



**PROJECT IDENTIFICATION FORM (PIF)**  
**PROJECT TYPE: FULL-SIZED PROJECT**  
**TYPE OF TRUST FUND: GEF TRUST FUND**

**PART I: PROJECT IDENTIFICATION**

Project Title:	Mainstreaming Biodiversity Conservation and Sustainable Land Management into Production Practices in all Bioregions and Biomes in Paraguay		
Country(ies):	Paraguay	GEF Project ID:	4860
GEF Agency(ies):	UNDP	GEF Agency Project ID:	4836
Other Executing Partner(s):	Secretariat for Environment (SEAM)	Submission Date:	April 13, 2012
GEF Focal Area (s):	Multi-focal areas (BD/LD)	Project Duration:	5 years (60 months)
Name of parent program (if applicable): For SFM/REDD+		Agency Fee:	686,182

**A. FOCAL AREA STRATEGY FRAMEWORK:**

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Financing from GEF (\$)	Indicative Co-Financing (\$)
BD-2	Outcome 2.1: Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation	Output 2.1.1: Certified production landscapes and seascapes (1 million hectares RTRS / RA /Global Gap certified by 2016).	GEF TF	\$ 1,272,777	\$ 4,098,338
	Outcome 2.2: Measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks.	Output 2.2.1: Policies and regulatory frameworks for production sectors.	GEF TF	\$ 636,388	\$ 2,049,169
		Output 2.2.2: National and sub-national land-use plans that incorporate biodiversity and ecosystem services valuation.	GEF TF	\$ 636,388	\$2,049,169
LD-3	Outcome 3.1: Enhanced cross-sector enabling environment for integrated landscape management.	Output 3.1 Integrated land management plans developed and implemented	GEFTF	\$ 1,211,343	\$ 3,900,521
	Outcome 3.2: Integrated landscape management practices adopted by local communities.	Output 3.2 INRM tools and methodologies developed and tested	GEF TF	\$ 1,211,342	\$ 3,900,521
SFM REDD+ -1	Outcome 1.2: Good management practices applied in existing forests.	Output 1.1: Payment for ecosystem services (PES) systems established (2).	GEF TF	\$ 828,040	\$ 2,666,286
		Output 1.3: Forest area under sustainable management (Component 2).	GEF TF	\$ 828,039	\$2,666,286
Sub-Total			GEF TF	\$ 6,624,317	\$ 21,330,290
Project management cost			GEF TF	\$ 237,500	\$ 769,710
Total project costs			GEF TF	\$ 6,861,817	\$ 22,100,000

## B. PROJECT FRAMEWORK

<b>Project Objective:</b> The biodiversity and ecosystem functions of the Atlantic Forest eco-region is protected from existing and emerging threats from multi-sectoral production practices and is a model for replication across the country's bioregions and biomes.						
<b>Project Component</b>	<b>Type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>Indicative Financing</b>	<b>Co Financing</b>
<b>Component 1:</b> Governance framework for managing multiple use landscapes (MUL)	T A	<p>An effective governance framework for planning, managing and compliance monitoring of land use change within the Upper Parana Atlantic Forest. Total forest outside of protected areas to be conserved in target Multiple Use Landscapes (MUL) is 918,000 Ha.<sup>1</sup></p> <p>At least 10% increase of secondary forest cover outside of protected areas within project target area (%) from natural regeneration (increase of 70,704ha).</p> <p>Increased abundance of native forest species <i>Tabebuia spp. (lapacho)</i> <i>Cedrela spp. (Cedro)</i>, <i>Cordia trichotoma (Peterevy)</i> and <i>Pterogyne nitens (Yvyra ro)</i> outside of productive areas within target landscape.</p> <p>Up to 3,320,720 ha of land within target MUL, including the non protected forest, brought under effective sustainable landscape management<sup>2</sup></p> <p>Improved institutional capacities to effectively plan, implement, monitor and mainstream biodiversity into production activities at landscape level as measured by at least 20% increase in Capacity Scorecard (baseline to be established during PPG).</p> <p>Direct reduction of pressures in Upper Paraná Atlantic Forest ecosystems from production sectors as evidenced by a) 30% reduction in the use of charcoal within the target MUL; b) and 25% reduction in contamination of surface water bodies</p>	<p>1. A package of modifications in regulations, policies and standards at national level to improve protection of the Atlantic Forest, will include:</p> <p>a) Area wide agreement on the limits to land use expansion by different economic sectors within Upper Paraná Atlantic Forest;</p> <p>b) Channeling the fines for infringement of Forestry Law and environmental legislation into SEAM in order to finance the enforcement of set-aside regulation.</p> <p>c) Updated procedures and framework for surveillance, intelligence gathering, policing, prosecution and penalization of infringement of environmental legislation, in particular regarding Zero Deforestation Law (No 2524), and the Forestry Law 422/73.</p> <p>d) Improved decision support system for managing production landscapes through: i) values of forests (e.g. <i>valuation of ecosystem goods and services</i>) and externalities of deforestation incorporated into sector decisions; ii) GIS mapping tools inform physical development and incidents of encroachment into natural habitat to markets and government regulatory agencies.</p> <p>2. Institutional training for SEAM, MAG, INFONA, State Prosecutors staff updated to include surveillance, intelligence gathering, policing, prosecution and penalization of infringement of environmental legislation, in particular regarding Zero Deforestation Law (No 2524), and the Forestry Law 422/73</p>	GEFTF	<p><b>Total</b> <b>1, 500,000</b> (LD: 750,000 BD: 750,000)</p>	7,700,000

<sup>1</sup> Estimated as 80% of total forest cover outside of protected areas in target landscape, based on a 2002 baseline of 1,267,448 Ha, and eliminating estimated deforestation occurred from 2002-2012.

<sup>2</sup> Estimated as the 2010 baseline land use for soy, pasture, sugar, non protected forest within the target MUL. The project is working directly with specific land uses that are related to these supply chains. The project approach will establish economic incentives for adoption of sustainable practices for these specific land uses. The adoption of sustainable practices by the producers of these lands will be combined with compliance of land's set-aside laws and financial incentives for adoption of additional sustainable landscape practices by tenants. Thus the effective land areas to be brought under SLM by this project are **3174082 Has.**

			3. One national and three departmental platforms for inter-institutional and multi-stakeholder dialogue on land use planning regulations, enforcement, and incentives for best practice adoption within production landscapes, involving all land use managers and supply chains.			
<b>Component 2:</b> Financial and market incentives framework to protect biodiversity and promote sustainable land management within MUL	T A	<p>Up to 20% of target MUL production which is certifiable is under a recognized sustainability certification scheme. This equates to 263,721ha (for soy and sugar)</p> <p>At least 40% of purchases from the area are from producers complying with integrated land use plans, set-a-side regulations and Zero Deforestation No. Law 2524. This equates to 1,1157,098ha (soy, cattle, sugar, wheat)</p> <p>At least \$1 million worth of loans conditioned to adoption of sustainability criteria have been disbursed to farmers.</p> <p>Sustained flow of ecosystem services in target agro-ecosystems through 10% increased vegetation cover in soy plantations and pasture land within target landscape.</p> <p>Forest owners receive at least US\$4 to 5 per tCO<sub>2</sub> eq/ha/year generated from the sale of credits in voluntary markets</p>	<p>Increased and diversified funding promotes the integration of biodiversity and sustainable land management for MUL, through:</p> <p>a) Incentivizing sustainable resource use through product certification.</p> <p>b) Modifying purchasing policies of companies buying products from the UPAF to ensure compliance with Zero Deforestation law and Forestry Law.</p> <p>c) Municipal property tax exemptions stimulate landowners to keep minimum distance separation (MDS) between plantations, through forest conservation, natural regeneration or replanting</p> <p>d) Facilitating access to new sources of funding such as REDD+ to finance set-a-sides. Facilitating access to credit services from financial institutions such as Peasant Development Fund, Financiera El Comercio, for producers complying with certified best practices, forestry and zero deforestation laws, and adoption of renewable energy sources in production</p> <p>REDD+ pilot project protects 91,800 ha of forest and prevents the release of 276,750 tCO<sub>2</sub><sup>3</sup> into the atmosphere over a 5-year period</p> <p>- Methodology for the REDD+ pilot project is developed (methodology elements are outlined in the text).</p> <p>- Monitoring system at the local level (municipalities) tracks global environmental benefits from BD conservation, REDD+, and</p>	GEFTF	<p><b>Total</b> <b>2,956,079</b> (LD: 650,000 BD: 650,000 SFM/REDD+ 1,656,079)</p>	5,935,290

<sup>3</sup> This is a conservative estimate calculated using a model that used the following variables: 1) annual deforestation rate of 0.99 %/yr and assuming a 0.2% reduction in deforestation every year over a five year period; 2) 194.6tC ha/yr of above-ground biomass; 3) 3.67 CO<sub>2</sub> conversion factor; and 4) forest area of 91,800 ha. This estimate will be double-checked during the PPG phase.

