions made by the
Board of Directors. Under the Council, there is the Board of Directors formed by 12 members, including 6 from Paraguay and 6 from Brazil with 2 Director Generals, one Brazilian and one Paraguayan. Below the Directorate General there are 5 Directorates, of which the Coordination Directorate (DC) in charge of Paraguay would be responsible for the Project. This DC is divided in two Superintendencies, the Superintendency of Environmental Management and the Superintendency of Works and Development.

5. At the moment of the institutional evaluation for this Project (2007), Itaipú had 3,207 employees, including 1,744 from the Paraguayan side and 1,463 from the Brazilian side. The Superintendency of Environmental Management on the Paraguayan side, which should be the principal partner of the Project, today has approximately 170 employees. Of these 170, approximately 100 work in the Lake and Protected Areas Department, and 70 in the Environmental Protection Department.

6. Itaipú generates revenues of approximately US$ 2.5 billion per year from sales of energy produced by turbines. This energy is sold to ANDE of Paraguay, and to FURNAS, ELETROSUL and ELETROBRAS in Brazil. Most of the profits are realized in the form of dividends from Itaipú, which represent approximately US$ 1.63 billion, or 66% of profits. The payment of royalties to the Paraguayan Government, and to the Brazilian Federal Government, Paraná State and the Municipalities close by, represents about US$ 570 million per year, or 23% of revenues. The turbine operation and the complementary activities like environmental services amount to US$ 216 million, corresponding to almost 9% of expenditures. Another 2-2.5% goes to an account named “compensation by energy supply” and a further annual surplus of around US$ 50 million is invested in diverse ways.

Ministry of Agriculture (MAG) and the World Bank PRODERS Project

7. MAG has not been subject to evaluation by the Bank’s team, but has been evaluated thoroughly by the Bank’s PRODERS Projects (already approved and ratified by Congress). The PRODERS and this proposed Project are partially blended to make use of counterparts and resources in an integrated way. This Project has characteristics that very much approach the objectives of this Project. Since the Project has a double priority – to fight rural poverty and to conserve natural resources, PRODERS has defined the 2 poorest departments of Paraguay, San Pedro and Caaguazú, as its priority area. Only one, Caaguazú, is involved partially in the priority area of the Project, to create the Corridors for Biodiversity Conservation.

8. The total amount of the PRODERS Project is US$ 46.8 million, from which US$ 37.5 million is a loan from IBRD, while the remainder is counterpart funding, including US$ 3.85 from GOP and US$3.39 from Project beneficiaries. The following investments will be made: (i) Social infrastructure works, such as latrines; roofing improvements, housing improvements, etc (ii) works to increase production and soil recovery; (iii) conservation and recovery of Forestry and Water; (iv) works to increase property income through the diversification and improvement of production systems; (v) activities to support Indigenous land titling; (vi) individual investment plans, like equipment for direct planting, handicrafts, etc; and (vii) municipal investment plans, like road improvement in the micro-watersheds, forestry nurseries and orchards, recycling of agrochemical containers.

Departments and Districts
9. Paraguay is a decentralized state formed by 17 departments and the city of Asunción. There are 220 municipalities. According to the 1992 constitution, departments and municipalities have political, administrative and financial autonomy. The departmental government consists of a Governor and a Departmental Council (Junta Departmental), municipal governments consist of a Mayor and a Municipal Council (Junta Municipal).

10. Departmental governments have faced multiple problems. The decentralization process has increased the demands placed on local government (departments and municipalities) to address the needs of growing communities, particularly the poor. However, most departments do not have sufficient resources to carry out their work. Furthermore, their powers, responsibilities, and financing are vaguely defined. Budgeting issues have been a constant source of conflict between the departments and the central government.

Environmental NGOs
11. Paraguay has some organizations from the non-profit sector, which are active in and out of the country, providing support, technical assistance and consultancies. Some of these NGOs participated in the preparation of the Project, demonstrating a vast experience. During the public consultation event, these NGOs presented themselves with confidence and interest. Among the most important NGOs of the country are: (i) the Moisés Bertoni Foundation; (ii) Guyra Paraguay; and (iii) WWF-Paraguay.

B. Institutional and Implementation Arrangements

Project Implementation Structure
12. The recipient and main executor of the GEF grant will be Itaipú Binacional, supported by the Secretary of the Environment (SEAM) and the Ministry of Agriculture and Livestock (MAG) as co-executors. The Project’s operational structure will include three complementary levels: (i) a decision-making level composed of a Management Council formed by SEAM, Itaipú and MAG; (ii) an advisory level composed of an Executive Work Group for discussion and advisory services, formed by representatives of all of the Project’s executing and co-executing agencies; and (iii) an executive level formed by a Project Management Unit (PMU), housed within Itaipú.

Organizational Chart for Project Implementation
Decision-Making Level – Management Council

13. The Management Council will be composed of three members: the Secretary of the Environment (SEAM) who will chair the Council, Itaipú Binacional, and the Ministry of Agriculture and Livestock (MAG) as well as the General Coordinator or Project Manager who will act as the Council’s Executive Secretary. The Ministry of Finance will also be invited to participate in this council.

14. The Management Council will meet semi-annually. Its duties will include: (i) functioning as a forum to integrate the Project with national development policies; (ii) approving the Project Operational Manual; (iii) approving annual POAs; (iv) defining the Project’s annual budget categories; (v) defining the Project’s major strategic areas; (vi) evaluating the Project’s progress and making relevant recommendations; (vii) ensuring stakeholder participation during Project implementation; (viii) performing an ex-post review of contracts for Project execution; (ix) approving accords, agreements, and other instruments to be signed by Itaipú and Project implementation partners; (x) creating the mechanisms and instruments needed for proper implementation of the Project; and (xi) other duties envisaged in the Management Council’s by-laws.

15. At the first meeting of the Management Council, the following instruments should be approved and endorsed: (a) the first year’s POA; (b) the Project Implementation Plan with the First-Year Procurement Plan; (c) the Council’s By-laws; (d) the Executive Work Group By-laws; (e) the agreements and covenants signed by Itaipú and other Project participants; and (f) the program’s Operational Manual

Advisory Level – Executive Working Group

16. The Executive Working Group will be presided over by the Project Manager and composed of representatives of all partner executing agencies of the program. It should meet on a quarterly basis with the following agencies: (i) SEAM; (ii) Itaipú; (iii) MAG-PRODERS; (iv) DEA; (v) a representative of the Departments; (vi) a representative of the Districts; (vii) Selected Environmental NGOs.
17. The Executive Working Group will have the following functions: (a) articulate the participation of various actors who will participate in Project implementation; (b) evaluate the Project’s progress on a frequent and ongoing basis; (c) take the necessary decisions for effective Project management; (d) resolve any conflicts and controversies that may exist among Project participants; (e) ensure proper execution of the Project through the effective use of existing technical instruments; (f) facilitate the participation of other institutions and/or agencies which, as determined by the Management Council in the future, may become an integral part of the Project; and (g) carry out other duties to be proposed in its by-laws.

Executive Level – Project Management Unit (PMU)

18. The PMU, to be structured by an agreement between Itaipú and SEAM, will be located within the Superintendencia de Medio Ambiente (Super-Secretary of Environment) which is located within the Directorate of Coordination in Itaipú Binacional. It will act as a technical group for the Project and will be responsible for ensuring the technical and managerial quality of actions carried out by the Project. The Project Manager will be appointed by a mutual decision of Itaipú and SEAM. Other PMU managers will be appointed in the same manner.

19. In addition to functioning as the Executive Secretariat of the Project Management Council and as General Coordinator of the Executive Working Group, the PMU’s duties will also include: (i) managing overall Project execution; (ii) managing the execution of Sub-projects under the guidance of SEAM and Itaipú; (iii) preparing the annual POA proposals; (iv) coordinating with relevant Department and District Level and private agencies to ensure the proper and timely provision of financial resources for the Project, both those from the grant and those from counterpart contributions; (v) providing the means and conditions needed to obtain technical support for analyzing and monitoring actions, proposals, and products related to Project execution; (vi) coordinating and administering activities related to the contracting of various planned activities and actions; (vii) coordinating and administering activities related to Project financial, disbursement, and auditing issues; (viii) preparing accounting statements in accordance with the Grant Agreement; (ix) establishing and operating the Project’s monitoring and evaluation system and providing information to the World Bank and the GEF as requested; (x) promoting the broad dissemination of the Project and its components; and (xi) carrying out other duties indicated in the Project Operational Manual.

20. The PMU will be staffed with specialists with previous experience in the management of programs and Projects. They will include the General Coordinator or Project Manager, the technical advisory manager, and the four executive managers for the areas of institutional and technical assistance, biodiversity and protected areas, natural resources management and administration and finance (including: one legal adviser, one biodiversity adviser, one institutional adviser, one procurement and financial specialist, one natural resources adviser and one monitoring and evaluation specialist). Other support staff will be recruited as needed.

Procurement

21. All procurement processes under the Project –most of them for the contracting of consulting services– will be centrally managed and monitored by Itaipú, under the overall supervision of the Executive Working Group. Although Itaipú has its own rules
and manuals for Procurement which are consistent with the Bank’s, Annex 8 defines the procurement guidelines under which the Project will operate.

Financial Administration and Flow of Funds
22. The program’s financial administration will be centrally handled by the PMU’s Administrative and Financial Management Office, and there will be no transfer of funds to the implementation partners, except in the case of private beneficiaries as the legal entities who will develop small Projects with rural small producers, etc. Financial provisions will be included in the National SEAM Budget Proposal (SEAM and MAG categories) for each calendar year, both for the use of grant resources and loan resources for PRODERS and for the committed counterparts. Itaipú will open a special account with an overseas branch of a local bank, with local sub-accounts in national banks to be determined for grant resources (following their due internalization by means of currency exchange). Payments to suppliers, service providers, and contractors will be made by Itaipú through the PMU, following the procedures agreed in the operational manual. More details on financial management, disbursements, and audits are available in Annex 7.

Implementation of Components and Subcomponents
23. For Component 1, promoting sustainable land management in connecting corridors, including the promotion of sustainable farming practices and the provision of technical assistance to farmers, the PMU will manage the activities with the close participation of MAG, through its PRODERS PMU. This component will also include the participation of DEAG, municipalities and departments. Civil society through its farmers associations will participate during the implementation of the technical assistance to the farmers.

24. For Component 2, strengthening legally recognized public and private Protected Areas, the PMU and SEAM will be responsible for managing all activities. Private Protected Areas’ activities will be coordinated with the participation of the NGOs and the owners of the referred sites. Itaipú will undertake the FM responsibilities comprising budgeting, accounting, and financial reporting, flow of funds, and management of the designated account, internal control, and external auditing arrangements. However, SEAM, as part of the Project’s Management Council and Executing Working Group, will be participating in, among other things, drafting TORs, discussions related to the technical evaluation of consultants, opening of envelopes, discussions during negotiations, and providing technical specifications for the works as well as supervising the technical implementation of the component.

25. For Component 3, policy and institutional strengthening within the Project areas, including formal environmental education and strengthening of the decentralized parts of SEAM, will be under the technical responsibility of SEAM with the operational help of the PMU, and close participation of MAG and the departments and District Governments as beneficiaries. Technical assistance and training of the beneficiaries will be led by the PMU and SEAM with the help of civil society entities.

26. Component 4, Project management, institutional development and decentralization of environmental management, will be under the responsibility of Itaipú with the technical help of SEAM, and the communication and dissemination plan will have the strong participation of civil society entities. This Component will also have a close participation of MAG and the departments and District Governments as beneficiaries.
Legal Instruments for Project Institutional Arrangements

27. Given that the program’s financial administration will be centrally handled by the PMU: (i) all grant and counterpart resources will be budgeted separately from normal Itaipú budget categories; (ii) all contracts will be signed between Itaipú through PMU and suppliers, service providers, and contractors; and (iii) the relationship between Itaipú, SEAM, MAG-PRODERS and Project implementation partners will be governed through Working Agreements.

28. Thus, Itaipú, through the PMU, will sign a tripartite agreement with each of the co-executors and separate agreements with the beneficiaries of the Project. These agreements will specify the responsibilities of all parties. The goods and services to be transferred to implementation partners, under the institutional strengthening component, will become effective based on agreements, signed by them and Itaipú, PRODERS and SEAM, through the PMU. The other legal instruments generated by the Project will be contracts to be signed by Itaipú and suppliers of goods, providers of general and consulting services, and works contractors.

C. Coordination with PRODERS

29. This proposed Project would be associated with the Bank loan, known as PRODERS (Sustainable Agriculture and Rural Development Project), already effective. This association would result in the integration of NRM and biodiversity conservation efforts in selected areas of the PRODERS Project. The allocation of financial resources by PRODERS, estimated at US$ 6.3 million, would partially represent the counterpart contribution of the Government of Paraguay.

30. This Project will be implemented in more than 1.1 million hectares, representing a north-south conservation corridor along several departments of Eastern Paraguay. It overlaps 12 of the 84 micro-catchments that will be assisted by PRODERS. In these micro-catchments, located in seven districts within the Department of Caaguazú, financial resources from PRODERS will be applied to implement NRM and sustainable production practices at the farm level, which will provide the basis for the subsequent implementation of appropriate biodiversity conservation practices financed by this GEF Project.

31. GEF resources would also be used for training the Project’s staff in the promotion of biodiversity conservation and sustainable use, for awareness activities aimed at Project beneficiaries within the micro-catchments with respect to the importance of biological diversity, and educational programs including workshops and seminars on legal issues, conservation and sustainable use of biodiversity, identification of local flora and fauna, and planning of income generation activities such as ecotourism activities, organic production, and traditional crops, among others.
A. Executive Summary

1. A Financial Management (FM) assessment of the adequacy of the proposed financial management arrangements has been carried out in line with the guidelines issued by the Financial Management (FM) Board on November 2005.

2. The assessment conclusion indicates that the proposed financial management (FM) arrangements for the Project meet Bank requirements. The proposed FM & audit arrangements, mitigation measures, and action plan will be implemented to mitigate the high FM risk. Control risk after the implementation of the proposed mitigation measures is considered moderate. However, the high inherent country risk evidences attitudes and behaviors rooted in the country framework whose weight and relevance materially affect the overall Project risk. Therefore, overall residual FM risk remains high.

3. The following additional measures are planned for this Project in order to achieve the Project development objective and mitigate the high FM risk:

   **Additional Fiduciary Measures**
   - Semi-annual concurrent audit of the grant Sub-projects.
   - Bank specific FM training for Itaipú Binacional Project staff.
   - Enhanced FM arrangements and supervision.
   - Specific training to be delivered by Itaipú Binacional staff to group of small producers or NGOs integrated by beneficiaries receiving funds from the Grant.

4. **Management of Project Funds.** The Project will be implemented by Itaipú Binacional through a dedicated group constituted as a Project Management Unit (PMU) responsible for the Financial Management (FM) functions of the Project. All uses of funds will be processed by the PMU, and supported by external third party documentary evidence and the related goods and services procured in line with Bank guidelines. The PMU will be responsible for Project financial management, making payments to suppliers and consultants, obtaining GEF disbursements, and executing the accounting and financial reporting functions. Community Grant funds foreseen under component 1 will be transferred to groups of small producers or NGOs integrated by small producers or beneficiaries. Project implementation will be guided by an Operational Manual (OM).

5. **Flow of Funds.** Execution of GEF Funds will be channeled according to a specific financial management arrangement, through a Designated Account. Uses of GEF funds will include: (i) payments to suppliers for components 2, 3 and 4 (outside of the Sub-projects category); and (ii) payments to suppliers under the Community Sub-projects I (Component 1).
6. **FM arrangements and mitigating measures.** The Project FM arrangements and mitigating measures are summarized in the below table. Due to the high level of risk, additional measures were incorporated to ensure proper mitigation.

<table>
<thead>
<tr>
<th>Project Financial Management Arrangements</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The Project will include an Administrative Operational Manual including a) Chart of Accounts for the Project; b) format and contents of the annual financial statements and IFRs format for monitoring and evaluation purposes; c) terms of reference for the external auditing; d) terms of reference for the concurrent audit; e) specific section for sub Project implementation process under the Community Grants Category.</td>
</tr>
<tr>
<td>• The Project funds will be managed directly by the PMU of Itaipú Binacional.</td>
</tr>
<tr>
<td>• Specific PMU staff will be dedicated to the management of community grants</td>
</tr>
<tr>
<td>• Capacity building activities through specific FM training course on Bank procedures.</td>
</tr>
<tr>
<td>• The Project Information System (SAP) is acceptable to the Bank.</td>
</tr>
<tr>
<td>• Specific FM framework for sub-Project.</td>
</tr>
<tr>
<td>• Specific training to group of small producers or NGOs integrated by beneficiaries receiving funds from the Grant, will be organized by the GEF recipient</td>
</tr>
<tr>
<td>• Community grants release will be conditioned by a satisfactory concurrent audit report.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FM Supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standards for High Risk Project</strong></td>
</tr>
<tr>
<td>• Supervision site visits at least twice a year</td>
</tr>
<tr>
<td>• IFRs reviewed semi-annually</td>
</tr>
<tr>
<td>• Annual review of the Audit reports</td>
</tr>
<tr>
<td><strong>Additional</strong></td>
</tr>
<tr>
<td>• Review of the semi-annual concurrent audit reports</td>
</tr>
<tr>
<td>• Bank specific FM training and capacity building for Itaipú Binacional Project staff</td>
</tr>
<tr>
<td>• Review of the specific conditions to release funds against the Community Grant Category (See Annex 7- Section 6-Community Grants).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External Audit Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standards for High Risk Project</strong></td>
</tr>
<tr>
<td>• Annual Report on the Audit of Project Financial Statements</td>
</tr>
<tr>
<td><strong>Additional</strong></td>
</tr>
<tr>
<td>• Annual Report on the Special Opinions:</td>
</tr>
<tr>
<td>- SOE: Opinion on the eligibility of expenditures reported and the correct use of GEF funds</td>
</tr>
<tr>
<td>- Designated account</td>
</tr>
<tr>
<td>• Semi-annual concurrent Audit Opinion (For details, see external audit section)</td>
</tr>
</tbody>
</table>

B. **Country Issues**

7. The Paraguay Country Financial Accountability Assessment (CFAA)\(^{14}\) and the Country Partnership Strategy (CPS)\(^{15}\), disclose the problems of governance and institutional weaknesses in Paraguay. The CPS states that Paraguay presents serious challenges in the areas of governance and control of corruption. Perceptions of corruption are high for all levels of government, including the state-owned enterprises and the two hydro power plants jointly owned by Paraguay with the governments of

\(^{14}\) Paraguay Country Financial Accountability Assessment, Report No. 30084-PY, August 26, 2004

Brazil and Argentina, respectively. The lack of transparency and controls over social spending in Paraguay by Itaipú Binacional is particularly noteworthy. The ineffectiveness of the control system, together with the inefficiency of the budget process and the lack of fiscal transparency, are the main challenges Paraguay faces in procurement and financial management.

8. The CFAA states the following as the most important weaknesses and shortcomings that threaten financial accountability in Paraguay:

   (i) Weak-control environment;
   (ii) Numerous and serious exceptions in the application of the financial administration law and regulations;
   (iii) Weak internal audit and control, especially in revenue collection agencies;
   (iv) Disproportionate share of time and resources that Auditor General devotes to ad hoc review requests;
   (v) Congressional introduction of budget increases without provision for corresponding financing;
   (vi) Trade liabilities incurred by execution agencies, but unrecorded if they exceed the authorized cash program;
   (vii) Many exceptions to Generally Accepted Accounting Standards and financial statements not prepared in compliance with the GOP’s own regulations.

9. The CFAA concludes that both inherent and control risks are high and states that the advances made in the modernization of Paraguay’s public financial management system cannot compensate for the effects of a deficient control environment.

10. In April 2008 the Paraguay Integrated Fiduciary Assessment\(^\text{16}\) (IFA) prepared jointly by the Bank, IDB and the European Union identified the following:

   i) Effectiveness of the control system is Paraguay’s biggest PFM and PR challenge. First, shortcomings in internal control framework and procedures weaken the performance in most expenditure categories related to salaries and goods and services. Second, Internal Audit is undermined by lack of trained staff, harmonized norms and procedures, and institutional independence. Third, external audit still experiences weaknesses such as the limited effectiveness of follow up on audit recommendations. Finally, the control environment is weak, due to the lack of accountability and the high level of discretion given to senior management by insufficient and inadequate human resources policies and work practices. This is compounded by the lack of internal control standards and procedures for the public sector and in some cases by their disconnection form the financial management integrated systems (SIAF). With respect to foreign-financed investments, the weaknesses noted above are to some extent mitigated by an ad-hoc ring-fenced control framework required by International Financial Institutions (IFIs) and donors operating in the country.

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Actions to address these issues have been agreed at portfolio level and are in progress, and these issues have been taken into account in the design of this Project. Besides, as part of Project implementation, specific training on FM operational policies and procedures will be provided to relevant FM staff of Itaipú Binacional.

C. Risk Assessment & Mitigation

11. The FM risk assessment process aims to identify risks and incorporate appropriate risk mitigation measures into Project design in order to enable the Bank make decisions on the appropriate level of assessment and supervision intensity and to allocate FM resources in a manner consistent with assessed risks.

Table A7-1: Financial Management Risks

<table>
<thead>
<tr>
<th>Risk</th>
<th>Risk Rating</th>
<th>Risk Mitigating Measures Incorporated into Project Design</th>
<th>Conditions of Appraisal, Board or Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inherent Risk</td>
<td>High</td>
<td>(i) Integrated Fiduciary Assessment (IFA) and related activities &lt;br&gt; (ii) Enhanced fiduciary framework</td>
<td></td>
</tr>
<tr>
<td>Country Level</td>
<td>High</td>
<td>(i) Integrated Fiduciary Assessment (IFA) and related activities &lt;br&gt; (ii) Enhanced fiduciary framework</td>
<td></td>
</tr>
<tr>
<td>Entity Level (Itaipú Binacional)</td>
<td>High</td>
<td>(i) Integrated Fiduciary Assessment (IFA) and related activities &lt;br&gt; (ii) Enhanced fiduciary framework</td>
<td></td>
</tr>
<tr>
<td>Risk of political misuse of GEF funds</td>
<td>High</td>
<td>(i) Integrated Fiduciary Assessment (IFA) and related activities &lt;br&gt; (ii) Enhanced fiduciary framework</td>
<td></td>
</tr>
<tr>
<td>Project/PMU Level</td>
<td>Substantial</td>
<td>(i) Operational Manual (OM) to include internal control procedures, PMU staffing &amp; organization satisfactory to the Bank, job descriptions, IFRs &amp; financial statement formats, specific Sub-projects procedures and description of specific staffing assigned to these procedures and Project audit terms of reference</td>
<td>The OM was approved by Negotiations</td>
</tr>
<tr>
<td>Partial knowledge of World Bank procedures</td>
<td>High</td>
<td>(i) Specific training to be delivered by Itaipú Binacional staff to intermediary agencies receiving funds from the Grant. &lt;br&gt; (ii) Semi-annual concurrent audit on Sub-projects. &lt;br&gt; (iii) Specific framework of community grants (See Annex 7 – Section 6 Community Grants Framework)</td>
<td></td>
</tr>
<tr>
<td>Project/ Community Grants</td>
<td>High</td>
<td>(i) Specific training to be delivered by Itaipú Binacional staff to intermediary agencies receiving funds from the Grant. &lt;br&gt; (ii) Semi-annual concurrent audit on Sub-projects. &lt;br&gt; (iii) Specific framework of community grants (See Annex 7 – Section 6 Community Grants Framework)</td>
<td></td>
</tr>
<tr>
<td>Control Risk</td>
<td>Moderate</td>
<td>(i) The Recipient shall, prior to the commencement of each calendar year during Project implementation, create, and thereafter maintain throughout each said calendar year of Project implementation, a specific budget line entry in the relevant annual Recipient budget in order to keep track of the corresponding expenditures incurred during Project implementation.</td>
<td>Dated legal covenant</td>
</tr>
</tbody>
</table>
12. Since the overall FM risk remains high due to country considerations, the package has been subject to the FM Regional Manager review.

D. Strengths and Weaknesses

13. **Strengths.** High degree of commitment and professional qualification of Itaipú Binacional FM staff; reliable accounting and FM systems. Unqualified audit opinions were issued by the auditors on the Itaipú Binacional financial statements for the last five years. No critical internal control issues were reported by the auditors.

14. **Weaknesses.** Main weaknesses include (i) the high level of inherent risk; and (ii) Itaipú Binacional limited experience in Bank operations. These weaknesses are mitigated through the proposed measures, in particular the specific concurrent audit, the capacity development actions and the enhanced FM supervision.

E. Community Grants Fiduciary Framework (Sub-projects under Component 1)

15. The PMU is responsible for the management of funds and the monitoring and supervision of the implementation of community grants under Component 1, which represent an amount of US$ 1.737 M or 39% of the total of the GEF amount. Community Grant funds will be transferred to groups of small producers or NGOs integrated by small producers or beneficiaries. Final beneficiaries will be responsible for technical implementation while the overall financial management will be entrusted to Itaipú.

16. The following FM specific measures for implementation of Sub-projects will be adopted and implemented:

i) The operational manual chapter on community grants includes a detailed description of the following processes: (i) selection of beneficiaries, in particular the preliminary requirements to be selected; (ii) implementation and control procedures of the sub Projects under community grants category; (iii) the description of the financial/Project management training to be delivered to groups of small producers and NGOs integrated by beneficiaries; (iv) specific
accounting process for the PMU/Project accounting (in particular the accounting rule to register transfers to sub Projects); (v) the specific reporting requirements for the sub Projects under community grants category; (vi) the description (staff and functions) of the PMU team dedicated to the management of the sub Projects; (vii) the terms of reference of the concurrent audit specifically covering the sub Projects.

ii) The above-mentioned operational manual requirements have been approved by the Bank FM team.

iii) Semi-annual reporting by an external concurrent financial audit acceptable to the Bank that will monitor on a continuous process the transactions and records from Sub-projects will be part of the measures to mitigate the fiduciary risk of sub-Project implementation. This audit will be conducted in addition to the Project annual audit. The contracting of the concurrent auditor will be a condition of disbursement for Sub-projects. The terms of reference of the concurrent audit will require the auditor to provide: (i) an opinion on the eligibility of Sub-projects; (ii) an opinion on the appropriate use of funds in the implementation of Sub-projects (consistency between financial and physical execution of Sub-projects); and (iii) conclusions and recommendations for modifying processes and improve accountability transparency and internal control. Opinions, conclusions and recommendations will be provided every six months.

F. Implementing Entity

17. Itaipú Binacional is an international public company (Brazil-Paraguay Bi-national Entity), which was established in 1973 to jointly manage the hydraulic resources of Parana River. The adopted rules and regulations resulting from the treaty establishing Itaipú Binacional gave significant financial management, procurement and control autonomy to the firm. Itaipú Binacional has a solid structure with clearly defined functions and skilled human resources. The overall internal control framework is considered adequate; main internal control principles are detailed in “Documentos Institucionales de la Itaipú Binacional” handbook. In addition, the entity has a solid information system in place (SAP) which is acceptable to the Bank and will be used for Project reporting purpose. Itaipú will be responsible for the Project FM functions; comprising budgeting, accounting and reporting including preparation of interim unaudited financial reports (IFR), internal control, flow of funds and external auditing.

18. Project Management Unit (PMU). Members of the PMU assigned to administrative-financial tasks will be staff of Itaipú Binacional, and according to the Project needs, consultants could also be hired through contracts issued to provide professional services. Itaipú Binacional is accountable for the general management of the Project, being in charge of the program’s financial administration centrally managed by the Administrative-Financial Sector of the PMU. Payments to vendors, service providers, and hired work-force are to be done by Itaipú Binacional, according to the payment requests submitted by the PMU.

G. Budgeting

19. Itaipú Binacional’s Budget is not part of the National Budget; therefore it is not integrated within the GOP FMIS (SIAF). Within Itaipú Binacional, the Financial
Secretariat is responsible for the preparation of the entity annual budget, and must (i) propose to the Executive Secretariat the budgetary basis and economic-financial planning of all Secretariats included in the entity’s Planning Process and Budget Elaboration; (ii) consolidate an annual budget based on the budget proposals of all sectors. The annual Project budget is submitted to the Administrative Council for its approval.

20. The implementing agency shall include specific lines for the Project budget in order to keep track of the corresponding expenditures incurred during Project implementation.

H. Accounting and Financial Reporting

21. Itaipú Binacional will be responsible for keeping accounting records for Project activities at the Project level. Project accounting is on accrual basis and will comply with international accounting standards. Transactions will be recorded in the entity Information System (SAP), acceptable to the Bank, to allow adequate reporting and Designated Account and SOEs control. A specific set of accounts will be prepared to reflect the sources and uses of funds for the Project and a separate set of financial statements for the Project will be produced through the entity Information System (SAP).

22. Draft formats of the annual financial statements are part of the Operational Manual. In addition, Itaipú Binacional shall also prepare semi-annual Interim Financial Reports (IFRs) for monitoring and evaluation purposes that will be part of the Project progress reports, as follows:

   i) Source and uses of funds, for each semester and cumulative (uses by category);
   ii) Uses of funds by component; and
   iii) Physical progress report for each semester by Project component.

I. Internal Control and Internal Auditing

23. Itaipú Binacional has institutionalized internal control procedures, which have been incorporated in “Documentos Institucionales de la Itaipú Binacional” handbook. This document includes: i) statements of general organization standards; ii) the internal regulation code, which contains the description of responsibilities by each Council and Directorate and iii) an Ethics code. In addition, the entity has a solid FM and information system in place (SAP) which will be used for Project reporting purposes.

24. Within the implementing agency, the internal audit function is the responsibility of the Internal Audit Department (IAD), Departamento de Auditoria Interna, depending functionally from the Administrative Council and administratively from the General Director. Main tasks of the internal audit are to: (i) analyze and evaluate adequacy and efficacy of the Entity’s administrative systems and respective controls; (ii) evaluate accounting procedures and accuracy of its auxiliary records; (iii) evaluate internal controls and the quality of the entity’s operational performance; (iv) evaluate compliance with politics, planning, guidelines, legal dispositions, accounting policies, statutory obligations and decisive actions of the entity; and (v) verify consistency and security of instruments of surveillance and conservation systems for assets and values.
25. The internal audit elaborates a Pluriannual Working Plan, in accordance with the Entity’s Strategic Plan, having a time horizon of 5 years. From the 2007 period, and in compliance with the Sarbanes Oxley Law, revision and follow up of the “Evaluation Processes of Internal Controls” are being performed. These exercises are submitted to the validation of the external audit.

26. In addition, the internal audit systematically performs the follow-up of pending recommendations included in periodic reports sent to the Administrative Council. This work involves analysis of the actions implemented by different areas to cover audit points, simultaneously observing if, in a time sequence, pending recommendations are still in line with the current situation of the Entity.

27. As a measure to mitigate internal control risk during implementation, the Bank will recommended to Itaipú IAD to incorporate within its annual planning: a) review of Sub-projects implemented under the Project (including random physical inspection; b) sample review of eligibility of expenditures. Semi annual concurrent audit on Sub-projects will also be a mitigation measure.

J. Flow of Funds and Disbursements Arrangements

28. Designated Account. The Project PMU will open a segregated Designated Account (DA) in US dollars, to be used exclusively for deposits and withdrawals of the Grant proceeds for eligible expenditures.

29. Funds from DA will be transferred to Itaipú Binacional’s general account in local currency as expenses are incurred. Funds deposited into the DA as advances will follow the Bank’s disbursement operating policies and procedures described in the Disbursement Letter. Withdrawals from the Designated Account will be solely made for payments of eligible expenditures incurred.

30. The Designated Account will be held at the ABN AMRO Bank. The ceiling for advances to be made into the DA will be US$450.000, estimated sufficient for peak disbursement periods of Project execution. The proposed flow of funds is detailed in the following chart.