			SLM.			
<b>Component 3:</b> Strengthened implementation of land set aside system and sustainable production practices	T A	At least 25% increase in area of set-a-sides established legally and being managed to secure biodiversity and ecosystem services. <sup>4</sup>  Up to 60% of fines charged from infringement of set-aside regulation of the forestry law between 2013-2016 are allocated to SEAM and contribute to enforce the forestry law.  Improved knowhow of at least 1000 soy, sugar and livestock producers to apply the available best practices to conserve biodiversity, reduce soil degradation, conduct land use planning for sustainable land management within target landscape.	SEAM, MAG, INFONA staff in target landscape working with land tenants to ensure new land set asides support structural and functional connectivity across the target landscape.  Habitat banking introduced to ensure connectivity by allowing and incentivizing set-a-sides to be connected in the landscapes through credit trading.  Native tree nurseries established in the target landscape to support replanting in set-a-sides  Soy and livestock producers take measures to control agrochemical runoff and erosion control such as: live fences in plantations, drainage facilities, conservation tillage, minimum distance separation, Integrated Pest Management.	GEFTF	<b>Total</b> <b>2,168,238</b> (LD: 1,022,685 BD: 1,145,553	7,695,000
Sub-Total					<b>6,624,317</b>	<b>2,1330,290</b>
Project management cost				GEFTF	<b>Total 237,500</b> (LD: 86,860 BD: 91,265 SFM: 59,375)	769,710
<b>Total project costs</b>					<b>6,861,817</b>	<b>22,100,000</b>

### C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
NGO	Solidaridad-IDH	Grant	3,000,000
NGO	Alter Vida	Grant	400,000
International cooperation	European Union	Grant	4,000,000
GEF Agency	UNDP (REDD+ Readiness)	Grant	4,700,000
Government Contribution	SEAM	Grant	5,000,000
Private sector	Agri-business companies: DAP, ADM, Bunge	Grant	5,000,000
<b>Total Co-financing</b>			<b>22,100,000</b>

### D. GEF RESOURCES REQUESTED BY AGENCY (IES), FOCAL AREA(S) AND COUNTRY(IES)

GEF AGENCY	TYPE OF TRUST FUND	FOCAL AREA	Country name/Global	Project amount (a)	Agency Fee (b)	Total c=a+b
UNDP	GEF TF	BD	Paraguay	2,636,818	263,682	2,900,500
UNDP	GEF TF	LD	Paraguay	2,509,545	250,955	2,760,500
UNDP	GEF TF	SFM REDD+	Paraguay	1,715,454	171,545	1,886,999
<b>Total GEF Resources</b>				<b>6,861,817</b>	<b>686,182</b>	<b>7,547,999</b>

<sup>4</sup> Current set-a-side area (baseline) to be established during PPG.

## **PART II: PROJECT JUSTIFICATION**

### **A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:**

#### **A.1.1. THE GEF FOCAL AREA STRATEGIES:**

1. This project will conserve globally significant biodiversity and secure the ecological functions and resilience of bioregions and biomes in Paraguay. The Government of Paraguay is committed to the long-term mainstreaming of biodiversity conservation and sustainable land management in productive practices across the country. The Government views this project as an important step in this process. The project will contribute to this long term vision of the Government of Paraguay by developing sound and replicable models for mainstreaming sustainable practices within the Upper Paraná Atlantic Forest ecoregion --targeting the Multiple Use Landscape (MUL) framed by the Departments of Amambay, Canindeyú and Upper Paraná in Eastern Paraguay. This landscape harbours numerous important forest habitat blocks of various sizes on production lands. The project will adapt the different production practices occurring within this area to ensure they are more compatible with biodiversity conservation and sustainable land management. Interventions have been designed to reduce pressures on the ecosystem from land clearance, agrochemical runoff into water sources, and the production of charcoal which are leading to forest clearance and fragmentation and causing pollution. In doing this, the project will synergistically address two GEF-5 focal areas. It advances BD-Strategic Objective 2: *Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes, Seascapes and Sectors*, and two of its expected outcomes. Expected outcome 2.1 will be addressed through the establishment of multi-stakeholder platforms that will convene key supply chain players and institutions across the public and private sectors to improve management of the landscape. The project will also address GEF BD outcome 2.2: *Measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks*, as it will develop and operationalise Departmental land-use plans that incorporate biodiversity and sustainable land management measures. It will address GEF BD SO2 expected output 2.3 by increasing the number of hectares of production land that is certified under a recognized sustainability or best production practice standard. The project will further strengthen the capabilities of the Secretariat for the Environment (SEAM) to enforce article 42 of Forestry Law 422/73 which obliges land owners to leave at least 25% of rural premises as land set-asides for conservation and ecological rehabilitation. The strengthened enforcement of the land set-aside and related regulations will also contribute to GEF LD Objective 3: *Reduce pressures on natural resources from competing land uses in the wider landscape* and in particular with outcome 3.1, *enhanced cross-sector enabling environment for integrated landscape management*. The planned project interventions will encourage the systematic uptake of good land management practices and technologies by producers within the MUL, to reduce land degradation and rehabilitate forest blocks where this is necessary. The project will seek to ensure connectivity between compulsory land set-asides and larger habitat blocks as needed to maintain functional connectivity within the landscape. Finally, the project will foster know-how and willingness amongst producers to take part in land use and biodiversity management processes, using access to markets and financial services as an incentive to trigger behavioural change. In doing so, the project will address LD SO 3, outcome 3.2, *integrated landscape management practices adopted by local communities*.

#### **A.2. NATIONAL STRATEGIES AND PLANS OR REPORTS AND ASSESSMENTS UNDER RELEVANT CONVENTIONS:**

2. The project is consistent with the central Government's *Economic and Social Strategic Plan 2008-2018*. This planning mechanism sets as a specific strategic objective *decentralized regional development*, necessitating the harmonization of government actions. The strengthening of land use planning systems, the enforcement of land use management regulations at a local level and the establishment of market incentives to foster the adoption of sustainable land management practices in the MUL under the project, will all collectively help achieve this national vision.

3. As the project aims to improve land use planning through involvement of supply chain stakeholders, it contributes directly to the existing *National Biodiversity Strategy and Action Plan (NBSAP)*. The NBSAP Sectoral Area: Agricultural and Livestock Resource Development sets out as its principle objective the development and implementation of a sustainable farming system taking into consideration economic, social and environmental circumstances. The project is in line with Law 352/94 that establishes the Protected Area System and the *National Protected Area System Strategic Plan 2010-2015* which requires the creation of buffer zones around PAs in order to, amongst other things, protect wetlands and avoid erosion and sedimentation of water sources. The project will also advance implementation of the Water Resource Law 3239/2007, as it will aim to reduce agrochemical runoff into water-sources. The GEF investment will also serve to improve enforcement of Law 515/94 which forbids export and

trafficking or processing of timber within 20kms from the Brazilian border, as it will strengthen enforcement capabilities in vulnerable areas in the border vicinity. At the same time it will indirectly help enforce Law 4014 which aims to prevent and control forest fires, because local government entities will be better equipped to address contributing land use practices. The project is also consistent with the *National Strategy to Promote Organic and Agro-ecological Production in Paraguay*, launched in 2008 by the MAG, ICCO, EU, IICA and Alter Vida. Specifically, the project will ensure coordination with and strengthening of its governing bodies: i) the inter-institutional commission and ii) the roundtable for promotion of organic and agro-ecological production. This alliance will prove to be a particularly useful way to reach out to producers who are already working together to scale up adoption of sustainable practices by producer groups. This project will be executed through SEAM, the national focal point for the UNCCD, and is designed to implement elements of the National Action Plan. The proposed platforms will provide an important forum to secure commitments and joint action by public and private sector stakeholders to address land degradation, in doing so the project will address the objective set out in the UNCCD NAP of *incentivizing political decision makers to strengthen existing coordination instruments in order to foster implementation*.

## **B. PROJECT OVERVIEW:**

### **B.1. DESCRIBE THE BASELINE PROJECT AND THE PROBLEM THAT IT SEEKS TO ADDRESS:**

4. This project will conserve globally significant biodiversity and secure the ecological functions and resilience of bioregions and biomes in Paraguay. The Government of Paraguay is committed to the long-term mainstreaming of biodiversity conservation and sustainable land management in productive practices across the country. The Government views this project as an important step in this process. The project will contribute to this long term vision of the Government of Paraguay by developing sound and replicable models for mainstreaming sustainable practices within the Upper Paraná Atlantic Forest ecoregion.

#### **Biodiversity Importance of the Eco-region**

5. The Upper Parana Atlantic Forest ecosystem (UPAF) constitutes a globally important storehouse of biodiversity. The ecosystem constitutes a sub region of the Interior Atlantic Forest, and encompasses a number of different vegetation types including Deciduous and Mesophytic Subtropical Forests of Eastern and Central Brazil, and isolated patches of Campos Limpios. The UPAF ecosystem occupies the north-eastern province of Argentina (Misiones), sections of the south-western states of Brazil (State of Paraná, State of Rio Grande do Sul, Santa Catarina State, State of São Paulo and Mato Grosso do Sul), and the eastern part of the Oriental Region of Paraguay (most significantly in the departments of Alto Paraná, Amambay and Canindeyú). This forest region is classified as one of WWF's 2000 ecoregions of global importance. It forms a centre of floristic diversity within the La Plata River Basin, and exhibits high levels of endemism, with over 90% of all amphibians for instance classified as such. The endemism quotient for flora is likewise high. The fauna of the Paraguayan IAF includes 403 species of birds, of which 13 threatened and 20 near-threatened forest- dependent species have been reported (9 and 16 of these respectively are Atlantic Forest endemics; of the 48 IAF endemics, 7 are classified as threatened and 9 as near-threatened). Threatened and near-threatened mammals include the Giant Armadillo (*Priodontes maximus*), Bush Dog (*Speothos venaticus*), Azara's Agouti (*Dasyprocta azarae*), Oncilla (*Felis tigrina*), Tapir (*Tapirus terrestris*), and Short-tailed Opossum (*Monodelphis sorex*). The enormous biodiversity endowment of the Atlantic Forest results in part from the wide range of latitude it covers, its variations in altitude, its diverse climatic regimes as well as its geological and climatic history.

6. Originally, the UPAF covered an area of 120 million hectares. In recent decades these forests have been cleared at an alarming rate and the forest has been heavily fragmented. Connectivity between remaining major forest habitat blocks is being lost, thus threatening the survival of fauna and flora. Prior to 2004, Paraguay had the second-highest deforestation rate in the world<sup>5</sup>. More than 7 million hectares of forest were destroyed in just 40 years. As a result, the UPAF in the country exists as a patchy series of isolated fragments, with just 13% of the originally extant forest area remaining. Over 11,000 species of plants and animals are considered threatened today within the eco-region.

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<sup>5</sup> Tabarelli et. Al., 2010, Prospects for biodiversity conservation in the Atlantic Forest: Lessons from aging human-modified landscapes, Biological Conservation 143 (2010) 2328–2340

7. The most significant fragments of the original UPAf ecosystem remain in the departments of Amambay, Upper Paraná, Canindeyú, which share similar characteristics in terms of biogeography, topography and land use. The Amambay-Canindeyú-Upper Paraná Multiple Use Landscape is of significant conservation importance. Many genetic variations of cultivated plants probably originated in Paraguay, include varieties of peanut, hot pepper, pineapple, corn, cassava, *ka'a* and *he'e*. For this reason the department of Amambay, is internationally recognized as center of origin of several species of cultivated plants<sup>6</sup>. Diversity levels for a variety of taxa in this landscape is comparable to other tropical forests regions harboring extraordinary diversity including the Western Arc forests of the Amazon.