31. Disbursement Method. Grant proceeds will be withdrawn by Itaipú Binacional using the advance method with supporting documentation based on Statements of Expenditures (SOEs). Direct payments to suppliers from the Grant Account may be used as well.

32. The Project incorporates the Bank’s policy on eligibility for Bank financing since the financing parameters for Paraguay have been approved by the Bank Regional Vice-Presidency.

33. Uses of Funds: All the Project uses will be supported by documentary evidence for the related works, goods and services procured in line with the Bank guidelines and procurement thresholds for the Project. All consolidated SOEs supporting

17 See OP 6.00, Bank Financing. Country’s financing parameters for Paraguay were approved by the Regional Vice President on May 31, 2005.
documentation will be maintained by Itaipú Binacional for post-review and audit purposes for up to one year after the final withdrawal from the GEF account.

34. Itaipú Binacional will request access to Bank’s Client Connection web page to obtain the Withdrawal Application Form from the web and to perform on a periodic basis the reconciliation between its bank account and Bank records.

35. Sources of funds: The proposed Project consists of a GEF grant of US$ 4.5 million and co-financing of US$ 13.79 million. Co-financing will be derived from counterpart funding of US$ 6.000.000 from Itaipú Binacional, US$ 6.310.200 from the IBRD-funded PRODERS Project implemented by MAG, and approximately US$ 1.48 million derived from beneficiary contributions. The total budget for the proposed Project is US$ 18.291.450.

36. GEF proceeds will be disbursed against the following expenditure categories:

<table>
<thead>
<tr>
<th>Expenditure Category</th>
<th>Amount of the Grant Allocated (expressed in US$)</th>
<th>Percentage of Expenditures to be Financed</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Consultants’ services (including audit services) and/or Training/Workshops under Parts A.3 through A.6, B, C and D of the Project</td>
<td>2,500,000</td>
<td>100% of amounts disbursed</td>
</tr>
<tr>
<td>(2) Goods, Works, Non-Consultant Services and/or consultants’ services under Community Grants “I”</td>
<td>1,737,000</td>
<td>100% of amounts disbursed</td>
</tr>
<tr>
<td>(3) Unallocated</td>
<td>263,000</td>
<td>100% of amounts disbursed</td>
</tr>
<tr>
<td><strong>Total Project Costs</strong></td>
<td><strong>4,500,000</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

K. External Audit Arrangements

37. Annual Financial Audit. The Project annual financial statements will be audited under terms of reference and auditing standards and by an auditor acceptable to the Bank. The audit report shall be submitted to the Bank within six months of each fiscal year. The annual audit will cover all funding and expenditures reported in the Project financial statements. For audit purposes, the fiscal year will be the calendar year.

<table>
<thead>
<tr>
<th>Audit Report</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Project Financial Statements</td>
<td>June 30 of each year</td>
</tr>
<tr>
<td>2) Special Opinion</td>
<td></td>
</tr>
<tr>
<td>• SOE: an opinion on the eligibility of expenditures reported and the correct use of GEF funds.</td>
<td>June 30 of each year</td>
</tr>
</tbody>
</table>
• Designated Account

3) Itaipú Binacional financial statements as continuous revenue entity
   June 30 of each year

4) Concurrent Audit on sub Projects under the Community Grants Category:
   • Eligibility of Sub-projects
   • Use of funds in Sub-projects
   • Sub Projects internal control procedures
   • Follow up on recommendations
   No later than 45 days after the end of each semester of each year during Project implementation

38. Implementing Agency External Audit. Unqualified audit opinions were issued by the auditors on the Implementing Agency Financial Statements for the last five years. Findings reported in the last internal control Memorandum did not indicate any critical internal control issue. Details on the Itaipú Binacional external audit are included in the FM assessment Report.

39. Concurrent Audit. Due to the high level of risk of the Project, a concurrent audit of the sub Projects’ execution will be carried out on a semi annual basis to ensure proper use of funds and adequate reporting. This concurrent audit will include a random selection of beneficiaries for physical output control. Terms of Reference of the concurrent audit will have to comply with the Bank guidelines and the external auditor and audit scope acceptable to the Bank. The concurrent audit shall provide: (i) an opinion on the eligibility of Sub-projects; (ii) an opinion on the appropriate use of funds in the implementation of Sub-projects (consistency between financial and physical execution of Sub-projects); and (iii) conclusions and recommendations for modifying processes and improve accountability transparency and internal control. The contracting of the concurrent auditor will be a condition of disbursement for Sub-projects.

L. Action Plan

40. Financial management actions are presented in the table below.

<table>
<thead>
<tr>
<th>Action</th>
<th>Responsible Entity</th>
<th>Estimated Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include specific lines for the Project budget in order to keep track of the corresponding expenditures incurred during Project implementation.</td>
<td>Itaipú Binacional</td>
<td>First year annual budget and thereafter</td>
</tr>
<tr>
<td>Bank FM training to Project FM staff</td>
<td>World Bank - FM</td>
<td>During the period between Board approval and GEF grant effectiveness.</td>
</tr>
<tr>
<td>Contracting of the concurrent auditor for Sub-projects under the Community Grants Category</td>
<td>Itaipú Binacional</td>
<td>Before initiating Sub-projects under the Community Grants Category</td>
</tr>
<tr>
<td>Specific training program to be delivered by Itaipú staff to groups of small producers or NGOs integrated by small producers or beneficiaries receiving funds from the Grant.</td>
<td>Itaipú Binacional</td>
<td>During Sub-projects’ startup period.</td>
</tr>
</tbody>
</table>
M. Supervision Plan

41. Project's performance will be monitored closely through the LCSFM Management Oversight Arrangements to ensure that satisfactory FM performance is achieved early in implementation and to assess if any capacity building needs to be done at the beneficiary, in addition to the proposed FM Training. Supervision scope will be adjusted by the assigned FMS according to the fiduciary performance and updated risk. The table below shows the initial FM supervision objectives, tasks and timing planned for this Project.

Table A7-5: Supervision Plan

<table>
<thead>
<tr>
<th>Type</th>
<th>Timing</th>
<th>Mechanism</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank FM training to FM staff</td>
<td>At Project Induction</td>
<td>Through supervision mission or specific FM seminar</td>
<td>Develop the capacity of PMU FM staff; Update the PMU FM staff in new regulations &amp; practices; Improved control of the FM risk.</td>
</tr>
<tr>
<td>IFRs Review</td>
<td>Semi-annually</td>
<td>Over the IFRs submitted to the Bank</td>
<td>Review IFRs information consistency. Raise issues disclosed in IFRs</td>
</tr>
<tr>
<td>Audit Review</td>
<td>Annually</td>
<td>Over the Audit Report submitted to the Bank</td>
<td>Review Audit Report. Raise issues disclosed in Audit Report</td>
</tr>
</tbody>
</table>
ANNEX 8: Procurement Arrangements

PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

A. Introduction

1. The proposed Project will be supported by a GEF grant of US$ 4.5 million and by co-financing of US$ 13.79 million. Co-financing will be derived from counterpart funding of US$ 6.0 million from Itaipú Binacional, US$ 6.310.200 from the IBRD-funded PRODERS Project implemented by MAG, and approximately US$ 1.48 million derived from beneficiary contributions. The total budget for the proposed Project is US$ 18.291.450.

2. GEF-supported procurement for the proposed Project will be carried out in accordance with: (i) the World Bank’s “Guidelines: Procurement under IBRD Grants and IDA Credits” and “Guidelines: Selection and Employment of Consultants by World Bank Borrowers”, both published in May 2004 and revised in October 2006; (ii) the “Guidelines On Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits”, dated October 2006; and (iii) the provisions stipulated in the Grant Agreement. The general description of various items under different categories of expenditure is below. For each contract to be supported by the GEF, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Implementing Agencies and the Bank in the Procurement Plan. The Procurement Plan will be updated at least every six months or as required to reflect the actual Project implementation needs and improvements in institutional capacity.

3. **Procurement of Works**: civil works contracts under the Project will amount to less than US$ 400,000 in aggregate. These costs will be fully borne by Itaipú and the necessary contracts will be procured following Itaipú’s procurement regulations18, but excluding the works, goods and non-consultant services under Sub-projects to be financed by Community Grants I.

4. **Procurement of Goods**: contracts for goods under the Project will amount to less than US$ 800,000 in aggregate. These costs will be fully borne by Itaipú and the necessary contracts will be procured following Itaipú’s procurement regulations, but excluding the goods under Sub-projects to be financed by Community Grants I.

5. **Procurement of non-consulting services**: contracts for Non-consulting services under the Project will amount less than US$ 2.5 million in aggregate. These costs will be fully borne by Itaipú and the necessary contracts procured following Itaipú’s procurement regulations, but excluding the non-consultant services under Sub-projects to be financed by Community Grants I.

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18 The rationale for the choice of what would be procured following Itaipú’s regulations and what following Bank Guidelines is presented in Section B, “Assessment of the agency’s capacity to implement procurement”.

79
6. **Selection of Consultants:** GEF funds will be employed to pay for the services of individual consultants and consulting firms. The aggregate estimated cost of these services is around US$ 3 million. Individual Consultants hired under the Project would include trainers, technical experts and Project management staff. The Project will hire consultant firms to: (i) support the preparation, design and monitoring of Community Participation Sub-projects –described below--, (iii) provide technical assistance needed to meet Project development objectives and (iii) provide financial audit and concurrent audit services. Short lists of consultants for services estimated to cost less than US$ 200,000 equivalent per contract may be composed entirely of Paraguayan consultants in accordance to the provisions of paragraph 2.7 of the Consultant Guidelines. Consulting Firms would be selected following:

- **Quality- and Cost-based Selection.** Except as otherwise provided in paragraph below, consultants’ services shall be procured under contracts awarded on the basis of Quality- and Cost-based Selection.

- **Other Methods of Procurement of Consultants’ Services.** The following methods, other than Quality- and Cost-based Selection, may be used for procurement of consultants’ services for those assignments which are specified in the Procurement Plan: (a) Least Cost Selection; (b) Single-source Selection; (c) Procedures set forth in paragraphs 5.1 through 5.3 of the Consultant Guidelines for Selection of Individual Consultants; and (d) Sole Source Procedures for the Selection of Individual Consultants set forth in paragraph 5.4 of the Consultant Guidelines.

7. **Training:** Training\(^\text{19}\) under the Project will amount in aggregate around US$ 230,000. These costs will be fully borne by Itaipú and the necessary contracts procured following Itaipú’s procurement regulations.

8. **Operating Costs:** Operating Costs\(^\text{20}\) necessary for Project implementation will amount around US$ 300,000. These costs will be fully borne by Itaipú and the necessary contracts procured following Itaipú’s procurement regulations.

9. **Sub-projects:** GEF funds will be used to support Community Sub-projects I that will be generated on a demand-driven basis and will amount up to US$ 10,000 each. The aggregate amount of the grant allocated to Sub-projects is of US$ 1.1 million. The sub-Project funding scheme is displayed in the table below:

<table>
<thead>
<tr>
<th>Type of Sub-projects</th>
<th>Sources of funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable use (Community Sub -Projects I in the grant</td>
<td>GEF</td>
</tr>
<tr>
<td>agreement)</td>
<td></td>
</tr>
<tr>
<td>Restoration and regeneration (Community Sub -Projects I</td>
<td>GEF</td>
</tr>
<tr>
<td>in the grant agreement)</td>
<td></td>
</tr>
</tbody>
</table>

\(^{19}\) “Training” means expenditures (other than those for consultants’ services) incurred by Itaipú to bear transportation costs and per-diem of trainees and trainers (if applicable), training/workshop registration fees, training/workshop materials and rental of training/workshop facilities and equipment in respect of the Project.

\(^{20}\) “Operating Costs” means recurrent expenditures that would not have been incurred by Itaipú absent the Project for transportation and per-diem costs, operation and maintenance of office equipment, and nondurable goods utilized for Project administration.
10. Procurement under “Sustainable use” and “Restoration and regeneration” type of Sub-projects (Community Sub-projects I) would follow a Community Participation procedure (paragraph 3.17 of the Procurement Guidelines), according to procedures to be elaborated in the Project Operational Manual (OM). Under this approach, goods and services will be procured to the extent practicable on the basis of Shopping procedures, which requires the comparison of three valid quotations. This notwithstanding, exceptions to the need of obtaining three quotations may be granted by the Project Management Unit (PMU) Procurement Specialist (PS) during the process of sub-Project approval, for procurement to be undertaken by beneficiaries, or by the Bank, for procurement to be undertaken by Itaipú. Criteria for granting these exceptions will be elaborated in detail in the OM.

11. Procurement for “Socioproductive” (Community Sub-projects II) type of Sub-projects fully financed by PRODERS will follow procurement procedures set forth in the respective legal agreement and procurement plan for PRODERS.

B. Assessment of the agency’s capacity to implement procurement

12. Implementation Arrangements: Itaipú, with oversight from SEAM and MAG through Itaipú’s Paraguayan Authority, will have overall responsibility for Project implementation, including procurement. Itaipú Binacional is an international public entity (Brazil-Paraguay bi-national entity), which was established in 1973 to manage the hydraulic resources of Parana River in the sections that are shared by its member countries. The treaty establishing Itaipú Binacional gave significant financial management, procurement and control autonomy to the entity. Within Itaipú, a Project Management Unit (PMU) will be established. The PMU will report to Superintendencia de Medio Ambiente (the Environmental Unit within the General Directorate of Coordination) and will be staffed by Itaipú personnel temporarily assigned to the Project. The PMU duties will include day-to-day management functions, administrative, procurement and financial management of the Project and coordination with the Bank. Together with Itaipú’s procurement role, sub-Project beneficiaries will be responsible for procurement of goods and services needed for sub-Project implementation under Itaipú oversight. However, the PS may determine at the time of sub-Project approval that Itaipú will directly undertake certain procurement activities in order to achieve benefits in terms of economy, transparency, quality and/or efficiency.

13. Itaipú’s procurement procedures: are defined in the General Bidding Rule21, which is published at www.Itaipú.gov.py along with specific procurement documents. Itaipú procurement procedures are summarily described in the table below, which also highlights main differences between Bank and Itaipú procurement procedures:

<p>| Table A8-2 Differences between World Bank and Itaipú procurement procedures |
|-----------------------------------------------|-------------------|-------------------|-----------------------------------------------|
| Procurement Method                           | Summary Description | Mandatory Threshold (US$) | Features that the Bank does not accept |
| 21 Norma General de Licitación. |</p>
<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
<th>Threshold</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Bidding</td>
<td>Publicly advertised tender in which any interested bidder may be allowed to participate</td>
<td>500,000</td>
<td>Itaipú threshold largely exceeds Bank threshold for NCB (US$ 50,000). Participation may be restricted to Paraguayan and/or Brazilian firms. Bid evaluation may be based exclusively on quality. Review by any bidder of others’ bidders bid is permitted. Two envelopes method used. Contract non-compliance based exclusively upon Itaipú’s decisions.</td>
</tr>
<tr>
<td>Price Competition</td>
<td>Publicly advertised tender in which only registered bidders are allowed to participate</td>
<td>100,000</td>
<td>Mandatory registration prior to bidding. All other issues mentioned above.</td>
</tr>
<tr>
<td>Limited Price</td>
<td>Request of quotation to at least three registered bidders.</td>
<td>n/a</td>
<td>Comparison of three valid bids is required by the Bank but not by Itaipú. Public bid opening is mandated by Itaipú and discouraged by the Bank for Shopping procedures.</td>
</tr>
<tr>
<td>Competition</td>
<td>Public competition through electronic means.</td>
<td>n/a</td>
<td>All the issues mentioned above (depending upon the amount).</td>
</tr>
<tr>
<td>Reverse Auction</td>
<td>Public competition through electronic means.</td>
<td>n/a</td>
<td>All the issues mentioned above (depending upon the amount).</td>
</tr>
<tr>
<td>Merit Competition</td>
<td>Public competition aimed at contracting intellectual or advisory services. Penalties due to non-compliance to be included in contracts.</td>
<td>n/a</td>
<td>Short list should be used for Bank-rulled consultant services and open bidding is not permitted. Penalties in consultant services contracts are not allowed by the Bank.</td>
</tr>
<tr>
<td>Direct Contracting</td>
<td>To be used under exceptional circumstances.</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

14. Based upon the identified potential controversial issues and in order to facilitate fast and smooth Project implementation, it was decided that a “parallel financing” scheme rather than a “co-financing scheme” would be followed. Therefore, exclusively Itaipú procurement procedures would be followed for the procurement of works, goods, non-consulting services, training, operational costs and items needed for the implementation of the activities to be fully financed by Itaipú; while exclusively Bank procurement procedures would be used for the selection of consultants and for the procurement of items needed for the implementation of Community Sub-projects I (“Sustainable use”, “Restoration and regeneration”) and Community Sub-projects II (“Socio productive”).
15. **Itaipú’s organization and staffing:** An assessment of Itaipú’s capacity to implement Project procurement was carried out. It included a review of the organizational structure for Project implementation, the procedures in use and the capabilities of personnel assigned to procurement vis-à-vis the nature of the procurement to be carried out. Itaipú Binacional has a complex but solid structure with clearly defined functions. The Asunción Office Procurement Department (AOPD), which will be in charge of Itaipú financed procurement and will support the implementation of the activities that will benefit from the GEF grant, reports to the Procurement Department of the Procurement Superintendent of the Finance Directorate. The Supply Planning Department also reports to the Procurement Superintendent. AOPD is staffed by 4 professionals and 2 assistants and processes procurement for around US$35 million per year\(^22\). AOPD is perfectly capable to absorb the additional workload resulting from the proposed Project, which is below 10% of the annual volume of procurement processed by AOPD. This notwithstanding, AOPD does not have any previous experience in Bank financed procurement in general nor in the selection of consultants under Bank Guidelines in particular. On the overall internal control framework, it is considered adequate\(^23\). In addition, the Entity has an information system in place (SAP) that deals with procurement processing and reporting (including consolidation of processes).