8. The presence of a vast basaltic plateau, a high variation in terms of yearly rainfall (1000-12000mm per annum) and temperature (16-22 C averages) explain the rich and deep soils of this landscape. The Paraná River flows southward in the target landscape and forms a natural boundary between Paraguay (Upper Parana department) and Brazil until the confluence with the Iguazu River. Shortly upstream from this confluence the river is dammed by the Itaipu Dam, the world's second largest hydroelectric power station<sup>7</sup>. The fish fauna of the Itaipu reservoir supports important fisheries for this sub-region. The Amambay-Canindeyú-Upper Paraná Multiple Use Landscape performs an important hydrological function in the river basin—important in terms of regulating stream flow in the Paraná River.

#### Land Tenure

9. About 97 percent of Paraguay is in private hands and is divided among more than 300,000 holdings, according to the 1991 Agricultural Census<sup>8</sup>. According to that census, about 40 percent of rural properties have no title or carry less than full property rights. Moreover, it is estimated that 60 percent of farmers with landholdings of less than 10 hectares are in this situation. One percent of the nation's farm holdings cover 79 percent of the farmland in use. These large farms had an average landholding of almost 7,300 hectares. By contrast, the smallest farms, which made up 35 percent of all farms, covered only 1 percent of the land, making the average size of a *minifundio* 1.7 hectares<sup>9</sup>.

#### Major land Uses

10. Paraguay's economy is based on the primary sectors (agriculture, livestock, and forestry), which together contribute 22% of its GDP, employ 37% of the economically active population, and generate some 65% of its export earnings. The most significant land uses in the Amambay-Canindeyú-Upper Paraná Multiple Use Landscape are soy, cultivated pastures for beef, wheat, and sugarcane production as described in Table 1. Significant forest remnants remain on these production lands. PAs cover 5% of the area, but only a small share of the total forest area.

**Table 1: Summary of Main Land Uses Amambay-Canindeyú-Upper Paraná Multiple Use Landscape**

DEPT	SOY Land Area (ha) 2010	Cultivated Pasture Land 2010 Estimated <sup>10</sup>	Sugar Land Area (ha) 2010	Wheat Land Area (ha) 2010	Protect ed Areas 2010(h a)	Total Forest Area (ha) (2002) <sup>11</sup>	Total Land Area (ha)
<b>UPPER PARANA</b>	761,450	180,000	279	205406	51,308	326,231	1,489,500
<b>AMAMBAY</b>	107,745	748,623	1,272	19655	192,787	398,743	1,293,300
<b>CANINDEYU</b>	442,507	366,445	5,356	54008	316,400	542,474	1,466,700
<b>TOTAL (ha)</b>	<b>1,311,702</b>	<b>1,295,068</b>	<b>6,907</b>	<b>279,069</b>	<b>560,405</b>	<b>1,267,448</b>	<b>4,249,500</b>

<sup>6</sup> USAID, 2010, Report on Biodiversity and Tropical Forests in Paraguay, pg 12

<sup>7</sup> <http://www.itaipu.gov.br/en/energy/energy>

<sup>8</sup> The 1991 Agricultural Census is the latest land use census conducted in Paraguay.

<sup>9</sup> National Cadastral Service (SNC) IADB Loan Proposal 2004.

<sup>10</sup> Estimated as Cattle heads x Regional Average Head/Ha (0.8 head per Ha).

<sup>11</sup> [http://pdf.usaid.gov/pdf\\_docs/PNADB964.pdf](http://pdf.usaid.gov/pdf_docs/PNADB964.pdf) This document uses 2002 data for forest cover, because it is the most recent data that disaggregates on a departmental basis and differentiate what forest cover is inside and outside the PA system.

11. According to the most recent data on forest cover with and outside of protected areas at a departmental level, up to 92% of forest areas within the target landscape are located outside of protected areas on production lands.

### **Threats to Biodiversity and Determinants of Land Degradation**

12. Deforestation has historically and is being caused currently by land use change due to expansion of the agricultural frontier, while degradation of forests has occurred mainly as a result of the “mining” of secondary forests for commercial timber, and charcoal production. The rate of deforestation in the Eastern region of Paraguay between the 1990s and the 2000s was 39%. By the year 2000 the forest cover of UPAf in Paraguay was estimated at 2.1 million hectares. The Zero Deforestation Law, passed in 2004, has contributed to a decrease in the rates of deforestation in the region (20,000 hectares in 2005, 6,400 hectares in 2006, 5,600 hectares in 2007 and 9,503 hectares in 2008). The concern is that this Law is not backed by strong monitoring and enforcement, has low penalties and is not permanent. There are strong calls from production sectors to complement or substitute this Law with incentives for sustainable use. Meanwhile there are also unsustainable land management practices stemming from conventional agricultural practices, charcoal production, and weak capacity of local institutions to undertake enforcement.

#### **1. Land Use Change**

13. Future trends and scenarios for land use in forest areas until the year 2020 were established by a 2004 FAO funded study<sup>12</sup>. In the most probable scenario, the study posits that production areas under the main cash crops (soybean, cotton, maize) will expand by 472,220 ha in aggregate and 135,000 ha for manioc, beans and sugar cane. Livestock production growth would require at least an additional 700,000 hectares until 2020. It is highly probable that encroachment of agricultural and pasture land into forested land outside of protected areas will continue, with an average annual national deforestation rate until the year 2020 of approximately 8,000 hectares/year for the Eastern Region alone. In addition, the Forest Law which requires that 25% of any holding larger than 20 ha must remain forested has failed in its aims to avoid deforestation and degradation. Legislation was often interpreted in a way that had the perverse effect of encouraging replacement of native forest with a smaller area of forest plantations. As a result, the rate of full transformation from a forest to non-forest land cover category has been very significant.

#### **2. Unsustainable Land Management Practices:**

14. Many of the land management practices of local stakeholders threaten biodiversity and cause land degradation.

##### *Inappropriate Agrochemical Use*

15. Conventional soy production as well as other agricultural commodities, generate agrochemical runoff into water sources affecting biodiversity. Approximately 24 million liters of pesticides and herbicides are applied in Paraguay every year. Many of these are rated Class I and II moderately and extremely hazardous by the World Health Organization [examples include 2,4-D, Gramoxone, Paraquat, Metamidofos, and Endosulfan] As approximately 90% of the soy produced in Paraguay is transgenic Roundup Ready (RR), most fields of RR soy are fumigated with herbicides (2 liters/Ha of Glifosate), killing all the weeds. There is a growing body of scientific evidence that glyphosate is harmful to species at many stages along the food chain, particularly the aquatic food chain (amphibians are particularly vulnerable). Existing sustainability and food quality standards such as the Global Gap and Roundtable for Responsible Soy (RTRS) limit the use of agrochemicals, but the adoption of these standards by producers has been slow.

##### *Limited compliance with land set-aside regulations*

16. Article 42 of the Forestry law (No. 422/73) obliges rural properties to conserve up to 25% of land as forest, or restore up to 5% of land surface area. However, very few of the rural properties within the target landscape comply with this regulation. As a result, the high level of forest fragments present in the region have not been connected through biological corridors that could potentially be established if the legislation was complied with by producers. The way the Forest Law is written, provides perverse incentives for the destruction of millions of hectares of forest in Paraguay. It opened the door to forest degradation by leaving open the possibility of transferring the tenancy of legal forest reserves (25 percent of any forested property) to third parties, who could then deforest these transferred lands

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<sup>12</sup> FAO, 2004, Estudio de tendencias y perspectivas del sector forestal en América Latina. Informe Nacional Paraguay.  
<http://ftp.fao.org/docrep/fao/009/j3292s/j3292s00.pdf>



by 75 percent. At present, instead of 25 percent forest cover in the Eastern Region of Paraguay, the levels are under 10 percent as a consequence of this loophole. Multiple proposals for reform of this law have been presented over the years and the Congress is presently studying several of them that primarily focus on reform of the Forestry Service.<sup>13</sup>

#### *Wild fires<sup>14</sup>*

17. The use of open fires as an agricultural practice within this landscape has caused emergencies in the past. For instance, thousands of brush fires ran out of control in September 2007. Extended fires displaced tens of thousands of mostly poor families and destroyed nearly two and a half million acres of pastures, commercial and subsistence crops, forests and protected areas nation-wide. At the height of the emergency, fires were threatening as much as 60% of the entire country. Paraguay is the only country in Latin America without a national program to control forest fires. This calls for additional coordination by the institutional stakeholders that may penalize infringements to environmental and productive legislation or incentivize adoption of best practices (such as MAG, SEAM, INFONA).

#### *Degradation of Forests for fuelwood*

18. When forest is cleared for agriculture in Paraguay, harvesting of trees is highly selective with only 3% of wood volume used for lumber and the remainder burned. This represents a threat to the ecological integrity of the target landscape<sup>15</sup>. By 2009, biomass represented 52% of the energy consumed in the country. As a result many forest species are endangered, namely: *Amburana cearensis*, *Araucaria angustifolia*, *Calophyllum brasiliense*, *Myrcia gemiflora*, *Prunus douglasii*, *Prunus* and *Rhodocalyx ravenii rotundifolius* (NBSAP 2002). Considerable ongoing efforts are being made by the government to address this threat. In particular, the investment to increase electricity supply (now covering 96.7% of the country) to reducing the dependence of communities on fuelwood. The zero deforestation law has also served to reduce degradation pressures for fuelwood by 75% in the target landscape.

#### **The long term solution:**

19. While there are several initiatives seeking to reduce threats to the UPaf, most of these are not adequately coordinated and focused to reduce pressures on biological diversity and address land degradation. The country lacks a robust planning and management framework that specifically integrates biodiversity conservation and sustainable land management needs into the land use planning and management systems and product supply chains that determine the use of forest landscapes. The proposed long-term solution is thus to put in place a collaborative governance mechanism combined with market based incentives and build the know-how for appropriate management of the landscape to effectively mainstream biodiversity and sustainable land management into production sector operations.