16. **Country Procurement Environment:** a CPAR led by the IADB was conducted in 2006 based upon the indicators developed by the OECD/DAC-Issue # 4.24. It assesses the capacity of the Paraguayan public sector procurement system based on 12 baseline indicators with their respective compliance/performance indicators, organized around four pillars: (i) legal and regulatory framework; (ii) institutional framework and management capacity; (iii) procurement and market practices; and (iv) procurement integrity and transparency. Pillars (i) and (ii) are not relevant to this Project, since Itaipú operates under its own regulations, as discussed in detail above. However, pillars (iii) and (iv) are relevant to this Project since they deal with issues (i.e., market practices and integrity) that are common to the country, regardless of applicable regulations. The CPAR conclusion was that pillars (iii) and (iv) require substantial improvement, while the country procurement risk is was assessed as high due to weaknesses in control environment and poor market practices (i.e., indications of collusion in some sectors).

17. **Previous experiences with Community Participation Sub-projects in Paraguay:** a Procurement Post Review exercise conducted recently over one of the Bank Project that financed Community Participation Sub-projects revealed that:

18. The procurement review by the PMU was limited to checking compliance of formal requisites without paying enough attention to efficiency obtained through procurement processes in Sub-projects.

19. There was not in practice a sub-Project procurement audit. TORs for the audit were not specific enough as procurement is concerned.

\(^{22}\) Close to 2,000 procurement processes in 2007.

\(^{23}\) See Annex 7.

\(^{24}\) The *Methodology for Assessment of National Procurement Systems (version 4)* was published in July 2006 under the auspices of the joint World Bank / OECD Development Assistance Committee (DAC) Procurement Round Table initiative.
20. The Project information system did not contain information on procurement under Sub-projects and the information on Sub-Project design and implementation that the Project web page offered was not updated.

21. PMU staff did not have a clear understanding of some Anti-Corruption concepts.

22. **Procurement Risk:** The overall Project risk for procurement is High, which is the result of: (a) the differences found between Bank and Itaipú procurement procedures, (b) the lack of experience of Itaipú staff in handling selection of consultants according to Bank Guidelines, (c) the risky country procurement environment, mainly due to the remaining challenges in the area of reducing corruption\(^\text{25}\) and the lack of competitiveness of the market, which are compounded by lack of diffusion of Anti-corruption concepts, and (d) the fact that some GEF-financed procurement would consist of high number of very small, low value purchases done by high number of un-experienced beneficiaries of Community Participation Sub-projects which are scattered along the territory.

23. **Corrective Measures:** The corrective measures that have been agreed are: (a) the Special Procurement Provisions listed in Section F and the Covenants listed in Section G will be included in the Grant Agreement; (b) the Project will operate under an Operational Manual to be approved by the Bank prior to launching the first procurement process; (c) post and prior review requirements defined in Section D and E will apply to the Project; (d) key PMU staff will attend training delivered by the Bank on its Anti-Corruption and Procurement policies; (e) Itaipú will appoint an experienced professional acceptable to the Bank as Project Procurement Specialist; (f) employment the SEPA (**Sistema de Ejecución de Planes de Adquisiciones**) for all GEF-granted Project activities; (g) ample disclosure of Project information through Itaipú’s web page; and (h) implementation of an oversight mechanism over Community Participation Sub-projects through a concurrent audit to be hired using TORs acceptable to the Bank\(^\text{26}\).

### C. Procurement Plan

24. The Recipient developed a Procurement Plan for Project implementation that provides the basis for the procurement methods (the initial Procurement Plan). The initial Procurement Plan has been agreed between the Recipient and the Project Team on September 2009 and will be available at the SEPA [www.iniciativasepa.org](http://www.iniciativasepa.org) immediately after the grant’s approval.

### D. Frequency of Procurement Supervision

25. In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment of the Implementing Agency has recommended biannual supervision missions to visit the field to carry out post review of procurement actions. One in five contracts and community Sub-projects will be post-reviewed by the Bank.

\(^{25}\) Although Paraguay has made important progress in a number of governance areas in recent years, important challenges still remain, particularly in the area of curving down corruption. Paraguay ranked 111 out of 163 countries in Transparency International’s 2006 survey.

\(^{26}\) The Bank team should ensure that the scope of the concurrent audit includes the review of procurement under sub-Projects and is not limited to FM aspects in order to avoid ineffective controls as it was the case in a previous Project in the Country.
E. Details of the Procurement Arrangements Involving International Competition

1. Works, Goods and Non Consulting Services

26. The GEF grant will finance Consultants’ services (including audit services) and/or training/Workshops under Parts A.3 through A.6, B, C and D of the Project. GEF resources will also finance goods, works and Non-consultant Services and/or consultants’ services financed by Community Grants I (Sustainable Use and Restoration and Regeneration Sub-projects). Procurement will follow the procedures set forth in the legal agreement. Procurement for Socio productive Sub-projects (Community Sub-projects II) will follow the procurement procedures set forth in the respective legal agreement and procurement plan for PRODERS. Other works, goods, Non-Consultant Services, Training, and Operating Costs under the Project to be financed by Itaipú will be procured following Itaipú’s procurement regulations.

27. The first three (3) proposals for Community Sub-projects of each type will be subject to prior review by the Bank.

2. Consulting Services

28. List of consulting assignments with short-list of international firms.

<table>
<thead>
<tr>
<th>Ref. No.</th>
<th>Description of Assignment</th>
<th>Estimated Cost US$</th>
<th>Selection Method</th>
<th>Review by Bank (Prior / Post)</th>
<th>Expected Proposals Submission Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Firm to support sub-Project implementation 27</td>
<td>450.000</td>
<td>QCBS</td>
<td>Prior</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

29. Consultancy services estimated to cost above US$ 200,000 per contract, single source selection of consultants (if any), recruitment of key staff (as determined by the Bank when reviewing Procurement Plans), the process for the concurrent audit, and the first three (3) processes of each selection method will be subject to prior review by the Bank.

30. Short lists composed entirely of national consultants: Short lists of consultants for services estimated to cost less than US$ 200,000 equivalent per contract may be composed entirely of Paraguayan consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

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27 Design of mechanisms and procedures for sub-Project implementation, training to beneficiaries, sub-Project design and implementation monitoring.
31. The PMU will operate a web page to disseminate its most significant Project information, including information on sub-Project design and sub-Project procurement.

F. Special Procurement Provisions

32. The following additional provisions shall also govern the procurement of goods, works, Non-Consultant Services and/or consultants’ services to be financed out of the proceeds of the Grant:

(a) procurement of consultants’ services (in respect of firms) shall be carried out using: (i) standard requests for proposals, which shall all include, \textit{inter alia}, a settlement of dispute provision; (ii) model proposals evaluation forms; and (iii) model contract forms, all acceptable to the World Bank;

(b) foreign consultants shall not, as a condition for submitting proposals and/or for contract award: (i) be required to be registered in Paraguay; (ii) be required to have a representative in Paraguay; (iii) be required to be associated or subcontract with Paraguayan consultants; and (iv) be required to furnish evidence to the Recipient that they have purchased the pertinent standard requests for proposals;

(c) the Recipient shall: (i) supply the SEPA with the information contained in the initial Procurement Plan within 30 days after such plan has been approved by the World Bank; and (ii) update the Procurement Plan at least every six months, or as required by the World Bank, to reflect the actual Project implementation needs and progress and shall supply the SEPA with the information contained in the updated Procurement Plan immediately thereafter;

(d) after the public opening of consultants’ proposals, information relating to the examination, clarification and evaluation of proposals and recommendations concerning awards shall not be disclosed to consultants or other persons not officially concerned with this process until the publication of contract award (except as provided in paragraphs 2.20 and 2.27 of the Consultant Guidelines). In addition, consultants and/or other persons not officially concerned with said process shall not be allowed to review or make copies of other consultants’ proposals; and

(e) consultants shall not be required to submit bid or performance securities.

G. Procurement-related Covenants

33. 

\textbf{Schedule 1. Section I. B (a).} Without limitation to the provisions of Section 3.01 of this Agreement, the Recipient shall carry out the Project (other than Part A.2 of the Project) in accordance with the provisions of: (i) the Operational Manual; (ii) the Community Sub-Project I Manual; and (iii) the Environmental Management Plan.

\textsuperscript{28} For example, the Operational Manual, Bidding Documents and Standard Request for Proposal, technical background, designs, specifications and drawings of the works to be financed, terms of reference of the works to be executed with Project funds; sub-Projects to be financed; beneficiaries of such Sub-projects; most important procurement under sub-Projects, opportunities for scholarships, agreements with third parties and progress and monitoring reports.

\textsuperscript{29} “Operational Manual” means the Recipient’s manual, dated September 9, 2009, acceptable to the World Bank, which manual sets forth, \textit{inter alia}: (a) the criteria for selecting infrastructure investments of the Project; (b) the criteria for selecting Municipalities and Departments; (c) the criteria for selecting equipment and vehicles; (d) the
34. **Schedule 2. Section I - L (b):** The Recipient, shall ensure that: (i) the EWG is at all times during Project implementation headed by Project manager; and (ii) the PMU is at all times during Project implementation headed by a Project coordinator and assisted by professional staff (including, *inter alia*, an indigenous peoples specialist, a biodiversity specialist, a natural resource management specialist, an administrative/financial management specialist, a procurement specialist, and a Community Sub-Project coordinator) and administrative staff in numbers and with terms of reference, and qualifications and experience, acceptable to the World Bank.

35. **Schedule 2. Section I – N:** The Recipient shall, not later than one year after the Effective Date, establish, and thereafter operate and maintain, at all times during Project implementation: (a) a separate web page, for purposes of disseminating Project information to stakeholders; (b) a digital filing system for purposes of storing documentation related to the Project’s procurement process and contract management (such as, payment certificates, invoices, receipts, and contract guarantees); and (c) a separate Project integrated management information system, all on terms and in a manner acceptable to the World Bank.
ANNEX 9: Economic and Financial Analysis
PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

A. Cost Effectiveness

1. A full Incremental Cost Analysis of the Paraguay Biodiversity Project analyzes the incremental benefit provided by the GEF grant to transform the Project from one that has domestic benefits to one that also has global benefits and is presented in Annex 15.

2. A quantitative analysis of cost effectiveness is not possible as the Project’s main objective is to conserve globally significant biodiversity and, as explained in GEF guidance on this, it is very difficult to assess the value of this quantitatively. This analysis therefore follows GEF guidance and gives the following rigorous qualitative analysis.

3. The Project has been designed specifically to maximize sustainability and efficiency and, to this end, it funds investments in activities that will have the optimum combination of immediate and long-term conservation benefits. The Bank is building on its many years of experience of conducting such Projects and this Project represents the latest thinking on how to achieve biodiversity conservation in the most effective manner possible. In particular, it does this through a combination of policy changes, long-term institutional strengthening, advances through producing long-term management plans, and policy improvements.

4. Project preparation included extensive discussions and evaluations in the development of strategies to ensure the long-term sustainability of Project-financed activities, including implementation and institutional arrangements, as well as the strategic design of Project components and subcomponents so as to maximize sustainability of all activities. An explanation of the alternatives considered and rejected is given in the main text (Section B5) and explains why a combination of the four components developed for this Project – Re-Establish Connectivity Between Protected Areas; Strengthen and Expand the National Protected Areas System; Policy Framework and Institutional Strengthening; Project Management, Monitoring and Evaluation, and Dissemination – is the most efficient way to achieve the conservation of the UPAF’s biodiversity. Annex 17 goes further to explain how sites and activities were chosen to maximize efficiency of interventions. In particular, all activities have been designed to promote optimum outcomes through coordinating local and regional activities in order to take advantages of synergies to catalyze conservation efforts both within Paraguay’s UPAF and the surrounding areas.

5. Further to this, during Project implementation, cost-effectiveness in achieving environmental effectiveness will drive activities, building on the Bank’s knowledge of similar Projects, particularly Paraná Biodiversity in Brazil. The output will optimize the conservation outcomes of current investments, create an enabling environment for further effective investment, and provide lessons learned and improvements that lead to further replication throughout Paraguay.

B. Economic and Financial Analysis
6. To attain its objectives, the Project will promote improved natural forest management and biodiversity conservation practices, as well as the adoption of on-farm sustainable natural resource management practices. Through direct financial and technical assistance to some 2,500 small farmers, the Project aims at improving natural forest management and biodiversity conservation in at least 30,000 hectares, within 250,000 hectares of private lands; restore degraded native forest; and support the adoption of increased carbon sequestration practices. As a result of the adoption of natural resource management practices promoted by the Project, which will include soil conservation, the efficient use of water resources, reduced siltation, and increased overall land productivity, some 250,000 hectares of land within the productive landscape are expected to incorporate these practices during Project implementation and at least 25 micro-catchments are expected to incorporate participatory development practices to identify critical areas for biodiversity conservation and define conservation measures.

7. A sample of eight farm models, representing the most common production systems present in the Project area, was developed during Project preparation to assess the economic and financial viability of the natural resources and biodiversity management and conservation activities that will be promoted under the Project. Out of this sample, five of the models reflect the impact of improved natural resources management practices promoted by the Project. As these natural resources management practices will be the same as those promoted by the PRODERS in the Project area, these models were based on the same assumptions as those of PRODERS. Under these assumptions, farmers’ net incomes are forecast to increase between 24% and 60%, depending on the farmers’ initial conditions and the cropping pattern. Three additional models were built to assess the financial impact of improved natural forest management and biodiversity conservation practices promoted by the Project. The IRR of these Projects was 14% for the medium and large sized producers and over 50% for the small producers, reflecting the larger gains from biodiversity conservation and improved natural forest management that are potentially available to small farmers.

8. No overall internal economic rate of return (IRR) of the Project was estimated as the main benefits accrued from the Project are extremely difficult to quantify such as: (i) conservation of globally-significant biodiversity; (ii) reduced deforestation rate of natural forest and associated biodiversity loss within the productive landscape of the Paraguayan Atlantic Forest; (iii) establishment of a Conservation Corridor within private lands through Sustainable Natural Forest Management practices; (iv) increased adoption carbon sequestration practices; and (v) implementation of a strengthened Protected Areas System within the Paraguayan Atlantic Forest.
ANNEX 10: Safeguard Policy Issues
PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

1. World Bank safeguard policies that are applicable to this Project are: Environmental Assessment, Natural Habitats, Pest Management, Forests, and Indigenous Peoples.

A. Summary of the Environmental Assessment

2. This Project builds on the experience and lessons learned from the PARN Project (Paraguay Natural Resources Management Project 7/11/1995 - 3/31/2006) and the Paraná Biodiversity Project (Brazil, Paraná Biodiversity Project 5/21/2002, still active), and is being developed partially-blended alongside the PRO德RS Project (Paraguay Sustainable Agriculture & Rural Development Project, already approved during 2008) with which it will be partially blended. The Paraguay Biodiversity Project is expected to have a strong overall positive environmental impact and will promote the conservation of globally significant biodiversity by consolidating the national system of protected areas and promoting sustainable land management through the adoption of economically and environmentally viable integrated production systems among rural producers.

3. The Project is classified as Category “B,” requiring a partial Environmental Assessment (EA). In accordance with the Bank’s Information Disclosure Policy (BP 17.50), copies of the Environmental Assessment report in Spanish have been made available to the public at the Bank’s Public Information Centers. A total of 203 participants attended the Project’s public consultations and a broader audience has been informed through printed materials and media interviews. Several recommendations related to project actions to be assessed by the EA were received, mainly from events in Itapúa (28 April 2006), Alto Paraná (5 May 2006), Canindeyú (4 August 2006) and Caazapá (26 May 2006), Guirá (18 May 2006) departments, but also from events in the capital city (Asunción, 12 May 2006). This consultation process was part of the Project preparation supported by a GEF Project development fund (PDF-Block B), between 2006-2008. The EA was made available in the Recipient data room and disclosed in-country on 17 April 2008 and was disclosed in the Infoshop on 17 April 2008.

4. The Project Preparation Unit, working in close collaboration with the Secretary of the Environment (SEAM), prepared an EA on which this analysis is based upon. Within the methodological aspects of the EA, the document described the development of the methodology which incorporated phases of primary and secondary information collection, environmental diagnosis, baseline analysis, environmental and jurisdictional legal framework analysis, and the identification and evaluation of potential environmental impacts on productive systems and models of production—all of which allowed the preparation of simplified procedures for environmental screening. Impacts were classified using different kinds of tools (area of impact, characteristics, magnitude of importance, certainty, and type of impact, reversibility, and duration, among others). Once evaluated and classified, feasible mitigation measures were established. Furthermore, a monitoring plan was developed to follow up and oversee the implementation of the environmental management plan.

B. Positive Environmental Impacts of the Project
5. It is expected that the Project will have highly positive environmental impacts, both locally and globally, and that it will reduce some of the most important threats to the sustainability of the Upper Paraná Atlantic Forest inside and outside of Paraguay. Positive environmental impacts expected include: reduction in the deforestation rate; improvement of conservation of critical natural habitats; improvement of water quality and protection of watersheds; reduction in soil erosion; improvement of natural resources use to the benefit of local communities; increase in the capacity of local communities to manage both protected areas and their own natural resources; improvement in environmental sustainability of the public protected areas, private reserves and private land; increase in self-financing of protected areas; improvement of degraded lands; and a sustainable land-use planning for agricultural expansion in areas that are strategic for biodiversity conservation.

C. Potential Adverse Environmental Impacts

6. The main area where it is important to guard against possible negative environmental impacts will be the activities designed and financed through Components 1 and 2. Component 2 will involve some infrastructure in protected areas. However, according to the Paraguayan laws, all infrastructure Projects in protected areas are subject to specifications in the management plans which have to be approved by pertinent departments within the Secretary of the Environment. Furthermore, all infrastructure Projects will be derived from guidelines in management plans supported by this Project, and thus will be subject to authorization by the National Authority.

7. Mitigation measures are built into the EMP. Three levels or categories of Projects have been established based on their environmental risk or potential for impacts and a framework for review, approval, supervision, and monitoring has been established within the EMP. A guide for mitigation measures has been included in the EA.

8. Component 1, on the other hand, will help fund eligible Sub-projects in order to provide assistance and incentives for farmers and other land holders (including small, medium and large-sized landowners) throughout the corridor to adopt activities consistent with sustainable land management. These Sub-projects will provide communities made up of similar farmers with financial and technical assistance to promote the adoption of production practices that allow the conservation and efficient use of natural resources—all while linking these efforts with the Bank-funded PRODERS Project.

9. Sub-projects proposed for financing will be described and classified according to the environmental procedures developed. Some Projects will not require any environmental assessment, while other Projects may have some potential negative impacts which may be controlled and mitigated with practical and simple mitigation measures. Though not expected, some Sub-projects may also require an individual environmental assessment under Paraguayan law. A special form has been developed and this has to be completed for verification and subject to approval.

10. For the environmental management plan, the Project has considered special training in environmental evaluation of Sub-projects for all personnel involved in the
implementation of the Project at the micro-catchments level who would be responsible for the preparing and accompanying sub-Project implementation.

11. If needed to mitigate possible negative environmental and social effects of these Sub-projects, Project beneficiaries will be required to present management plans for integrated natural resources management at the farm level. The application for assistance will be evaluated using a comprehensive screening process regarding safeguards.

D. Compliance with Safeguard Policies

12. This Project is designed to comply fully with the letter and spirit of all applicable World Bank Safeguard Policies, as indicated below.

13. Environmental Assessment (OP 4.01). The Project’s category B rating requires an environmental assessment to evaluate potential positive and negative environmental impacts and to make recommendations for measures to avoid, minimize, or mitigate adverse impacts. The Bank’s evaluation of these environmental impacts is based on the assessment carried out by the Project Preparation Team in Paraguay and comprehensive Environmental Assessment (EA) carried out for the PRODERS Project, with which this Project is partially blended, and which is available in the World Bank Info Shop. The main contents of the EA include: (i) a description of the environmental characteristics of the Project area; (ii) expected positive and potential negative environmental impacts of Project activities; (iii) a detailed review of national environmental regulations; and (iv) the Bank’s Operational Policies which will be applicable to all Project activities.

14. Natural Habitats (OP 4.04). The Project will only contribute to conserve habitats and to restore degraded areas. However, as there is an inherent risk in any such Project of degradation of natural habitats if appropriate measures are not taken, and thus OP 4.04 is triggered. To ensure there is no damage caused to natural habitats, Project preparation has used a range of existing sources of information, particularly comprehensive GIS and in situ analysis to determine the location of natural habitats in the Project area, their ecological functions, relative importance, threats, and management issues. This information has been combined with the analysis of possible Project activities to determine the extent of the potential negative impacts, screening procedures, and mitigation policies and mechanisms for avoiding conversion or degradation caused by Project activities.

15. Pest Management (OP 4.09). In its integration with the PRODERS Project, it is important to mention that this Project’s activities seek as well to reduce use and dependence on harmful agricultural chemicals and will not significantly increase use of pesticides or promote their use to any important level; therefore a pest management plan has not been prepared either by PRODERS or by this Project. It should be noted, however, that small amounts of pesticides will probably continue to be used by a small portion of micro-catchments farmers, for which disposal of containers may be requested by communities to reduce health and environmental risks associated with pesticide use. This disposal will follow the guidelines set forth under OP 4.09 Bank guidelines, in particular FAO Guidelines for Packaging and Storage of Pesticides (Rome, 1985), Guidelines on Good Labeling Practice for Pesticides (Rome, 1985), and Guidelines for
the Disposal of Waste Pesticide and Pesticide Containers on the Farm (Rome, 1985). In addition, pertinent national laws and regulations in this regard will also be followed.

16. The PRODERS Project pest management framework will be applied and will greatly benefit the proposed Project as PRODERS plans to support technical assistance for the adoption of proven, economically and environmentally sustainable Integrated Pest Management practices (IPM), an approach designed to increase farm productivity (yields) while reducing input costs, human health risk, and/or adverse environmental impacts through the virtual elimination of pesticide use.

17. **Physical Cultural Resources (OP 4.11)** This Project is not expected to have any negative impact on movable or immovable objects, sites, structures, groups of structures, natural features, or landscapes with archeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Nevertheless, in the unlikely event Project activities were to have an impact (for example, during Sub-projects preparation and implementation), it is prudent to have measures in place. Therefore, the Environmental Assessment to be conducted with proposed Sub-projects during the grant implementation will include abbreviated guidelines on what measures should be taken if a physical cultural resource were to be endangered by the management strategies or productive activities of the Project.

18. **Involuntary Resettlement (OP/BP 4.12)** The Project will not cause any restriction to access to lands or involuntary movement of people. In particular, no new protected areas or changes to protected area management will be made that affect access to public lands or that cause involuntary resettlement.

19. **Indigenous Peoples (OP/BP 4.10).** As a result of the work conducted during Project preparation and the integration of efforts with the PRODERS Project, the Project will implement an Indigenous Peoples Policy Framework in order to allow for equal access of potential indigenous peoples beneficiaries in all the Project’s components. Within the Project design, certain Sub-projects could involve indigenous farmers that coexist with other farmers in the Project area. The first phase of the social assessment (based on stakeholder consultations, interviews with key informants, literature review, and a field visit) has been conducted and is documented in Annexes 16 and 17. The Project will ensure adequate consideration of indigenous peoples by: a) developing differentiated intervention strategies according to the needs and capabilities of the different beneficiary groups; b) providing technical assistance through support and language training appropriate for indigenous peoples; c) establishing a participatory and accountability mechanism aimed at increasing beneficiaries’ voices on Project governance and performance with appropriate monitoring indicators; and d) implementing, together with PRODERS, a series of activities aimed at increasing or strengthening existing participation structures. In particular, as mentioned above, the screening process for Sub-projects will be tailored to ensure that adequate consideration is given to indigenous people. The IPPF was disclosed in-country on 21 November 2007, based on the PRODERS Project. In addition, the IPPF was disclosed in the Infoshop on 17 April 2008. The Recipient has demonstrated to have an active and ongoing channel of communication and consultation with indigenous peoples by means of the Program for Integral Support for Indigenous Communities (information disclosed at [http://www.itaipe.gov.py/index.php?q=es/node/196](http://www.itaipe.gov.py/index.php?q=es/node/196)).
20. If applicable, all Project activities will be implemented with the full participation of the communities and will be carried out in a manner respectful of their cultural characteristics following the Indigenous Peoples Policy Framework. To ensure this, extension agents working with indigenous populations will have prior training and/or experience working with indigenous communities. In addition, a specialist on indigenous aspects will be incorporated to the PMU who would work in conjunction with the PRODERS’ anthropologist to consult on indigenous and other social issues.

21. **Forests (OP/BP 4.36)** The Project triggers the Forests Safeguard Policy because it is expected to have an impact on the health and quality of forests, which will affect the rights and welfare of people and their level of interaction with forests, and will bring about changes in the management, protection, and utilization of natural forests. These impacts are occurring because they are intended to produce positive environmental outcomes as the essential goal of the Project. The Project does not involve conversion or degradation of forest areas, but rather seeks to promote restoration and sustainable forest management through sustainable rural economic development and to protect the vital local and global environmental services and values of forests through community-based natural resources and protected areas management/development.

22. As described for PRODERS, the Project will primarily support environmentally protective activities, and those which support small-scale farmers (i.e., farm and community forestry). No logging activities, charcoal, or fuel wood production will be supported through Project funding, although it is unavoidable that these activities will take place within the Project region and micro-catchments. The Project will finance investments focused on reforestation, restoration, or regeneration of natural forests to protect water sources and waterways, and reforestation for productive purposes in beneficiary holdings to reduce impacts to native forests. No large scale reforestation activities with exotic species will be carried out and the total area of plantation or enrichment activities is estimated to be less than 1,600 hectares. Potential negative impacts will be addressed in the same way described for the Natural Habitats safeguard, including mitigating for both environmental and social risks, and particularly considering impacts on indigenous communities, where applicable.
ANNEX 11: Project Preparation and Supervision

PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

<table>
<thead>
<tr>
<th></th>
<th>Planned</th>
<th>Actual</th>
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Key institutions responsible for preparation of the Project: Itaipú Binacional (Paraguay), Secretaría del Ambiente del Paraguay, Ministerio de Agricultura y Ganadería.

Bank staff and consultants who worked on the Project included:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael Carroll</td>
<td>Lead Nat. Resources Mgmt. Specialist</td>
<td>ECA</td>
</tr>
<tr>
<td>Natalia Cecilia Bavio</td>
<td>Financial Management Analyst</td>
<td>LCSFM</td>
</tr>
<tr>
<td>Andres Mac Gaul</td>
<td>Sr. Procurement Specialist</td>
<td>LCSPT</td>
</tr>
<tr>
<td>Marcelo Acerbi</td>
<td>Environmental Specialist, TTL</td>
<td>LCSEN</td>
</tr>
<tr>
<td>Simon Milward</td>
<td>Junior Professional Associate</td>
<td>LCSAR</td>
</tr>
<tr>
<td>Timothy Valentiner</td>
<td>Junior Professional Associate</td>
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<tr>
<td>Marisa Miodosky</td>
<td>Social Scientist</td>
<td>LCSSO</td>
</tr>
<tr>
<td>Maria Emilia Sparks</td>
<td>Team Assistant</td>
<td>LCC7C</td>
</tr>
<tr>
<td>Luis Correa Noronha</td>
<td>Institutional Consultant</td>
<td>LCSAR</td>
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<tr>
<td>Diego Paysse</td>
<td>Sustainable Agriculture Consultant</td>
<td>LCSAR</td>
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<tr>
<td>Edgardo Floto</td>
<td>Sr. Agricultural Economist Consultant</td>
<td>LCSAR</td>
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<tr>
<td>Jimena Garrote</td>
<td>Counsel</td>
<td>LEGLA</td>
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<td>Brenna Vredeveld</td>
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<td>Enos Esikuri</td>
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<tr>
<td>Todd Crawford</td>
<td>Consultant</td>
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<tr>
<td>Jeannete Ramirez</td>
<td>Operations Officer</td>
<td>LCSAR</td>
</tr>
<tr>
<td>Dinesh Aryal</td>
<td>Sr. Operations Officer</td>
<td>LCSEN</td>
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Bank funds expended to date on Project preparation:
1. Bank resources: US$$229,912

Estimated Approval and Supervision costs:
1. Remaining costs to approval: $0,0
2. Estimated annual supervision cost: $60,000
ANNEX 12: Documents in the Project File
PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

- Update of the Database of Management Committees. 2005. San Rafael National Park
- Threats to Paraguayan Biodiversity. SEAM.
- Environmental Projects Database. USAID, PANAMBI, IDEA. 2005.
- CARAPA & POTI. Integrated Management of Microbasins of the Carapa River.
- Digital Carthography of the Project: Capacity of use of the corridor, Nancuday Corridor, Utaipu Subcorridor, Itaipu subcorridor in numbers, San Rafael Subcorridor, - Caazapa in figures, Ypeti Corridor, Ybytyruzu Corridor, Yguazu Corridor, Mbaracayu-Mborombi Corridor, Area of Coincidence of Paraguay Biodiversity (Fasel) and Proders 2005.
- General Framework and Considerations for Ruling of Law 3001.
- Decree Law No. 3001. On valuing and compensating for environmental services.
- State of the Art in Paraguay Biodiversity. Until 2005. SEAM.
- Statues of the “Tropical Forest Conservation Fund”, managed by the Tropical Forest Conservation Council (Law 3003 / 2006).


• Institutional Information about Itaupu Binational: General Organigram, Areas of Interest, Budget, Roles and Responsibilities of the Superintendencia de Gestion Ambiental, Staff and Distribution, Environmental Education Material. 2006.


• Lessons from PARN. MAG / BIRF. October 2006.


• Law N° 3003. Agreements between the Government of USA and the Government of Paraguay, in the framework of the Tropical Forest Conservation ACT (TFCA).


• List of participants to workshops and national consultations. Executive summary. 2005.

• Logical Framework. Paraguay Biodiversity Project. 2005


• Integral Social Development Plan. Formulation Guide.