20. This strengthened governance system combined with the model practices in the UPaf will be instrumental in assisting the Government apply such land use practices across the other biomes and bioregions of Paraguay.

#### **PROJECT BASELINE:**

21. The baseline project is valued at US\$ 49.7 million over 5 years. This baseline amount accounts for previous investments that have established the conditions, addressed gaps in knowledge and forged the alliances between stakeholders that make possible the implementation of the proposed project. The \$22.1 million Co-Finance figure suggested in the logframe, refers to new investments that will take place in conjunction with the proposed action. The baseline project may be broken into two parts, based on the source of funds as described below:

##### Investments by the National Government:

22. One central investment to improve land use planning in recent years has been a US\$10 million IADB loan for a National Cadastral Program. Through this investment, the country has improved the legal security of ownership titles through the establishment of a legal and institutional framework for creating and updating the national cadastre. Precise information must now be submitted by land tenants on the location, boundaries and surface area of a property, contained in a cadastral plan for any formal transaction or contract involving land. This program has modernized the operations of both the executive and the judicial branches, and strengthened local governments by giving them access to a significant source of revenues, i.e. property taxation. The project will forge an alliance with Cadastral service to

<sup>13</sup> [http://pdf.usaid.gov/pdf\\_docs/PNADB964.pdf](http://pdf.usaid.gov/pdf_docs/PNADB964.pdf)

<sup>14</sup> <http://www.rediex.gov.py/userfiles/file/9%20-%20PPE%20Carbon%20vegetal.pdf>

<sup>15</sup> [https://s3.amazonaws.com/CCBA/Projects/The\\_Paraguay\\_Forest\\_Conservation\\_Project/Guyra+Paraguay+CCB+Exh+10.pdf](https://s3.amazonaws.com/CCBA/Projects/The_Paraguay_Forest_Conservation_Project/Guyra+Paraguay+CCB+Exh+10.pdf)

share information about tenancy and compliance with land-set-a-side regulation. This is a significant contribution to support biological connectivity of forest fragments in private lands<sup>16</sup>.

23. SEAM has expanded, the National Protected Area System since the early 2000s, to now cover a total 6 million ha (14.9% of the national territory)<sup>17</sup>. The SEAM has invested its limited resources in the consolidation of protected areas. And has increased protected areas significantly since the early 2000s, to now cover a total 6 million ha (14.9% of the national territory). However the limited resources and the current land tenancy situation in the country has limited the expansion of protected areas. Legislation efforts such as the law 352, facilitate the establishment of private reserves. One example in the Kai Rague 9.310 has private owned reserve. The PAs in the target landscape were designed to protect significant forest fragments. However this initial investment in State and multilateral resources in the past have served to establish and consolidate the protected area system.

24. Furthermore, the sustainable management of land and the reduction of pressures on biodiversity within the Atlantic forest region of Eastern Paraguay is a key priority for the government, in particular with regards to the reduction of deforestation and degradation. The government issued the Forestry law No. 422/73 which, amongst other things, obliges rural properties to conserve up to 25% of land as forest, or to restore up to 5% of their land surface area if the land had no previous forest cover. The enforcement of this legislation is responsibility of the Secretary for the Environment (SEAM), and the enforcement of this legislation currently adds up to a yearly investment by SEAM of \$3.0 US\$ million<sup>18</sup> per year.

25. The Ministry of Agriculture (MAG) is compiling a national land use plan. Currently, the Sub-Secretariat of Natural Resources has a geographic database that includes thematic information on natural vegetation and the current and appropriate use of soils, compiled from field observations and other sources, with an investment estimated in US\$5 million<sup>19</sup>. In 2009 MAG established the *Commission for Good Agricultural, Livestock and Forestry Practices* through decree 3579. This Commission is set up as an inter-institutional body to promote adoption of best practice in these sectors. The MAG has invested up to \$2.0 million<sup>20</sup> in the operation of this Commission which will prove to be an important vehicle to scale adoption of best agricultural practices and combine these with sustainable land management. The Commission will be a key stakeholder in the project platform and will be considered to be the entity to host the platform to ensure producer buy in and institutional support on behalf of MAG.

26. The Ministry of Public Infrastructure and Communications (MOPC) is promoting a project on rural electrification with renewable energy with an estimated investment of US\$ 5 million; this project provides for the replacement of biomass energy with other renewable energy, with the consequent reduction of threats to forest resources from charcoal<sup>21</sup>. The project will ensure that engaged financial institutions include renewable energy consideration into new credit services offered in support of sustainable land management.

27. Finally, the Government has established a suite of direct or indirect incentives for biodiversity conservation and sustainable land management has been advanced over the past decade, with the enactment of laws that incorporate tax breaks, refunds for afforestation and reforestation programs, and quotas for wildlife utilisation. Furthermore, it is considering measures to promote carbon sequestration, forest certification, conservation easements and the production of organic crops. The main laws incorporating incentives for conservation and sustainable use are: Law No. 1863/2002 agricultural statute; Protected Areas Law No. 352/94, Promotion of afforestation and reforestation Law No. 536/95; Wildlife Law No. 96/92. Perhaps the greatest advance in the legal framework in this area is recorded with the enactment in 2002 of Agrarian code, that no longer considered to forests in general as unproductive estates to be exploited.

#### Investments by international cooperation (non-GEF):

28. The most significant baseline investment contributing to the normative solution proposed for this project is the implementation of the UN-REDD Program which will invest US\$ 4,7 million over the next three years to assist the

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<sup>16</sup> National Cadastral Service (SNC) IADB Loan Proposal 2004.

<sup>17</sup> SINASIP, Plan Estratégico 2010-2015.

<sup>18</sup> Estimation under review

<sup>19</sup> National Cadastral Service (SNC) IADB Loan Proposal 2004.

<sup>20</sup> Estimation under review

<sup>21</sup> [http://www.renenergyobservatory.org/fileadmin/outputs/Paraguay%20Producto%201%20and%202%20\(Eng\).pdf](http://www.renenergyobservatory.org/fileadmin/outputs/Paraguay%20Producto%201%20and%202%20(Eng).pdf)

Government to define and implement a national REDD+ Strategy. The project, to be executed between 2012 and 2014, will support capacity building at national and local levels to enhance the institutional and technical capacities of government organizations and civil society to manage REDD+ activities in Paraguay. Particular attention will be placed on how to reduce forest degradation from charcoal and fuel-wood consumption.

29. The project will build on, work with and benefit from the already created UN REDD mechanisms for information, consultation and coordination. Additionally, the GEF project will use and benefit from the efforts related to MRV, forest inventory, carbon measurement, that the UN-REDD program is currently initiating, with the support of FAO and INFONA. This is important as the UNREDD project will be the coordination mechanism for all MRV related efforts in Paraguay.

30. In 2008, ICCO, EU, IICA and Alter Vida supported a Ministry of Agriculture-led consultation process which established the *National Strategy to Promote Organic and Agro-ecological Production in Paraguay*, in order to improve the environmental management performance of agricultural and livestock sectors. This instrument guides multi-stakeholder action to increase the current 59,600 Has of organic commodity production that is now certified so that by 2017 organic and agro-ecologic production may become a diversified, competitive activity with access to international and domestic markets. The combined baseline investment under this initiative is \$5.0million<sup>22</sup>. The project will ensure economic incentives designed and put in place are in compliance and support the activities suggested in this national strategy.

31. IFAD is planning to continue with the second phase of the project PARAGUAY RURAL (US\$ 12 million). This will focus on the inclusion of family agriculture into specific value chains, benefiting 10 000 families (50,000 beneficiaries). The project will have as a primarily geographic focus the Eastern Region of Paraguay. The first components of the project will strengthen organizational and productive activities through provision of rural services and strategic investments on farms. This will take the form of small grants to projects presented by rural organizations in partnership with agribusiness and / or commercial entities that guarantee access to specific supply chains. The second component will centre on articulation of specific value chains. This will be done by financing technical assistance and diversification of production, organizational strengthening, and direct training of people in vulnerable situations. The proposed project will provide Paraguay rural with training manuals and support the development of criteria for the selection of projects awarded with grants so that they are more closely aligned with the GEF objectives.

32. GLOPSI is the Global Producer Support Initiative of Solidaridad (an NGO). It is a 70 Million Euro public private partnership for the period 2012-2015 with 5 international commodity roundtables: palm oil (RSPO), soybeans (RTRS), sugarcane (Bonsucro), cotton (BCI) and livestock (GRSB). GLOPSI aims at building sustainable supply chains including 400 000 farmers and 400 000 workers on at least 750 000 hectares. The IDH-Solidaridad Soy Fast Track Fund (SFTF) is a 6 Million Euro public private partnership for the period 2012-2015. SFTF aims at accelerating the trade of certified sustainable soy to Europe, with RTRS as benchmark. The target is to get at least 2 million hectares certified RTRS by the end of 2015. Both GLOPSI and SFTF are eager to participate in a public private partnership investment for Eastern Paraguay. GLOPSI plans an investment of 1,5 M Euros, whereas SFTF 1 M Euros. GLOPSI will provide extensive training on RTRS while the project will facilitate institutional coordination to accelerate adoption of RTRS. The GEF project will work with GLOPSI to focus its training in the GEF targeted landscape.

33. The World Wide Fund for Nature has been working in the region to establish a Conservation Vision for the eco-region across Brazil, Argentina, and Paraguay. The Vision has successfully established itself in the conservation community through a participatory process. In the community at large, a mass media campaign has elevated the recognition of the forest and its importance to 50 percent from a baseline of 5 percent recognition nationwide. On-the-ground implementation of the Vision includes strengthening local NGOs, management committee support in the San Rafael Managed Resources Reserve, and efforts by public officials to prosecute illegal logging and environmental degradation. The project will share lessons learned and participate in events to show case successes in the selected MUL to stimulate replication elsewhere in Paraguay and neighboring countries.

## **Barriers to achieving Proposed Long Term Solution**

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<sup>22</sup> Estimation under review

<p><b>Barrier 1:</b> Overall governance, policy and regulatory frameworks are ineffective in limiting natural habitat conversion into farmlands.</p>	<p>Conflicting institutional policies stimulate expansion of agricultural mono-crops in the UPAf multiple use landscape and do not address how to halt unsustainable exploitation of forests outside of protected areas. This conflicting institutional framework also limits the capacity of the Environment Ministry (SEAM) to implement land use planning and management measures to conserve biodiversity and sustainably manage land. As a result, there is no current limit to agricultural and livestock land use expansion within the target landscape. The lack of institutional coordination impedes joint decision making on this issue by production and environmental sector State institutions. Although the companies demanding agricultural and livestock commodities from Paraguay are interested in the adoption of sustainable standards for the practices of production (RTRS, RA, Global Gap, etc), the national production sectors have been slow to respond and adopt standards. This is in part because there is no policy in place incentivizing adoption of best production practices. Companies sourcing from the target productive landscapes need also to understand that the request of standards, need to be tailored to specific threats to the ecosystem. Finally, Law 1561-1500 proclaims SEAM as the entity responsible for environmental land use planning, but, article 41 of Municipal Law 1294/87 establishes specific land uses within the municipal domain. Very few municipalities use zoning recommendations or SEAM land ordinance plans to restrict crop expansion.</p>
<p><b>Barrier 2:</b> Insufficient economic incentives to incorporate sustainable environmental management practices into economic activity.</p>	<p>Current market demand favors production increase and expansion. Only a limited number of companies are paying price premiums for sustainable commodities. These are currently limited to organic sugar, stevia or organic products for domestic consumption. However these incentives are insufficient to stimulate wider adoption by producers from landscapes of high biodiversity importance, in particular by the agro-industrial soy sector that is still reluctant to adopt RTRS standards due to cost and capability constraints. The livestock sector is expanding through conventional production practices (i.e. extensive pasture land), however the increased revenues that could potentially come from alternative practices such as silvo-pastoral systems is not being stimulated by State institutions or the financial sector. In general, the purchasing policies of companies buying commodities from Paraguay have remained centered on volume and supply, at the expense of environmental management performance; and the existing financial services to production do not stimulate adoption of best practice, and maintain a traditional focus on productivity that ignores long term investment risks due to reduction of ecosystem service flows.</p>
<p><b>Barrier 3:</b> Limited institutional and individual capacity to enforce land set-asides regulations, or adoption of sustainable practice standards.</p>	<p>Currently, whenever a judge of the court system finds a land tenant guilty of infringement of the Forestry Law, in particular of the land set-a-side regulation, the tenant is fined. However, fines are not channeled back to SEAM, which is the entity responsible for enforcement of this legislation, although the cost of surveillance of this regulation is extremely high, as this requires <i>in situ</i> verification by SEAM staff and court technicians as well as previous investments on satellite imagery or vegetation mapping. This situation is exacerbated by the fact that SEAM gets only 0.03% of the General Budget of the Nation (PGGN) and the 3.8% of that is allocated to the Presidency of the Republic. This greatly limits the operation and efficiency of SEAM in fulfilling its responsibilities. Another significant Forestry law enforcement constraint is the lack of knowledge and skills land tenants have for establishing new land set-a-sides. Land tenants decide what land should be conserved based on their production strategy and targets, and not on structural and functional connectivity across the target landscape. In addition, SEAM, MAG, INFONA staff in target landscape are currently not working with land tenants to help them plan new land set asides. Although deforestation rates in the country have been reduced significantly in previous years, there are not significant efforts for rehabilitating secondary forests. The target area lacks sufficient native tree nurseries and native tree nursery know-how to support replanting in set-a-sides. Finally, soy and livestock producers do not possess the knowhow to avoid agrochemical runoff and erosion. Live fences are rarely used, drainage facilities in farms are ineffective to avoid agrochemical runoff into water sources, conventional tillage practices continue to erode the soils, and very few soy producers respect minimum distance separation between plantations or employ Integrated Pest Management.</p>

## B. 2. INCREMENTAL /ADDITIONAL COST REASONING:

34. The project will deliver global benefits by ensuring future expansion of production does not compromise biodiversity and ecosystem function. The project will advance an integrated package of measures, including: strengthening the regulatory framework, improving the knowhow for sustainable land management amongst producer groups and landholders, and generating incentives so that markets and financial sectors prize sustainable production practices within the target multiple use landscape. The vision is to create a mosaic of conservation compatible land uses, with large habitat patches and connectivity, through the conservation of small forest patches and by fostering forest rehabilitation. This is designed to enhance functional connectivity across the landscape. The project will centre

efforts on areas in the landscape where threats to large habitat blocks and critical connecting forests are most acute, focusing on forest clearance, forest degradation and fire. In doing so, the project will reduce deforestation and enhance restoration of natural habitats and biodiversity conservation, This will help secure the flow of ecosystem services from productive landscapes and remaining natural habitats. Three complementary project components are planned.

<b>Current practices</b>	<b>Alternatives to be put in place by the project</b>	<b>Expected global benefits</b>
Farms use 100% of their land for crop or pasture, although legally obliged to leave 25% for conservation purposes	Farms set-a-side upto 25% of their land for conservation purposes, either maintaining existing habitat or permitting natural restoration.	Increase in forest habitat and connectivity
Farms are expanding into forests and converting forests to production land	New farms are not established in designated sensitive areas. Production practices are monitored to ensure compliance	Avoided forest habitat conservation
Trees in primary forest are cut down for charcoal	UN REDD+ programme to strengthen actions and investments to halt forest degradation for fuel-wood.	Maintained forest cover of critical UPAf habitats within productive landscapes.
Producers do not keep minimal distance separation between plantations and water bodies and populated areas	Minimum buffer areas are respected, as part of certification and legal enforcement	Improved agricultural management within UPAf
Agro-chemicals are used in a manner which leads to river contamination (over-use, hazardous substances, non-controlled sprayings)	Agro-chemical management reduces contamination to water bodies, as part of certification and legal enforcement	Runoff and erosion control measures adopted within critical habitat of UPAf
Farmers do not invest in new sustainable production techniques such as silvi-pastoralism	Farmers are provided affordable credit from financial institutions for sustainable investments in their land management practices	Land area of production systems with increased vegetation cover
Uncontrolled fires by farmers in order to clear vegetation for pastures	Integrated fire management plans and management systems. Silvi-pastoral systems encourages vegetative growth in pastures	Avoided forest habitat conservation

### **Component 1: Effective governance framework for biodiversity conservation and SLM in multiple use landscapes**

35. The project will lead to a change in practices on the ground by developing a series of modifications to existing regulations which influence land management. Specifically, the project will help establish a legally binding area-wide limit and zoning of land use expansion by different economic sectors within the target area. Currently, forests and natural habitat lying outside of protected areas are threatened because landowners prefer to use land on profitable commodity ventures. This land use zoning will be done in a participatory manner and follow Forestry 422/73 regulation in Paraguay, and will be led by SEAM and MAG. The project will support the transition of this agreement into a legally binding decree. Once this zoning is complete the forests will be assigned a new status and production increases will be focused in existing production landscapes. This limit to expansion will provide a legal justification for closer monitoring by public and private sector stakeholders of land use change and infractions into these newly zoned lands will be penalized. The project will link the new zoning measures with incentive measures (component 2)

36. The project will develop the institutional arrangements within the national government so that fines for infringement of the Forestry Law land set-a-side regulation and other environmental laws are channeled to SEAM in order to finance its enforcement capabilities. Currently SEAM does not receive this needed revenue stream to properly resource its enforcement team. SEAM's enforcement capabilities will be strengthened through Component 3. The project will facilitate the inter-institutional dialogue and coordination required to update the procedures of surveillance, intelligence gathering, policing, prosecution and penalization of environmental legislation infringement, particularly regarding Zero Deforestation Law (No 2524), and the Forestry Law 422/73. This will entail engagement with MAG, INFONA, SEAM and municipalities, as well as the development of guidance documents and enforcement protocols for this purpose. The project will also update the institutional training manuals and capacity building programs of SEAM, MAG, INFONA, and the State Prosecutors to include the changes invoked governing

surveillance, intelligence gathering, policing, prosecution and penalization of infringement of environmental legislation.

37. The project will also strengthen local level decision support systems for managing productive landscapes, so that the cost of externalities from deforestation and unsustainable land use practices are incorporated into the planning of land use by departmental authorities. In particular, the project will use economic valuation to make the business case for adoption of silvopastoral systems versus conventional and contra-conservation beef and dairy production systems.

38. The project will support improvements to enforcement by institutionalizing the use of satellite imagery and GIS to monitor land use. Once established, these systems will provide national institutions, local authorities and companies land use information at a property level on a periodical basis. Data on linking production practices to habitat impact and conversion will be offered to companies to assist them in their purchasing decision making. Also in support of municipal land use decision making, the project will internalize new approaches by UNDP to determine the economic value of ecosystem goods and services provided by the sustainable environmental management of agricultural and livestock production, and compare these with the cost of unsustainable practices (by considering externalities).

39. In order to support these changes and ensure stakeholder participation and buy in, the project will set up a national level, and three departmental level platforms for inter-institutional and multi-stakeholder dialogue and action. Platforms will convene SEAM, Ministry of Planning, Municipalities, MAG, Ministry of Trade and Industry, SENAVE, SENACSA; the main export and production chambers for the most important agricultural and livestock commodities such as CAPEO, CPC, UGP, CAP; the roundtable for promotion of organic and agro-ecological products; as well as the largest agricultural and livestock commodity companies buying from Paraguay such as Cargill, ADM, Bunge; the federation of indigenous organizations FAPI; and the environmental NGOs addressing the natural resource conflicts such as Solidaridad, AlterVida, Guyra Paraguay, and Sobrevivencia. The Platforms will bring all these stakeholders together to focus the on how to best make the desired changes to policy, law and enforcement.

## **Component 2: Financial and market incentives framework to promote biodiversity and sustainable land management within the target multiple-use landscape.**

40. This component will develop new market and financial opportunities to stimulate adoption of sound environmental practices, conservation of biodiversity, and compliance with sustainable land use plans, by agricultural (mostly soy) and livestock producers in the target landscape. This will be achieved through several forms of investment.