• Proposal for subsidy of the Fiduciary Fund of the Global Environment Facility (GEF) to the government of Paraguay to improve conservation of biodiversity

- Conservational Productive Project: Fruit and agro-forestry production. Project: Paraguay Silvestre PAR 98 / G33 / SEAM.
## ANNEX 13: Statement of Loans and Credits

**PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project**

<table>
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### PARAGUAY

**STATEMENT OF IFC’s Committed and Outstanding Portfolio**

In Millions of US Dollars

(as of April 30, 2010)

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<tr>
<th>Commitment Fiscal Year</th>
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<td>Total portfolio:</td>
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100
## Prices and Government Finance

### Domestic prices (% change)
- Consumer prices: 22.6, 11.6, 8.1, 10.0
- Implicit GDP deflator: 25.2, 11.0, 10.2, 7.1

### Government finance (% of GDP, includes current grants)
- Current revenue: -1%, 17.6, 17.6, 10.0
- Net current transfers: -2.6, 4.6, 5.4
- Overall surplus/deficit: -11, 10, 2.6

## Trade

### (US$ millions)
- **Total exports (fob)**
  - 1988: 137, 3,549, 5,463, 7,901
  - 1998: 158, 440, 1,320, 2,643
  - 2007: 2,627, 2,876, 3,143
  - 2008: 1,320, 2,643
- **Soy products**
  - 1988: 2,627, 2,876, 3,143
  - 1998: 1,320, 2,643
- **Cotton**
  - 1988: 2,627, 2,876
  - 1998: 1,320
- **Manufactures**
  - 1988: 133, 431, 622
  - 1998: 212
  - 2007: 75
  - 2008: 476, 666
- **Fuel and energy**
  - 1988: 92
  - 1998: 236
  - 2007: 1,034
  - 2008: 1,036
- **Capital goods**
  - 1988: 640
  - 1998: 2,577
  - 2007: 3,954

## Balance of Payments

### (US$ millions)
- **Exports of goods and services**
  - 1988: 1,432
  - 1998: 4,174
  - 2007: 6,437
  - 2008: 8,831
- **Imports of goods and services**
  - 1988: 1,461
  - 1998: 4,517
  - 2007: 6,487
  - 2008: 9,393
- **Net income**
  - 1988: -90
  - 1998: 6
  - 2007: -158
  - 2008: -343
- **Net current transfers**
  - 1988: 35
  - 1998: 177
  - 2007: 373
  - 2008: 369
- **Changes in net reserves**
  - 1988: -84
  - 1998: 180
  - 2007: 165
  - 2008: -345

### Memo:
- Reserves including gold (US$ millions)
  - 1988: -875
  - 1998: 2,462
  - 2007: 2,759
- Conversion rate (DEC, local/US$)
  - 1988: 840.0
  - 1998: 2,726.5
  - 2007: 5,032.7
  - 2008: 4,363.1

## External Debt and Resource Flows

### (US$ millions)
- **Total debt outstanding and disbursed**
  - 1988: 2,351
  - 1998: 2,793
  - 2007: 3,570
  - 2008: 4,163
- **IBRD**
  - 1988: 315
  - 1998: 115
  - 2007: 227
  - 2008: 214
- **IDA**
  - 1988: 43
  - 1998: 31
  - 2007: 18
  - 2008: 16
- **Total debt service**
  - 1988: 317
  - 1998: 260
  - 2007: 424
  - 2008: 460
- **IBRD**
  - 1988: 73
  - 1998: 33
  - 2007: 41
  - 2008: 43
- **IDA**
  - 1988: 1
  - 1998: 2
  - 2007: 2
  - 2008: 2

### Memo:
- **Official grants**
  - 1988: 15
  - 1998: 22
  - 2007: 81
  - 2008: 86
- **Official creditors**
  - 1988: -11
  - 1998: 71
  - 2007: -67
  - 2008: -26
- **Private creditors**
  - 1988: 33
  - 1998: 70
  - 2007: 14
  - 2008: 91
- **Foreign direct investment (net inflows)**
  - 1988: 8
  - 1998: 342
  - 2007: 815
  - 2008: 320
- **Portfolio equity (net inflows)**
  - 1988: 0
  - 1998: 0
  - 2007: 0
  - 2008: 0

### World Bank program
- **Commitments**
  - 1988: 0
  - 1998: 0
  - 2007: 38
  - 2008: 38
- **Disbursements**
  - 1988: 15
  - 1998: 37
  - 2007: 19
  - 2008: 9
- **Principal repayments**
  - 1988: 44
  - 1998: 24
  - 2007: 29
  - 2008: 31
- **Net flows**
  - 1988: -26
  - 1998: 15
  - 2007: -22
  - 2008: -28
- **Interest payments**
  - 1988: 31
  - 1998: 11
  - 2007: 16
  - 2008: 16
- **Net transfers**
  - 1988: -56
  - 1998: 2
  - 2007: -29
  - 2008: -36

\[\text{Note: This table was produced from the Development Economics LDB database. 12/14/09}\]
ANNEX 15: Incremental Cost Analysis

PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

A. Baseline scenario

1. The Baseline scenario sees very little activity going towards conservation of Paraguay’s portion of the UPAF and in the absence of this Project, the future of this ecosystem looks bleak. Paraguay has one of the highest deforestation rates of any country in Latin America and despite the Paraguayan Government’s demonstrated commitment to conservation, the consequences of its long political and economic isolation mean it has insufficient institutional capacity and technical expertise to achieve this in the short term.

2. Under the baseline scenario, there is currently some investment in conservation of Paraguay’s Atlantic Forest, notably by Itaipú Binacional, which is supporting conservation activities in the region bordering the Paraná River upstream of the Itaipú dam; by the government Environment Secretariat (SEAM); and by the IDB-implemented “Support to SISNAM” Project to support the National Environmental System which is working to build capacity for conservation within SEAM.

3. However, the work of Itaipú only covers a small area of the UPAF located at the fringe of the Rio Paraná upstream of the Itaipú dam, whereas the largest continuous areas of remaining forest exist to the West and South of this (See Annex 17). Also the work that is carried out is largely directed at ensuring conditions exist for the Itaipú dam to run efficiently, such as by reducing siltation. However, through the Project proposed here, it would be possible to leverage these resources to link them to wider conservation activities in order to ensure they contribute to globally significant conservation outcomes in the UPAF.

4. The Secretariat of Environment (SEAM) itself has a very limited total budget of roughly US$ 1.0 million per year to support conservation, 80% of which is spent on salaries of staff and 15% on recurrent costs of maintaining facilities. This means that many of the declared national protected areas have very little effective management plans and little prospect of this improving in the near future. Indeed, SEAM, through the National Protected Area System SINASIP, is theoretically protecting 277,860 km² of the UPAF in Paraguay. However, this largely exists as paper parks. Significant strengthening and technical support are needed if these are to offer adequate protection.

5. Institutional strengthening of SEAM is currently being supported by a US$ 6.0 million IDB loan which is financing capacity building of SEAM’s sub-organizations, the National Environmental Council (CONAM) and the National System of Protected Wild Areas (SINASIP). But for this to conserve the UPAF effectively, it will require significant further investment in the short term to mainstream biodiversity, strengthen protected areas directly, and increase the institutional capacity to support these activities.

6. There are a number of small Projects being undertaken in the areas where this Project would be creating corridors. These are providing a variety of activities in all the components of the Project and further information is contained in the following section.
7. Conservation is centralized within the federal government and local governments have no budget for activities to support biodiversity protection.

8. In the absence of this Project, little effort is therefore likely to go to conserving the UPAF. As the main drivers towards destruction will remain – including perverse incentives towards colonization and clearing land for extension of agriculture; lack of technical knowledge, policies and activities to ensure conservation within the productive landscape; lack of effective protection and enforcement of existing laws – it is likely that the next five to ten years would see continued destruction due to expanding agriculture, particularly for soy-bean farming, logging and land colonization.

9. Indeed, over the last 30 years, destruction has been fairly constant, averaging around 1,320 km² per year, mostly for conversion to agriculture and clearing for land claims. If destruction continues at a similar rate, within 10 years the UPAF will only exist in the small areas under effective protection of the Mbaracayú and San Rafael Managed Resources Reserve, and possibly along the boundaries of the Paraná river. Connectivity and a large part of the area will be lost, along with much of the UPAF’s unique biodiversity.

B. Alternative scenario

10. Under the alternative scenario, this Project would build upon: the support of the Paraguayan Government; the Bank’s knowledge base developed from previous similar Projects, particularly in the Atlantic Forest of Brazil and Argentina; and current activities in the area.

11. The proposed Project would ensure that private land owners are assisted to implement laws regarding conservation and to integrate biodiversity considerations into their livelihoods. It would ensure that functioning management plans for the 23 main protected areas are developed using the latest knowledge, including maintaining connectivity between them. It would strengthen government institutions to ensure continued support for conservation activities; integration of stakeholders and other similar activities of civil society organizations, donors and the private sector within Paraguay; and enhanced trans-boundary cooperation to integrate with the conservation activities in neighboring regions of the Atlantic Forest.

12. The Project would be expected to: (i) place the remaining viable areas under sustained protection and conserve them appropriately; (ii) increase connectivity both within Paraguay and to neighboring areas of Atlantic forest; and (iii) ensure improvements in conservation throughout the productive landscape. Furthermore, it can be expected that the Project would catalyze conservation efforts in other regions of the Atlantic Forest and lead directly to replication of activities throughout Paraguay to help to conserve Paraguay’s other important biodiversity.

13. The result of the Project would be to afford adequate protection to remaining biodiversity, ensure connectivity to enable genetic flow, and ensure that surrounding areas support the conservation in these areas. The institutional reforms would enable replication throughout Paraguay and the technical reforms and integration would enable further investment to be easily and effectively made in conservation of this ecosystem.
The activities, including trans-boundary strengthening would also catalyze wider efforts in Argentina and Brazil to maintain their ecosystems.

C. Costs of the Baseline Scenario

14. In the absence of this Project and of other GEF activities, the following baseline conservation activities would take place:

Component 1: Re-Establishment of Connectivity Between Protected Areas
1.A. Management of Public Protected Areas
15. In the absence of this Project, Itaipú plans to spend US$ 18,312,500 on reforestation and other activities in critical watersheds close to the Paraná River.

16. The Government Environment Secretariat SEAM manages National Parks through SINASIP which receives about US$ 100,000 / year to cover costs of managing National Parks in the UPAF. This equates to US$ 400,000 over the lifetime of the Project.

1.B. Creation and management of Legally Recognized Private Protected Areas
17. The Paraguayan NGO, Guyra Paraguay, (with donations from CI and TNC, among others) has spent US$ 900,000 buying 6,000 ha of land around the San Rafael Managed Resources Reserve and plans to spend another US$ 2,100,000 buying a further 14,000 ha.

18. The Paraguayan NGO, IDEA, plans to spend US$ 100,000 to get legal protection for a private reserve in the Guarani corridor over the next three years.

19. The total baseline funding relating to this component is therefore US$ 20.9 million.

Component 2: Strengthening and Expansion of the National Protected Areas System
2.A. Promotion of sustainable farming practices that restore soils, benefit conservation, promote carbon sequestration and reduce erosion and siltation
20. The proposed World Bank-financed Sustainable Agriculture and Rural Development Project (PRODERS) is promoting sustainable farming practices. It is envisaged that this will represent an investment of around US$ 1,000,000 in baseline activities relevant to biodiversity conservation. (However, it should be mentioned that under the alternative scenario it is planned to leverage US$ 4,000,000 to go towards conservation activities.)

21. In addition, a few corridors are being developed between nearby reserves and these are covered above.

2.B. Providing Training and Technical Assistance to Farmers
22. No baseline activities are currently going towards providing training and technical assistance to beneficiaries for reaching the objectives of this Project except the money spent on park wardens covered under Component 1 above.

23. The total baseline funding relating to this component is therefore US$ 1,000,000.

Component 3: Enhanced Policy Framework and Institutional Strengthening
24. The IDB is spending around US$ 3,500,000 on institutional strengthening of SEAM and its sub-organizations in the 10 departments where the Project would take place.

25. WWF is currently spending approximately US$ 100,000 in the Pirapo watershed (which feeds into the San Rafael Managed Resources Reserve) to enable farmers to fulfill their legal environmental obligations in the most effective way for conserving biodiversity.

3.B. Formal Environmental Education about the importance of the Upper Paraná Atlantic Forest
26. No baseline activities are currently allocated to providing formal environmental education on the importance of the Upper Paraná Atlantic Forest.

27. The total baseline funding relating to this component is therefore US$ 3.6 million.

Component 4: Project Management, Monitoring and Evaluation
28. The NGO Guyra Paraguay is spending approximately US$ 20,000 / year on monitoring of threatened biodiversity. This equates to US$ 80,000 over the life time of the Project.

29. The total baseline funding relating to this component is therefore US$ 80,000

30. The total cost of the baseline scenario is therefore US$ 25.6 million.

D. Costs of the GEF Alternative Scenario

31. Under the alternative scenario with GEF funding, this Project would spend the following amounts related to each component.

Component 1: Re-Establishment of Connectivity Between Protected Areas
32. The total GEF contribution through this component is US$ 1,815,000. This would be accompanied by US$ 10,190,450 in co-financing from PRODERS and from Itaipú.

33. The total funding under the GEF Alternative scenario that would contribute to this component would be US$ 12,005,450.

Component 2: Strengthening and Expansion of the National Protected Areas System
34. GEF spending under this component would be US$ 570,000 and co-financing of US$ 1,245,000. Total funding under the alternative scenario for this component would be US$ 1,815,000.

Component 3: Enhanced Policy Framework and Institutional Strengthening
35. The GEF would contribute US$ 1,685,000, with co-financing of US$ 1,266,000 provided.

36. The total funding under the GEF Alternative scenario that would contribute to this component would be US$ 2,951,000.

Component 4: Project Management, Monitoring and Evaluation
37. The GEF would spend US$ 430,000 under this component, with co-financing of US$ 1,090,000.

38. The total funding under the GEF Alternative scenario for this component would, therefore, be US$ 1,520,000.

E. Incremental Costs

39. The incremental cost of this Project is US$ 18,291,450, building upon baseline investments of US$ 25,580,000 in order to achieve global environmental benefits. This would be financed by a US$ 4,500,000 GEF grant and co-financing of US$ 13,791,450. The global environmental benefits would be sustainable as they would lead to fundamental changes in institutions, in management plans, and in integration and cooperation of activities. They would be replicable throughout Paraguay and enable further future investment in conservation. They would also lead to vital improvements in the effectiveness of wider efforts to preserve the Atlantic Forest in neighboring Argentina and Brazil by securing Paraguay’s role as a biological connector and refuge for this biodiversity.

Table 3: Incremental Cost Matrix

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>US$ Million</th>
<th>Domestic Benefit</th>
<th>Global Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component 1: Re-Establishment of Connectivity Between Protected Areas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>US$ 20,900,000</td>
<td>Some domestic benefits, though limited in the long-term, except for reducing siltation around the Itaipú dam.</td>
<td>Continued loss of biodiversity and carbon sinks linked to uncoordinated, under-funded management of protected area and surroundings. Limited global benefits.</td>
</tr>
</tbody>
</table>
| With GEF Alternative                              | US$ 32,905,450 | Participation of local communities in management model and capacity building for increased inclusion. Sustainable agriculture within a productive landscape that is supportive of conservation efforts. | By the end of the Project:
|                                                   |             |                                                                                  | Global benefits linked to vastly improved management models that work together to improve activities within and around the protected areas to increase connectivity and in-situ conservation and that work in harmony with wider conservation activities in the Atlantic Forest in Argentina and Brazil to vastly improve the effectiveness of their interventions to provide protection to the ecosystems outstanding and unique biodiversity. Further benefits will also exist through carbon sequestration following maintenance and restoration of vegetation and improved farming practices. |
| Incremental                                       | US$ 12,005,450 |                                                                                  | Few programs being run to conserve biodiversity within the productive landscape due to lack of finances and technical skills. No programs to address priority areas. No programs to renew degraded areas or address threats from increased agricultural activities and colonization. |
| Component 2: Strengthening and Expansion of the National Protected Areas System |             |                                                                                  |                                                                                                                                                  |
| Baseline                                          | US$ 1,000,000 | Limited benefits.                                                                 | Few programs being run to conserve biodiversity within the productive landscape due to lack of finances and technical skills. No programs to address priority areas. No programs to renew degraded areas or address threats from increased agricultural activities and colonization. |
| With GEF Alternative                              | US$ 2,815,000 | Domestic benefits from increased conservation including particularly              | Global benefits linked to programs and activities that actively address biodiversity loss in an                                       |
Increased provision of environmental services. Integrated and coordinated manner. Sustainability of this provided through financing mechanism and dissemination activities ensure that knowledge gained and lessons learned are replicated through similar approaches throughout Paraguay.