41. First, the project will identify and liaise with the buyers of products from the MUL to establish preferential purchasing arrangements with producers adopting best practice and complying with land use planning strictures (developed under Component 1), and with the set-a-side laws and regulations. Best practices will include compliance with land use zoning and limits to expansion of specific land uses into forest areas; transition from conventional to silvo-pastoral systems for livestock production, and finding active ways to connect forest remnants outside protected areas with biological corridors such as in-farm micro-corridors. The adoption of appropriate certification standards such as RTRS, Global Gap, Fair Trade, Organic (US Organic, IFOAM) will be encouraged<sup>23</sup>. The Traders and buyers alliances will become an effective way for adding weight to the government efforts to better plan and regulate land use. This will then entail establishing targets and deadlines for sourcing producers to adopt standards, or through privileged purchasing contracts with those producers who are already making efforts to change practice and improve ecosystem function maintenance. The project will support this transition by improving the skills and knowledge of producers to adopt certified standards and best practice that can guarantee maintenance of ecosystem functions within the target multiple use landscape. The project will also upgrade the capacity of public sector entities to promote adoption of sustainability standards and compliance with land use planning and environmental regulations. This will entail training on key voluntary standards (eg Responsible Soy) to small and medium sized producers and government.

42. The project will take a two fold approach to market demand for different products.

43. One is to work with the market players to connect them to sustainable products exported from Paraguay. This includes the buyers in Europe and the US requiring certified product. It also includes partnering with the initiatives

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<sup>23</sup> The specific certification systems to be promoted, will be established during further project development, in the PPG phase.

also promoting certified product eg Roundtable for responsible soy, Solidaridad and the Dutch Sustainable Trade Initiative. UNDP established in 2009 the Green Commodities Facility which focuses on the development of such corporate relationships and already has strong partnerships with many of the main buyers such as the supermarkets, manufacturers and the intermediate traders. The one main segment of the market still to be tapped is for animal meal which is a large buyer of soy. The Dutch Sustainable Trade Initiative has already started engaging the European industry and will be a strong partner in this regard to help connect Paraguay to this industry segment. Interestingly, once concern of companies in committing to sustainability targets is having the assurance of sufficient supply of certified product. So with this project supporting an increase in supply of certified product this in itself will help increase demand.

44. The second element is not only to encourage sustainable production but to reduce illegal activity currently on-going in production. The two main concerns are the expansion of production into designated forest and the non-compliance with the legal set-a-side requirements. The project will work with the main traders buying the soy in Paraguay which are Cargill and ADM whom combined purchase 40% of the soy and work with them to ensure they tighten their controls to not purchase soy from producers not complying with the laws. This strategic maneuver will be able to have a major impact on reducing the demand for unsustainable products. The UNDP Green Commodities Facility already has global partnership with both Cargill and ADM and once the PIF is approved will advance to bring them into the project by the time of project endorsement.

45. These partnerships with companies and financial institutions will be useful foundations for expansion to other products and bioregions of Paraguay.

46. Another way the project will stimulate adoption of best practices will be by engaging with financial institutions such as the Peasant Development Fund, Financiera El Comercio, providing credit within the target area, in order to stimulate lending for the costs of technical assistance or inputs required by producers to adopt these practices. The project will prepare guidance documents and train local financial institutions about the economic risks of unsustainable practices, mostly in relation to the soy and livestock sectors. It will also help financial institutions link credit services to land use planning compliance and sustainable practices adoption by lenders within the target landscape. The project will outreach to the financial institutions in Paraguay that lend to the productive sectors in the project area. The financial institutions will be both public credit programmes and commercial banks who are lending to both large and small producers.

47. The project during the PPG will meet with key FI officials – directors and credit officers – and identify FIs that have an interest to participate in the project. There will be a four fold approach in engaging the financial institutions by explaining to them: a) the negative social and environmental impacts of conventional agriculture and hence the impacts of the FI lending portfolio and see if the FI has an interest to reduce this indirect footprint; b) the illegal activities being carried out by many producers eg non-compliance with set-a-sides and expansion into designated forests and that the bank can be at risk of association with these illegal activities if they are found to be lending to producers undertaking these illegal activities. And that the project will be increasing monitoring of illegal activity so the chances of being caught will go up so the exposure of the FI will be increasing; c) the project will connect producers producing sustainably (eg RS) with exporters and buyers to improve export agreements and guarantee sales whereas producers who continue to produce unsustainably will be at risk of not having their produce sold. Hence the project will be improving the commerciality of sustainable producers and reducing markets for unsustainable hence making it more preferable for FIs to lend to producers involved with sustainable production and guaranteed export contracts; d) the project will outreach to other donors, international banks and government programmes to try and secure funds for partial risk guarantees to reduce risk to banks to lend to small producers interested in converting their practices to sustainable practices.

48. Once engaged in the project, the FIs will receive more training on the above so that they can develop their lending policies regarding sustainable production practices and their credit officers are able to identify loans to producers engaged in illegal activities.

49. The component will also help producers of sustainable goods from the target landscape find new sources of funding for the cost of adopting environmental standards and compliance with sustainable land use planning. One example is the development of Municipal tax exemptions to stimulate landowners to keep minimum distance separation (MDS) between plantations, through forest conservation, natural regeneration or replanting.



50. With respect to the use of wood for fuel, this issue is to be analyzed in more details during Project design phase, although three aspects are expected to be worked upon: 1) promotion of a cultural change in smallholders for achieving the switch from wood to electric (clean) energy; and for reforestation for household consumption 2) achieving corporate engagement and public sector commitment for switching their activities from wood to clean energy; 3) support hydroelectric corporations involvement to electrify these areas dependant on wood to clean energy.

51. The project will work closely with the UN REDD Programme in Paraguay to ensure producers complying with best practices are considered for the Benefit Sharing distribution mechanism. This is the future decision making tool that the government will have to identify potential beneficiaries of the REDD+ payments. The project will work so that those producers who adopt recognized standards for best practices in commodity production (RTRS, Organic, FLO) and those who support sustainable land management goals, and help establish and maintain biological corridors, may be eligible for REDD+ payments as they could be conserving forest through their compliance with land set asides.

52. A REDD+ pilot project will be proposed as a sustainable source of economic incentives for land owners and as a mechanism to prevent further destruction due to soy cultivation. This project will help reduce deforestation in over 91800 ha of forests. The REDD+ pilot project will employ the following methodology: 1) define the limits of the proposed REDD+ project (spatial, temporal, field measurements of the carbon and other GHG emissions sources); 2) analyze the multi-temporal change in land use and vegetative cover in the region of reference during the past 10 to 15 years and project the regeneration potential of the forest; 3) analyze the underlying agents, drivers, and causes of deforestation; 4) project the amount of future deforestation; 5) determine the future deforestation fronts by analyzing the spatial correlation between historical land use and change in coverage and the biophysical and socioeconomic factors (e.g., proximity to highways, slope, population density, among other variables); 6) project future activity in the baseline (i.e., land use and change in land cover baselines), using the results compiled from steps 2, 4, and 5; 7) calculate the transaction, implementation, and opportunity costs associated with land uses in the project area; 8) interpret remote sensing and perform precise and exact estimations based on fieldwork of the expected baseline of carbon reserves and avoided CO<sub>2</sub> emissions; 9) interpret remote sensing and perform precise and exact estimations based on fieldwork of the changes in current carbon stocks and avoided CO<sub>2</sub> emissions; 10) estimate the expected leakages due to changes in the carbon stocks and avoided CO<sub>2</sub> emissions; 11) calculate ex ante the expected net reductions of GHG emissions of anthropogenic origin; 12) monitor the project; 13) calculate ex post the expected net reductions of GHG emissions of anthropogenic origin; and 14) adjust the baseline for the future period of credits. The REDD+ pilot project will also include a proposal for performance-based payment schemes (i.e., voluntary market) that include precise forest measurements as outlined in the 14-step methodology. The proposal for performance-based payment schemes will be implemented over the life of the project.

### **Component 3: Strengthened Implementation of Land Set Aside system and sustainable production practices.**

53. The project engage with the national and departmental authorities of the Ministry of Justice, and Supreme Court so that judges, court technicians, State prosecutors and ministry of justice staff receive clear instructions to allocate part or all the funds collected for fines from infringement of set-aside regulation to SEAM so that it may fund actions for enforcement of this legislation<sup>24</sup>. For this purpose, the project will facilitate a task force with the platform established through component 1, with participation of the above mentioned authorities, so these may analyze the financial flow of fines collected. The project will provide technical assistance to SEAM to determine the most cost-effective manner to use the new funds coming from fines collected in order to improve supervision of compliance of land set-a-sides. This will result in increased resources and local level interventions for natural habitat restoration and forest conservation within the target landscape. The project will work together with MAG, SEAM and INFONA to provide technical assistance to land tenants in Amambay, Canindeyú and Uper Paraná to ensure the existing and newly established land set-a-sides support structural and functional connectivity across the target landscape.

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<sup>24</sup> The funds to be managed in Component 3 are not for PES. They are funds raised from fines for non-compliance with set-a-sides that are to be channeled to SEAM for improved enforcement as the set-a-sides are legally required and are not voluntary.



54. Through this component, the project advance Habitat banking schemes that could provide biological connectivity between land set-a-sides.<sup>25</sup> The exploration of habitat banking scenarios by SEAM and municipalities, will lead to improved fundraising strategies to increase conservation within land set-a-sides area, thereby improving enforcement.

55. The successes, models and lessons from this component will be directly applicable by SEAM for other biomes and bioregions in Paraguay.

### **B.3. DESCRIBE THE SOCIOECONOMIC BENEFITS TO BE DELIVERED BY THE PROJECT:**

56. The project will stimulate adoption of sustainable production practices within the UPaf ecoregion of Paraguay. This will result in increased income and new market opportunities for producers adopting standards recognized and agreed with international and domestic buyers who will be engaged through project activities. In particular, the project will improve the access to domestic and international markets and financial services for the current 12,000 producers of certified organic products and the 38,490 farmers that produce through agro-ecological systems within the target landscape. With regards to the agro-industrial sector the project will support project margins and guarantee sales for producers adopting improved standards, but this may not have a direct effect on rural employment as mechanized soy cultivation does not require much labor (a single worker can work over 200 acres of land). Nevertheless the significant impact of the project will come through the improved environmental performance of commodity supply chains, which is expected to improve water quality in rural areas where 2.5 million people live. The project will also reduce the direct exposure risks to agrochemicals for these rural communities. The project will ensure that gender considerations become part and parcel of the updated regulations and local land use plans. In doing this COP guidance will be followed specifically two are worth mentioning: (i) COP Decision 1X/24 on the approval and endorsement of the CBD Gender plan of Action; and (ii) COP Decision X/19, which amongst other matters invited Parties to consider gender as a core cross-cutting issue in the implementation of biodiversity-related activities. During the project inception the mandatory UNDP gender marker will be applied. This requires that each project in UNDP's ATLAS system be rated for gender relevance. This will for example include a brief analysis of how the project plans to achieve its environmental objective by addressing the differences in the roles and needs of women and men.

57. The engagement of financial institutions will serve to establish criteria of credit services designed to incentivize adoption of sustainable land management practices within the target MUL. The lending criteria will stimulate lenders to hire women within production activities. The project will develop training manuals and engage financial institutions to help establish women-run tree nursery services to take advantage of the business opportunities generated from the increased adoption of silvopastoral systems within the target MUL expected with this project. The project will seek gender representation in the platform meetings it will facilitate as part of the land use management planning that will be supported through this project.

### **B.4 INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS THAT MIGHT PREVENT THE PROJECT OBJECTIVES FROM BEING ACHIEVED, AND IF POSSIBLE, PROPOSE MEASURES THAT ADDRESS THESE RISKS:**

<b>RISK</b>	<b>RATING</b>	<b>RISK MITIGATION RESPONSE</b>
Difficulties to coordinate action between MAG and SEAM due to perceived conflicting competences of both institutions	M	During the PPG stage, a scenario of co-direction by MAG & SEAM will be explored in order to find the best arrangement for project execution. The aim will be a state level arrangement that ensures the institutional mandates for production and environment are addressed in the implementation and execution of the project. The platform will be managed by both MAG and SEAM. The platform approach will centre on dialogue and conflict resolution and foster an inclusive environment and adaptive management to stimulate stakeholder appropriation of the process. The roles and responsibilities between SEAM and MAG will be very clearly defined during the PPG phase, in order to prevent any complication during the implementation of the project.
Commodity trading companies not willing to	L	Corporate engagement specialists will liaise with the team developing economic valuation so that they may effectively communicate the cost and risks involved in

<sup>25</sup> The prefeasibility for Habitat Banking have been investigated by UNDP (see [www.undp.org/biodiversity](http://www.undp.org/biodiversity): Habitat Banking in Latin America and Caribbean: A Feasibility Assessment). A detailed feasibility assessment will be undertaken during the PPG stage.

take part in the market based activities of the project		conventional unsustainable practice to buyers; therefore showing the convenience of joining the platform. The main commodity buying companies from the UPaf multiple use landscape will be further engaged during the PPG process; however, the initial engagement has shown high receptivity to participation.
Financial Institutions unwilling to revise lending policies	L	The project will engage financial institutions about Equator Principles and conduct studies showing potential liability that financial institutions face due to agrochemical runoff and health hazards that may be attributed to activities financed through their loans. Economic valuation and environmental risk assessments will help make business case for financial institutions to review lending guidelines.
Weak capacity of implementation of government structures might result in significant delays in implementation and low delivery.	M-H	Diversify the actors in charge of executing work packages of the project to decrease the workload for each institution. The project will take into account the result of the HACT assessment and recommendations of recent final evaluations of projects implemented with SEAM, MAG and other institutions involved, to define the most appropriate modalities to manage the project and the funds. The project will set up a project management unit with a sufficient level of autonomy, to be able to work even when the project director or most important focal points are out of the country.
The international prices of commodities (soy, cattle sugar cane) increases, without internalizing negative impacts on environment, resulting in increasing pressure to expend production areas.	M-H	The project will internationalize the negative impact caused to the environment in the cost structure for each commodity in Paraguay to help convince buyers of privileged purchasing of sustainably produced commodities. The project will aim to add value to the commodity produced under a recognized BD certification scheme, using best available practices. The project will explore with relevant institutions the establishment of compulsory norms, standards, certification for producers, and for buyers to address this threat.

#### **B.5. IDENTIFY KEY STAKEHOLDERS INVOLVED IN THE PROJECT AS APPLICABLE:**

<b>Stakeholder</b>	<b>Relevant roles and responsibilities during project implementation</b>
SEAM: Secretariat for the Environment (Ministry)	National mandate over natural resource conservation and sustainable managed. Will serve as Co-director of the project, convening of institutions and NGOS Appoint Project Co-Director Provide office space for project teams, a technical liaison officer the project team. Provide office space and equipment in three departmental offices of SEAM: Amambay, Canindeyu, Alto Paraná
MAG: Ministry of Agriculture	National mandate over agricultural production. Will serve as Co-director of the project, convening of institutions and Companies Appoint Project Co-director Provide office space for project teams, a technical liaison officer the project team. Provide office space and equipment in three departmental offices of MAG-
SENAVE stands for National Service for Animal, Vegetable and Seed Quality.	Institution responsible for developing guidelines for quality control of agricultural products; it will ensure institutionalization of the updated manuals and toolkits developed by the project. Technical staff to update manuals and toolkits developed by the project. Appoint focal point to participate in all project platform meetings and workshops and who has the responsibility and time allocation to ensure internal follow up and compliance with agreements.
SENACSA: National Livestock Service	Responsible for developing guidelines for quality control of livestock products. Technical staff to update manuals and toolkits developed by the project. Appoint focal point to participate in all project platform meetings and workshops and who has the responsibility and time allocation to ensure internal follow up and compliance with agreements.
Mesa Intersectorial de producción Orgánica y Agroecológica	Will implement its work plan with support of the Project. Will lead task force on organic production for sustainable land management within the proposed platform dialogues. Appoint focal point to participate in all project platform meetings and workshops and who has the responsibility and time allocation to ensure internal follow up and compliance with

	agreements.
UGP: Union of Productive Chambers of Paraguay	Main chamber of all agricultural and livestock industries, will play a central role in convening companies and producers and facilitating dialogue. Appoint focal point to participate in all project platform meetings and workshops and who has the responsibility and time allocation to ensure internal follow up and compliance with agreements.
CAPECO: Paraguayan Chamber of Oils (Soy)	Ensuring full engagement of soy sector in the project. Provide Technical staff to update manuals and toolkits developed by the project. Appoint focal point to participate in all project platform meetings and workshops and who has the responsibility and time allocation to ensure internal follow up and compliance with agreements
CAP: Chamber of Paraguayan Agorindustry	Ensuring full engagement of other agricultural industries in the project. Provide Technical staff to update manuals and toolkits developed by the project. Appoint focal point to participate in all project platform meetings and workshops and who has the responsibility and time allocation to ensure internal follow up and compliance with agreements
Cámara Paraguaya de la Carne	Ensuring full engagement of the livestock and dairy sector in the project
Cargill	Send market signals to stimulate adoption of best practice among producers. Modify purchasing policies within target MUL to stimulate adoption of best practice among producers
Bunge	Send market signals to stimulate adoption of best practice among producers. Modify purchasing policies within target MUL to stimulate adoption of best practice among producers
ADM	Send market signals to stimulate adoption of best practice among producers. Modify purchasing policies within target MUL to stimulate adoption of best practice among producers
Sobrevivencia	Social control and ensuring adequate measures to control agrochemical runoff into water sources and communities.
IICA Interamerican Institute of Agricultural Cooperation	Facilitate engagement with roundtable to promote organic and agro-ecological production.
Paraguay Rural	Provide grants to small scale producers of departments with high incidence of poverty. Will use criteria for sustainable land use production practices developed by the project.

## B.6. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:

58. The proposed project will complement the investment by the GEF World Bank Project *Improving Biodiversity Conservation and Sustainable Land Management in the Upper Parana Atlantic Forest of Paraguay*. The World Bank initiative aims to establish a Conservation Corridor between San Rafael and Mbaracayú PAs entailing the development of forest management plans, the consolidation of 10 public and private protected areas (covering 250,000 hectares), and establishment of 10 new private protected areas (150,000 ha) within 25 watersheds in 6 departments of Eastern Paraguay. The World Bank project will provide technical and financial assistance to producers for the implementation of sustainable forest management and support the management of public protected areas through the participatory development of management plans. It will also address institutional capacity of MAG and the Ministry of Education and Culture (MEC), so that the former may improve its ability to integrate management of native forests and biodiversity into agricultural extension programs; and the latter may introduce biodiversity conservation criteria into the school curricula. The UNDP initiative will add value by addressing issues untouched by the World Bank project but absolutely necessary to achieve connectivity between forest remnants and protected areas of the UP Af. While the World Bank addresses forest management inside of protected areas, UNDP proposes to reduce threats to the forest patches left outside of protected area system. This will be achieved by improving the regulatory framework and enforcement of the Forestry and Zero Deforestation Laws, particularly by strengthening the enforcement capabilities by SEAM of the most important regulation in support of biological connectivity: the land

set-a-side obligation. The proposed action will also add value to the World Bank and other existing initiatives protecting the UPAf by creating financial incentives for agricultural and livestock producers to adopt best practices and join biological connectivity efforts, through engaging companies to shift their purchasing policies to favor producers adopting good practice, and by helping the financial sector set up new credit lines for biodiversity-friendly economic activity in the target landscape. The corporate engagement component of the UNDP initiative will also ensure the GIS mapping tools for land use change inform incidents of encroachment into natural habitat to markets as a way to generate economic pressure to avoid threats to the UPAf. UNDP has approached the World Bank team responsible for the mentioned GEF project in Paraguay, and both institutions are in agreement over the need to implement both projects in a coordinated manner as both initiatives are complementary and needed to address forest loss.

59. Previous initiatives financed by GEF that provide key lessons for the proposed project. The most significant of these is the *Paraguayan Wildlands Protection Initiative*. This project aimed to operationalise conservation management within four Protected Area sites, each located in a different eco-region, including the Interior Atlantic Forest. The project strengthened a host of traditional Park management functions, including operational planning, enforcement, monitoring, and assessment functions. It also provided training in conservation methods to key decision-makers and local communities. In particular, this initiative provides lessons regarding the design of conservation activities in buffer areas to protect critical habitats, which have informed the design of the proposed initiative.