Further benefits will also exist through carbon sequestration following implementation of sustainable land management practices. Benefits also of replication throughout Paraguay and surrounding area as model example of integration within a productive landscape.

| Incremental | US$ 1,815,000 |

**Component 3: Enhanced Policy Framework and Institutional Strengthening**

<table>
<thead>
<tr>
<th>Baseline</th>
<th>US$ 3,600,000</th>
<th>Few domestic benefits with no programs actively addressing inclusion.</th>
<th>Very limited global benefits.</th>
</tr>
</thead>
<tbody>
<tr>
<td>With GEF Alternative</td>
<td>US$ 6,551,000</td>
<td>Domestic benefits from increased education, demarcation and land titling, health, education, training, organization strengthening, economic development and inclusion in planning processes.</td>
<td>Global benefits following conservation improvements throughout Paraguay and particularly in this area. Benefits include improving refuges and carbon sinks, linked to ensuring active participation of local communities which is essential if interventions are to be optimal and to be sustainable. Ultimately significantly increased conservation of globally significant biodiversity and carbon sequestration, reduction in siltation and improvement of soils.</td>
</tr>
<tr>
<td>Incremental</td>
<td>US$ 2,951,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Component 4: Project Management, Monitoring and Evaluation**

<table>
<thead>
<tr>
<th>Baseline</th>
<th>US$ 80,000</th>
<th>Few domestic benefits</th>
<th>Very limited global benefits through monitoring of statuses and almost no dissemination of knowledge to integrate activities with surrounding areas.</th>
</tr>
</thead>
<tbody>
<tr>
<td>With GEF Alternative</td>
<td>US$ 1,600,000</td>
<td>Domestic benefits from increased conservation including particularly increased provision of environmental services.</td>
<td>Increased monitoring and evaluation and financial sustainability allowing understanding of current status and particularly dissemination of knowledge gained and lessons learned in order to integrate activities with those in neighboring Brazil and Argentina and to replicate experiences throughout Paraguay. Ultimately significantly increased carbon sequestration, preservation of international watersheds and conservation of the region’s globally significant biodiversity, reduction of siltation and preservation of soils throughout the Project area.</td>
</tr>
<tr>
<td>Incremental</td>
<td>US$ 1,520,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Baseline: US$ 25,580,000

Total GEF Alternative: US$ 43,871,450

Total Incremental Costs: US$ 18.3 million of which US$ 4.5 million is being funded by the GEF
ANNEX 16: Social Assessment

PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

A. Overview

1. The social assessment was conducted to understand the barriers and bridges to achieve the Project’s objective and to propose mechanisms to make the Project more responsive to social concerns.

2. Different sources were consulted: primary information was collected in (i) two workshops with NGOs technicians, rural development practitioners and academics, (ii) interviews with key informants, and (iii) one field visit. Secondary information included papers and books written by local researchers, rapid rural appraisals conducted by NGOs for the Projects they implement and for other GEF Projects, and the social assessment conducted for the PRODERS Project.

Social Diversity and Gender

3. Four different types of beneficiaries were identified in the Project area: large farmers, medium-sized farmers, small farmers or campesinos, and indigenous communities. All of them have different assets and livelihoods, and consequently make different use and management of natural resources and biodiversity:

4. Large farmers: together with medium-sized farmers own almost 70% of the land in the Project area. They are mainly involved in livestock, maize or soybean production with the minority of them combining two or more agricultural activities. In the Project area the bulk of soybean producers are located in Itapúa and Alto Paraná departments while a minority are scattered in Caazapá, Canindeyú and Caaguazú. Ranchers are mainly located in Caaguazú and Itapúa. An important share of these farmers is Brazilian, the majority of whom do not reside in Paraguay and have their farms managed by other Brazilian or Paraguayan farmers. Those who do live in Paraguay are relatively well integrated with their neighbors but are not organized in cooperatives or other types of collective organization. The majority of them speaks only Portuguese and understands Spanish. Brazilian farmers are often more innovative and willing to take risks than Paraguayan farmers, however given that they are less attached to the territory they are more likely to be less concerned with adequate natural resources management. Large soybean growers and livestock producers make an intensive use of agricultural machinery and some farmers in this category resort to illegal logging to expand their cultivated area. Agrochemicals also pose two important challenges for the Project: on the one hand, large farmers are more interested in short-term profits than in long term sustainable profits, and on the other hand, it is very likely that the Project’s direct interlocutor will be an employee and not the landowner itself.

5. Medium-sized farmers: constitute a small and decreasing group of farmers. They are mainly involved in fruits and horticulture production that are sold locally. Some of them are also cotton or soybean producers and are connected to export chains. They generally obtain high yields and relatively good income. Other medium sized farmers are involved in livestock raising activities. They have a medium degree of capitalization; some of them own some machinery while others rent it. In the Project area, medium-sized farmers are mainly located in Itapúa and Caaguazú. Some of them belong to
foreign colonies such as the Japanese or the Mennonites and have good levels of organization. They have medium levels of human capital, are open to receive technical advice, and most likely would engage in biodiversity conservation.

6. **Small farmers/Campesinos:** account for 13% of the agricultural land in the Project area and compose a large historically marginalized group. The number of *campesinos* has decreased in recent years due to the high rates of rural-urban migration. In the Project area the bulk of the *campesinos* are located in Canindeyú and Caazapá, two of the poorest departments in Paraguay. *Campesinos* generally live in “*asentamientos*” (areas owned by the government that were ceded to *campesinos* to promote the settlement of poor people in farming communities) where living conditions are arduous. *Campesinos* lack basic needs including basic infrastructure, sanitation and public services. In addition, they face numerous difficulties for agricultural production due to the poor condition of the soils that are highly sandy and low in minerals and nutrients. *Campesinos* have low levels of human capital, but only a few are illiterate. Their primary language is *Guaraní*, however many *campesinos* understand Spanish and those who are Brazilian speak Portuguese. The majority of *campesinos* produce for self-consumption and also for the market. Cotton is the main cash crop however *campesinos* are also involved in soybean and livestock activities. *Campesinos* use traditional and non-mechanized farming technology, resulting in low yield and consequently low incomes. Tapioca, tobacco, maize, wheat, sunflower, and rice are the main crops produced for household self-consumption. Compelled by their need to survive, Paraguayan *campesinos* make an intensive use of their soils by clearing to the water edges and water sheds, inappropriate land cultivation and, in general, poor crop management. Pressure in buffer zones of protected areas is also high, mainly because of hunting activities that affect wild life and wood extraction that is used for posts and firewood.

7. **Indigenous communities:** There are some 7,948 indigenous people in the five departments selected for the Project implementation. This population occupies 1,658 households and is distributed in 87 communities, within 16 districts or municipalities (see Appendix 1 of this Annex for detailed information). These belong to the Guarani Linguistic Family: Aché, Ava Guarani, and Mbya. While this Project will be addressing activities with indigenous groups in the Department of Caaguazú as part of the blended nature with PRODERS, the remaining numbers are 6,926 inhabitants in 1,429 households and within 81 communities in 13 districts. Together with the *campesinos* indigenous people constitute a historically marginalized and impoverished group. They highly depend on currently degraded natural resources for their livelihood. Research conducted among Paraguay’s diverse ethnic groups concludes that most indigenous communities with assured lands are overpopulated and their environment does not allow the practice of traditional economic strategies for subsistence, nor do they guarantee, in many cases, agricultural practices that can support basic nutritional needs. The habitat occupied by many communities in recent years has been undergoing deforestation and consequent environmental deterioration, and in many cases cannot provide communities with a significant part of their sustenance. There have also been cases of the occupation of indigenous lands by landless peasants who have then extracted timber and cleared forests.

8. The Guarani culture is familiar with and has applied the concept of sustainable development, long before the development community mainstreamed the concept. For
them, natural resources management should be conducted in a way that preserves resources and enhances quality of life. The relationship between the Guarani and the environment is oriented by religious norms that also govern communal relations and the tekó porá (virtuous life). In the Guaraní conception, the destruction of the environment is equivalent to the destruction of life, given that land is the origin of life. Furthermore, they believe that water, sun, air, and land are all integrated - that they are one and the same and are aimed at creating and protecting life. For the Guaraní, natural resources use is collective. Nobody should use forests and water for individual and exclusive purpose and nobody should claim that he/she is the single owner of that resource. Indigenous communities are relatively well organized.

9. Given the important differences observed in each of the above groups' livelihood strategies, the Project will develop differentiated intervention strategies according to the capabilities and needs of each group. These strategies will also encompass mechanisms to overcome the challenges detected for each of the beneficiary groups. For large farmers, the Project will work closely with successful Paraguayan initiatives such as the Private Conservation Network aimed at protecting and making a sustainable use of natural resources by the private sector. In addition, it will use and help strengthen some new legal instruments as tradable rights, consisting of a contract signed between two or more private owners that voluntarily decide to plan the use of their properties for conserving existing natural resources. A particular effort will be made to engage foreign landowners and their farms’ foremen in these initiatives. A dissemination strategy will be conducted to particularly target these groups.

10. In the case of campesinos and indigenous communities, the intervention strategy will be linked to that of the PRODERS. Basically, the Biodiversity component will be integrated into a more comprehensive package that gives answers to the productive and food security needs of the farmers. Based on the indigenous strategy already developed for PRODERS, technicians working with indigenous groups will be properly trained to provide assistance to improve natural resources management and biodiversity conservation while respecting the cultural, political, and social characteristics of indigenous peoples and serving to strengthen ethnic identity. Assistance will be provided in the languages spoken by the indigenous people and campesinos. Technology will be transferred in a simple manner by using graphs and dynamic pedagogical approaches.

11. Gender Issues: Female small farmers play a major role in natural resource management, particularly in the domestic arena as they are the main decision-makers regarding reproduction purposes. However, there is a high number of women heads of household who not only transform natural resources for household consumption but also appropriate them. Research has shown that they have higher environmental awareness, particularly older women, and that they are more likely to be involved in innovative productive techniques. PRODERS encompasses a strategy to build capacity of local women, promote the establishment of Women's Associations, and encourage their participation in Project decision-making. The Paraguay Biodiversity Project would complement PRODERS’ efforts by including some specific biodiversity and conservation trainings and activities particularly targeted at women. These activities will be disaggregated in the Project annual plans and will be tracked through the M&E system.
12. **Youth Issues:** Rural youth constitute one of the most vulnerable groups. About 38% of total rural youth are poor. They have limited employment opportunities and limited access to land. PRODERS has developed a strategy to integrate youth into different decision-making structures within the Project. PRODERS also looks forward to increase youth's capacity with specific focus on improving their employability in the agricultural and livestock sectors. The Project will work closely with DEAG and PRODERS to strengthen agricultural technicians' training to better incorporate the young rural population in Project activities. This will include the possibility of piloting youth trainings to later recruit them as technical assistance providers.

**Stakeholders**

13. **Itaipú:** A clear agreement about the Project’s objectives and means of intervention has been reached between SEAM and Itaipú. Participatory and governance mechanisms will contribute to avoid negative influences in the Project.

14. **Local governments:** Despite having a high degree of political and administrative autonomy; local governments are poorly endowed with physical, human and financial resources. Only 2% of the general budget is allocated to municipalities, their own resources come from royalties, lottery and property taxes. Human resources have low levels of human capital, with the large majority having completed only primary school. Only 29% of municipalities use planning systems. About 65% do not have an organizational chart and only 16% have a territorial organizational plan. About 39% have rural cadastres but these are outdated or incomplete.

15. **Project Beneficiaries:** will be positively affected by the Project by receiving technical and non-refundable assistance for improving the sustainability of their farms. Nevertheless, for big farmers, sustainable farming practices could be detrimental of their short run profits. A strong awareness campaign particularly addressed to these farmers could contribute positively to include them in the Project.

16. **Environmental NGOs:** There is a myriad of NGOs working in conservation and biodiversity issues in Paraguay. They are currently supporting SEAM and constitute a strategic partner for this Project. They have already engaged as Project partners by contributing ideas and suggestions for Project design. It is expected that they will be positively affected by the Project.

17. **Wood dealers:** Despite the existence of a law (51594) which explicitly forbids export and dealing wood rolls, beams and pieces, its application is extremely weak. The number of wood dealers is increasing in line with the opening of routes and ways for machinery access. A weak enforcement of law 51594 could be detrimental to Project objectives. A clear agreement with national and departmental judges to strengthen efforts to stop illegal logging and trading would be controlled during Project implementation.

**Participation**

18. Paraguayans show a generalized mistrust in public institutions that is based on obscure practices that used to affect electoral results, low accountability systems for legislators and the invisible but strong influence of powerful groups in public issues. Civil society participation in development Projects is very incipient but it has achieved good results as indicated by the PRODECO Project, also funded by the World Bank.
19. In order to encourage participation, the Project would be aligned with the participatory strategy adopted by PRODERS, where beneficiaries participate extensively in Project management through decision-making structures established, or strengthened in the case of existing structures, for the purposes of the Project. PRODERS participation strategy includes the establishment of micro-catchment development committees as the main investment planning and management cells, and, whenever required, of municipal committees with representation from micro-catchment representatives, the municipal government and civil society.

20. **Access to information:** Financial and output information about the Project and its activities would be disclosed at the SEAM and Itaipú web page. Project activities and results would be widely disseminated in local radio and media in a language understood by Project beneficiaries.

21. **Governance and Accountability mechanism:** Governance mechanisms that give voice to beneficiaries and other stakeholders (i.e. NGOs) in Project implementation will be adopted. Implementation arrangements will include channels through which beneficiaries and other stakeholders will be able to report on Project performance on a regular basis.

22. **Procedures to involve stakeholders in M&E:** The M&E system will be jointly developed with the PRODERS team. The M&E system will be highly participatory and will include a wide range of stakeholders, especially beneficiaries and their representatives at different levels. The results will be widely disseminated, especially among beneficiary communities. Regular meetings and workshops will be held so that participants can identify the Project's obstacles and problems, especially if difficulties arise in achieving the Project's objectives.

**Social Risks**

23. **Program capture:** The main risk that could affect the Project's objective and in particular its social outcomes is the political capture of the Project by particular groups that may want to use it for clientelistic purposes. The accountability and governance mechanisms that will be in place before the Project starts will help to minimize this risk. In addition, careful World Bank supervision should also contribute to avoid a misuse of resources.

24. **Land tenure:** Another social risk that could affect the Project's outcomes is the high insecurity affecting private lands. Landless and poor *campesinos* frequently invade big farmers' private properties in search of wood that can be easily sold at good prices. *Campesinos* also invade indigenous communities, which are unable to defend their territory.

25. **Adverse impacts:** The Project does not foresee any adverse impact on its beneficiaries as: (i) no taking of land or other assets should take place; (ii) no physical relocation of anyone should be required; and (iii) any work in protected areas and the land use restrictions associated with such work will require each landowner's agreement.
26. This Project concept and description were designed in a highly participatory framework with six regional consultative workshops with participants from the local and sub-national governmental entities, including governors and members of departmental boards, mayors, and members of the municipal councils; staff from Secretariats of the Environment from the different Departments and Districts; directors of educational centers; representatives from the private sector (both national and international NGOs, members of guild associations); as well as members of execution units from investment programs in the Project area. A total of 203 participants attended the public consultations and a broader audience has been informed through printed materials and media interviews. Several recommendations were received, mainly from events in Itapúa (28 April 2006), Alto Paraná (5 May 2006), Canindeyú (4 August 2006) and Caazapá (26 May 2006), Guirá (18 May 2006) departments, but also from events in the capital city (Asunción, 12 May 2006).

Indigenous Peoples Planning Framework

27. As a result of the work conducted during Project preparation, the consultative workshops described above, and the integration of efforts with the PRODERS Project, the Project adopted an Indigenous Peoples Planning Framework following these principles:

i) The indigenous strategy developed by PRODERS will be adopted by the Project where there are Indigenous Peoples in the Project area that have biodiversity-significant property and are seeking to participate in the Project activities. Indigenous People will receive the same Project benefits as their non-indigenous counterparts, but these will be prepared and implemented in such a way as to respect their specific cultural characteristics, including language, and community leadership structures.

ii) The PMU will incorporate a specialist in indigenous issues and specialized institutions, such as NGOs already operating in the Project area, to work with the Indigenous Peoples.

28. This IPPF is presented as a “Strategy for Indigenous Peoples” in the Project target area. It has been part of the consultations made by the PRODERS Project and has been disclosed in the Infoshop by April 17, 2008 and was disclosed in the country since 21 November 2007.

30 The grant will involve the preparation and implementation of multiple sub-Projects which could involve IP. These will be selected during Project implementation under procedures specified in the framework.
# ANNEX 16, Appendix 1

<table>
<thead>
<tr>
<th>Department</th>
<th>Name</th>
<th>Ethnicity</th>
<th>District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alto Parana</td>
<td>Ypety - Paso Cadena</td>
<td>Ava Guarani</td>
<td>Itakyry</td>
</tr>
<tr>
<td>Alto Parana</td>
<td>Takuajy Pity</td>
<td>Mbya</td>
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ANNEX 17: Description of sites and beneficiaries

PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

A. Details of Site Selection

1. The key areas to protect and link within Paraguay, in order to conserve the largest amounts of biodiversity, are the Mbaracayú Forest National Park, the San Rafael Managed Reserve, and the UPAF portions in Brazil and Argentina. Further, it is important to include other biodiversity refuges, in particular current protected areas and large forest fragments as fragment size and proximity to other fragments are closely correlated to greater biodiversity. A web of corridors connecting these most important centers was therefore developed, trying to incorporate other large forest fragments as much as possible. These analyses were overlaid with further maps including: population density; geographical attributes including lakes, rivers, roads and human settlements; maps of current protected areas; maps of the PRODERS Project and planned activities of Itaipú related to reducing siltation for optimal functioning of the hydro-electric plant.

B. The Biodiversity Corridor for the Paraguayan Atlantic Forest

2. An analytical map of the most efficient and effective corridors was produced that takes advantage of existing protected areas and original forest fragments, links all the priority areas, and passes through places of low population density for maximum efficiency of reforestation. That produced a “snap-shot” map which takes into account the priority areas of original forest and biodiversity and connects them in a web of corridors running through the maximum number of original forest fragments of the UPAF still left and through the most efficient and effective areas where reforestation activities can be carried out successfully and sustainably. The web produced thus conserves the most important refuges for biodiversity and ensures the viability of the biodiversity through connecting it and allowing genetic flow between all other centers and, through the above methodology, can be certain of doing this in the most cost effective and beneficial manner.

3. Given the limited resources and the existence of other initiatives for the conservation of the UPAF in Paraguay, and based on the existing 22 IBAs in the UPAF and 24 water catchment areas, the spatial analysis made during preparation proposed the following area comprised of 1,141,000 hectares. This area begins in the Southernmost part of the UPAF range in Paraguay which is San Rafael (technically considered a nuclear or core area). Departing from there, the corridor runs through Tapyta Private Reserve north to Caazapá National Park, and from there it is divided in three different ways of interconnections combining activities of habitat restoration-reforestation and private reserves to recreate connectivity among the following core areas:

   i) Ñacunday National Park through Ñacunday Micro-catchment Area (one of the most important tributaries to Paraná River) and uniting with Yguazú National Park in Argentina and Paraná Biodiversity Project,
   ii) Ybyturuzú Managed Reserve western-bound in conjunction with PRODERS to reinforce conservation activities,
   iii) Ypeti Private Reserve reaching Yguazu Lake.
4. From Ypeti, the proposed corridor will split eastern-bound up to Itaipú’s Táti Yupi Biological Refuge and northbound through Acaray Upper Watershed up to Morombi Private Nature Reserve and thus connecting with Mbaracayú Forest Nature Reserve. This northernmost limit of the corridor will recreate connectivity through Carapá River Watershed through the influence area of Carapá Ypoti Project, reaching a protection strip of Itaipú Lake and Itaipú’s Reserves, and connecting with conservation activities with Paraná Biodiversity Project on the Brazilian side.

5. The proposed Paraguay Biodiversity Corridor embraces great part of the most important forest remnants within Paraguay with a total area of 1,141,000 hectares with the following subdivision of land-use cover:

<table>
<thead>
<tr>
<th>Table A17-1</th>
<th>Project area and sub-corridors specifics</th>
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<tbody>
<tr>
<td>Land use cover</td>
<td>Area (ha)</td>
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<tr>
<td>Rice fields</td>
<td>1,358</td>
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<tr>
<td>Water bodies</td>
<td>40,459</td>
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<tr>
<td>Soya fields</td>
<td>273,141</td>
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<td><em>Campesinos</em> settlements and colonies</td>
<td>101,406</td>
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<tr>
<td>Native UPAF</td>
<td>559,346</td>
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<tr>
<td>Reforestation</td>
<td>1,760</td>
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<tr>
<td>Pasture lands and natural grasslands</td>
<td>164,183</td>
</tr>
<tr>
<td><strong>TOTAL (ha)</strong></td>
<td><strong>1,141,652</strong></td>
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</tbody>
</table>

6. Based on the information gathered, the proposed area was divided into sub-corridors, in which criteria for prioritization were biological importance and anthropogenic pressure, in order to integrate the rural landscape with biodiversity by means of conservation practices to be promoted by Component 1, for the improvement of natural resource management and biodiversity conservation for a sustained production. Seven sub-corridors or interconnecting biological corridors were classified and described in detail. They are:

i) *San Rafael-Caazapá* with 227,539 hectares, with 51% of native UPAF forest and 22.5% of pasture lands and natural grasslands. Characteristics of land-use for this sub-corridor open the opportunity to promote sustainable practices with an estimated 197 hectares reforested in soya fields, 556 hectares recuperated, 453 hectares reforested and 1790 hectares with natural regeneration.

ii) *Itaipú* with 184,133 hectares, with 55.5% of native UPAF forest and 40.5% of soy fields; with promotion of sustainable practices mainly based on 24 hectares of recuperated degraded and enriched forest, 127 hectares reforested and 507 hectares with natural regeneration.

iii) *Mbaracayu-Morombi* with 311,458 hectares of which 65.85% is native forest and 19% are pasture lands and native grasslands. This is also an area for the promotion of sustainable practices with 181 hectares of recuperated degraded areas, 294 ha reforested, 2,646 ha under natural regeneration, among other practices.
iv) **Yguazu** with 201,724 hectares of which 36.8% are soy fields and 21% are native forests. Sustainable practices are the most important practices to be promoted, among them, 371 ha of soy fields reforested, 67 ha recuperated, 300 hectares reforested and 971 ha with natural regeneration.

v) **Ñacunday** with 96,783 hectares of which 53.4% are soy fields and 40.7% are native forests. Sustainable practices to be promoted will produce 186 ha reforested in soy fields, 47 ha recuperated from degraded areas, 47 hectares of forest enriched, 97 hectares with reforestation and 93 with natural regeneration.

vi) **Ypeti – Caazapá** with 60,166 hectares of which 40.5% are soy fields and 40% are native forests. In this sub-corridor, 244 hectares will be reforested in soy fields, 103 hectares of forests will be recuperated, 103 hectares of forests will be enriched, and 751 hectares will be naturally regenerated, among other activities.

vii) **Yvyturuzú-Caazapá** with 59,850 hectares of which 47% are native forests and 26.5 are campesinos’ settlements. Sustainable practices to be promoted are reduction of 259 hectares of degraded forest, 159 hectares of forest enriched, 88 hectares reforested, and 175 hectares under natural regeneration, among others.

7. Once the Project is implemented, sustainable practices to recreate connectivity will have produced no increase of rice fields, recuperated 627 hectares of forest from soy fields and 1,123 hectares in campesinos’ settlements, 1,170 ha enriched forests, 1,523 hectares with reforestation, 6,932 hectares with natural regeneration, and reduced 7,827 hectares from pasture lands, among others.

**C. Description of Sites and Beneficiaries**

*Project area description*

8. The Project area consists of 1,141,652 hectares of land located in 57 districts within 5 of the 15 departments of the Eastern region of Paraguay (see table for the whole UPAF). The districts are not fully included in the Project area. About 32% of the districts have less than 10% of their territory in the Project area, 55% have between 10 and 40% of their territory in the Project area, while only 9 districts (13%) have more than 40% of their territory in the Project area. Thus, the majority of the Project area is located in Canindeyú department followed by Caaguazú, Alto Paraná, Caazapá and Itapúa.
Six different land uses can be detected in the Project area. Satellite images show that 49% (1,010,406 hectares) of the total hectares in the Project area is covered with forest. The majority of the area with forest is located in Canindeyú. About 25% (253,483 hectares) of the Project site constitutes protected areas. Of them 42% is national parks protected by SEAM, another 43% is private protected areas, while the remaining 15% is autonomous areas protected by Itaipú. In addition, there are about 101,406 hectares in 18 groupings of “asentamientos campesinos” (territories owned by the government that were ceded to land-less farmers to create farmers’ colonies), 44% of which is small fragments of forest, and the rest used for campesinos’ self-consumption and market oriented productive activities. Tapioca, tobacco, maize, wheat, sunflower, and rice are the main crops produced for household self-consumption while soy and cotton are the main cash crops. About 48% of the asentamientos campesinos is located in the department of Caazapá, while 27% is located in Canindeyú department.

About 273,141 hectares in the Project site (23.93%) are planted with soy, mainly in large farms. About 70% of the area with soy is located in Alto Paráná and Itapúa. Only 2.4% of the hectares in the Project area is in hands of 49 indigenous communities. Of these hectares about 80% is forest while the remaining 164,183 (14.38%) hectares are covered with exotic pastures, mainly used for livestock feeding purposes. The primary sector is the driver of economic activity in the districts of the Project area. Primary activities account for an average 52% of the total gross domestic product (GDP). Nevertheless in 26 of the 57 districts primary activities surpass 70% of total economic activity. Within the primary sector agricultural activity accounts for 70%, livestock for 21, and forest for 7%.

Economic activity is higher in the districts located in soybeans-oriented departments Caudeyú, Caaguazú and Alto Paráná, where the average GDP per capita is between 16,455 and 27,901 guaraníes. Lower rates of economic activity are found in the districts of Caazapá and Caaguazú where the majority of the asentamientos campesinos are located. For these departments average GDP per capita is between 1,469 and 3,010 guaraníes. Land distribution is extremely unequal in Paraguay, with 1.1% of rural landholdings accounting for 80% of the land, while 30% of the rural population owns no land at all. Information on land inequality is only available at the department level. The average Gini Coefficient for the departments included in the Project area is 0.77.

**Project benefits and beneficiaries**
12. The whole population of the proposed corridor is 782,796 inhabitants in the urban area and 581,489 in the rural area. In both cases males slightly outnumber females (52% and 54% males, respectively). This population is distributed in 45 districts (municipalities) in which the corridor is located. These districts hold a total of 4.6 million hectares while the corridor defined is 1.14 million hectares.

13. The high majority (82% average) of the employed population is involved in primary activities. Of them an average of 77% works in the agricultural sector. Unemployment rates are fairly low and mainly affect young people. On average 18% of the youth living in the districts of the Project area is unemployed. However, in 19 districts this unemployment rate for those aged 15-24 is above 40%.

14. The 2005 Human Development Index for the total rural districts included in the Project area is three percentage points higher than the national average: 0.76. However, this indicator is not a good situation given that Paraguay ranks among the less human developed countries in the world. The situation is even worse when income disparities (not considered by the HDI) are taken into account. Income inequality for the urban and rural districts included in the Project area is high, scoring 0.57 on a 0-1 scale, six points higher than the national average. Inequality is higher (0.63-0.7) in the districts where soy accounts for larger shares of the agricultural surface. These districts are located in Caaguazú and Itapúa.

15. Poverty is widespread in the rural and urban districts within the Project area, reaching 44% of the population. Historically, Paraguay has had a rural poverty rate higher than that for urban areas. Nevertheless, if the 44 percentage is applied only for the Project area, data shows that around 88,000 people in the Project area do not have the necessary income to afford a minimum basket of goods and services. Poverty rates are lower in the districts located in the frontier with Brazil. There is a block of districts in Canideyú and Alto Paraná where poverty rates are around 20%. Not surprisingly these are soybeans-oriented districts. Furthermore, an average 33% of the households in the Project area has at least one unmet basic need.

16. Human capital levels are relatively low in the rural zones of the districts in the Project area. About 86% of adults is literate but of them a high majority has only completed primary schooling. Furthermore, while an average 65% of children attends primary education, less than an average 1% of those aged 15-17 goes to middle school.

17. Direct beneficiaries from Sub-projects have been estimated at 2,000 small farmers, 300 medium-sized farmers, and 100 large landowners.

18. These estimated 2,000 small farmers (property of < 20 ha and less than a minimum national wage – MNW), 300 medium-sized farmers (20-100 ha and less than 6 MNWs) and 100 large landowners (> 100 ha and more than 6 MNWs) will benefit from 100% of the proposed investments in their properties once Sub-projects are approved. Indigenous communities do not get into this classification and they will be treated in a separate way receiving technical assistance and investments to improve self-consumption products and techniques for trade and access to markets. These farmers will be assisted in preparing Sub-projects by previously trained Project promoters, who will develop the proposal in accordance with Project guidelines. Sub-Project field promoters will be extension representatives from DEAG (MAG), also previously
trained, who will also have the responsibility of communicating about the Project and its opportunities and will oversee Project implementation in their function of providing technical assistance and supervising results.

19. Sub-projects to be implemented by direct beneficiaries will have to: a) contribute to the Project objectives; b) be within thematic categories (biodiversity conservation and use, agro-forestry, sustainable forest management, soil conservation, organic agriculture, environmental education, among others); c) be implemented in buffer zones of protected areas or within the proposed corridor to unite protected areas; d) avoid causing any environmental damage; e) be participatory and equitable – including on gender issues; f) incorporate a clear strategy of co-management and empowerment by local communities; and g) establish a clear strategy for sustainability.

20. Sub-projects recipients will be in legal capacity to receive funds. The maximum amount to be accepted would be of US$ 2,000 for individual Projects (a Project submitted by an individual legal entity) and US$ 10,000 for collective Projects with no more than US$ 900 per family as a ratio (a Project submitted by a legal entity but involving many beneficiaries). The Project will promote, based on three different farm models and applying efficiency criteria, different practices which could be used alone or combined in Sub-projects. These sustainable practices recommended by the Project are:

i) Low-scale commercial reforestation with native species
ii) Reforestation with native species for landscape restoration
iii) Agro-forestry with enrichment through tree-planting
iv) Agro-forestry with natural regeneration
v) Management of native forest
vi) Crop associations
vii) Windbreaks
viii) Fauna and flora sustainable use.

21. The proposed list is not exhaustive, and the Project will be open to receive innovative proposals to conserve and use biodiversity sustainably. Models to be proposed are: a) Small-farmer: management of native forest with enrichment of the degraded forest with yerba mate; b) medium-sized farmer: reforestation with native species for landscape restoration; c) large landowner: natural regeneration; and d) indigenous communities: conservation agricultural practices. The list of eligible investments was also prepared and segregated for the different models proposed. This is described in detail in the Operational Manual.
ANNEX 18: Maps

PARAGUAY: Conservation of Biodiversity and Sustainable Land Management in the Atlantic Forest of Eastern Paraguay Project

The following map describes the location of the proposed Conservation Corridor in the context of departments in Eastern Paraguay. The map has been designed by the PIU under a GIS exercise conducted during project preparation.

Translation:

Title:
Paraguay Biodiversity Project – Proposed Corridor and Target Area

Map’s references:
Green color: corridor’s limit, 987,000 ha.
Red lines: limits of Districts in the target area
Black lines: limits of Departments in the target area