60. This GEF project will be implemented by SEAM and UNDP. Both institutions are responsible for the implementation of the UN-REDD program, as well as other projects in Paraguay related to BD, LD or CC. Therefore, the coordination and articulation between this GEF project and the UNREDD and other related projects will be natural. UNDP has also been approached by the government of Paraguay and the FCPF to act as the Delivery Partner of the FCPF. Therefore, a new RPP will be prepared in 2012, simultaneously with the PPG phase of the present GEF project, and will take into account the potential gaps of the existing UNREDD national program, the need to coordinate with all the other REDD related efforts in the country, and the possible synergies between initiatives.

## **C. DESCRIBE THE GEF AGENCY'S COMPARATIVE ADVANTAGE TO IMPLEMENT THIS PROJECT:**

### **C.1 INDICATE THE CO-FINANCING AMOUNT THE GEF AGENCY IS BRINGING TO THE PROJECT:**

61. UNDP is leveraging a total of \$22.1 million of co-financing including \$4.7 million from its own programmes.

### **C.2 HOW DOES THE PROJECT FIT INTO THE GEF AGENCY'S PROGRAM (REFLECTED IN DOCUMENTS SUCH AS UNDAF, CAS, ETC.) AND STAFF CAPACITY IN THE COUNTRY TO FOLLOW UP PROJECT IMPLEMENTATION:**

62. UNDP has a long standing environmental programme with the Government of Paraguay, and has supported national policy development with regards to multi-lateral environmental agreements. UNDP has helped the national Government in strengthening the SEAM as well as the national system of protected areas through the GEF project "Paraguay silvestre". UNDP currently is implementing several projects on natural resource management, such as the regional Gran Chaco project financed by the GEF, and the national UNREDD programme. The project fits into the Latin American Programme of UNDP's Green Commodities Facility (GCF). The GCF is UNDP's unit responsible for connecting developing country governments, agricultural and marine commodity producers, and international companies purchasing those commodities, in order scale up adoption of sustainable practices in commodity production. The facility will provides support and technical oversight to the project, specifically regarding actions to engage companies so that these modify their purchasing policies within the target landscapes in order to incentivize changes by producers. The project coincides with the current United Nations Development Assistance Framework (UNDAF) for Paraguay<sup>26</sup>. In particular, Outcome-Governance 1.2, that aims to strengthen national capacity for the coordination, formulation, articulation and implementation of policies and strategies that will promote development and reduce poverty, hunger and inequality, will be addressed through the component strengthening regulatory frameworks for agricultural and livestock commodity sectors. Outcome-Environmental Sustainability 3.2 aims to formulate and implement policies and programmes for the conservation and sustainable use of biological and cultural

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<sup>26</sup> The updated UNDAF was completed during the preparation of the PIF, but also coincides with the Project objectives.

resources, and Outcome 2.1, to formulate and implement plans, strategies, regulatory frameworks y and sectoral programmes for the management of water resources and basic environmental sanitation. Both of these will be addressed through the scaling up of sound environmental management practices within production landscapes. The project aligns well with UNDP efforts to contribute towards the implementation of national policy and legislative frameworks related to environment, putting in place effective collaborative governance systems for the conservation of biodiversity and natural resources. The UNDP Paraguay CO has sufficient capacity to handle this project with a dedicated team (one Programme Officer with more than 10 years experience, plus two gender , governance and poverty programme officers, and technical oversight provided by at least two RTAs from UNDP's Regional Centre) dealing with natural resources management. The project will also be supported by UNDP's Lead Natural Resource Economist, and a Regional Economic Advisor on Ecosystems and Green Commodities. The project will also benefit from technical expertise of staff from other work clusters such as climate change, governance and poverty reduction.


63. The project day to day management will take place from a central office in Asunción that will be located at the SEAM, where the project coordinator and administrative assistant will be based. The team in the field will have headquarters in the SEAM regional offices, as well as MAG departmental offices. In Amambay, Canindeyú and Upper Paraná. During PPG stage UNDP will attempt to establish partnerships with specific municipalities within the target landscape in order to identify municipal focal points designated for the project, to act as liaison to the project field team.

### **PART III: ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

#### **A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):**

NAME	POSITION	MINISTRY	DATE (MM/DD/YYYY)
Gilda Torres	GEF Operational Focal Point	Secretariat of the Environment (SEAM)	04/09/2012
Oscar Rivas	GEF Political Focal Point		

## B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for project identification and preparation.					
Agency Coordinator, Agency name	Signature	Date (MM/DD/Y YYY)	Project Contact Person	Telephone	Email Address
Yannick Glemarec, Executive Coordinator UNDP/GEF		04/13/2012	Andrew Bovarnick STA, UNDP	+507 6678 6038	andrew.bovarnick @undp.org

### **Annex 1: Description of Land Uses Amambay-Canindeyú-Upper Parana Multiple Use Landscape**

#### *Soy Plantations*

1. Paraguay is now the fourth largest exporter of soybeans in the world. Soybeans alone provide almost 70 percent of annual agricultural production (In 2011 soy generated 3,5 Billion US\$ in export revenue). Cargill, the US grains conglomerate owns the country's largest soybean processing plant and buys 20% of the country's production and is the leading exporter.<sup>27</sup> The explosive growth of soybeans pruction from the late 1980s until now has concentrated mostly in the departments of Upper Parana, Itapua and Canindeyu, as eighty percent of national soybean production and planted areas now occurs in these three departments; however Amambay has also seen a significant expansion of soy plantations. Currently 1.3million Ha of land within the target multiple use landscape is covered by soy plantations. This development may be described as a westward extension of Brazilian agriculture from the states of Rio Grande do Sul, Parana, and Santa Catarina. Not only in terms of land but also in terms of population: more than 500,000 Brazilians live in Paraguay, mostly concentrated in these departments<sup>28</sup>. All of the departments of the selected multiple use landscape are susceptible to further expansion as climate, soils, topographic and biogeographic conditions are suitable for this crop. The drier conditions of the Chaco ecoregion make expansion less likely in that part of the country, making the projected growth of soy a continuous long –term threat to the UPaF ecosystem.

#### *Cultivated pasture land for beef production*

2. The second most important land use within the Amambay-Canindeyú-Upper Paraná Multiple Use Landscape (in terms of growth, but first in terms of area covered) is cultivated pasture land for beef production. Currently cultivated pasture lands cover approximately 1.3 million ha. Most of the grazing lands in the area are marginal for agriculture due to natural constraints such as poor drainage, shallow soils, and rocky soil. Specifically there are two types of native pastures in this region: i) Lowland grazing (Praderas Bajas): These are grazing lands on hydromorphic, periodically waterlogged and even swampy soils, mostly on the banks of rivers (particularly the Rio Paraguay). There are also extended stretches of plains with hydromorphic planosols with impermeable clayey subsoil towards the central UPaF ecoregion along riverain zones. ii) Hillside grazing (Praderas Altas): These are grazing lands in the rolling hills, predominantly at sites sub-optimal for cropping in the Upper Paraná Valley. Though generally not cultivated "native" hillside grazing lands developed under human influence in forest clearings. Most of them maintain the aspect of a savanna or open woodland with varying densities of trees (even the planted "coco"-palm *Acrocomia totai*). In the Upper Paraná Valley, fertility characteristics of the basaltic soils are better, however, grazing lands frequently present slopes marginal for agriculture. This economic activity shows significant signs of growth, beef supply chains currently contribute 12.2 per cent of the country's Gross National Product (GNP), generate approximately 500,000 direct jobs, and represent about 20 per cent of the country's exports.<sup>29</sup>

#### *Sugar Cane Plantations*

3. Nationally, an estimated 32,500 growers have 90,000 hectares of land covered by sugar cane. This crop is particularly important within the Amambay-Canindeyú-Upper Paraná Multiple Use Landscape. Although it currently only covers less than 7,000 Ha of land use in that sub-region, the fact that production has grown constantly by 20% a year in the past 5 years, means it will remain significant factor of land use management in the coming years. Annual production is 4.5 million tons, 30% of which is used for producing ethanol and 70% for sugar production. Sugar is of significant importance because Paraguay is now the largest organic sugar exporter in the world. The main markets for Paraguay's organic sugar are the United States, Germany, Israel, Italy, New Zealand, Spain, Australia, Malaysia and Singapore.

#### *Wheat Fields*

<sup>27</sup> Base Investigaciones Sociales, 2010, Los impactos socioambientales de la soja en Paraguay – 2010

<sup>28</sup> [http://www.meatradenewsdaily.co.uk/news/180611/paraguay\\_the\\_beef\\_industry.aspx](http://www.meatradenewsdaily.co.uk/news/180611/paraguay_the_beef_industry.aspx)

<sup>29</sup> <http://en.mercopress.com/2010/02/17/paraguay-beef-exports-in-january-total-54.8-million-us-dollars>

4. This crop, which covers a significant portion of land within the target multiple use landscape, decreased by 10% in terms of national land coverage in 2011. Production decrease by 29% less than in 2010, reaching average yields of 2,400 kilos per hectare. If this trend continues it is possible to foresee replacement of wheat fields for other land uses.

DEPT	Total Area (2004) <sup>30</sup>	Forest (ha)	Forest Cover: Percentage of total department Area	Forest Protected Area(ha) (2002) <sup>31</sup>	Forest Protected Area Percentage under Protection (%) 2002	Total Land Area (ha)
<b>UPPER PARANA</b>	326,231		21%	35,954	11%	1,489,500
<b>AMAMBAY</b>	398,743		30%	13,811	3%	1,293,300
<b>CANINDEYU</b>	542,474		36%	63,355	11%	1,466,700
<b>TOTAL (ha)</b>	1,267,448		29%	113,120	8%	4,249,500

#### Forestry Sector Land Use

5. Utilized as firewood, timber exports, and extracts, the region's forest areas have constituted a key economic resource. The forestry sector in Paraguay contributes with 2.8% of national GDP (Central Bank Paraguay 2002). INFONA estimates 40,925 people employed in the forestry sector at a national level. Logging includes five basic categories: rolls, poles, railroad ties, wood and palm all these areas, almost 50% is fuelwood. In 2002, up to 53% of the population that consumed wood collects it from the forest, while 47% through purchase.<sup>32</sup> The majority (90%) of plantations use exotic forestry species: *Eucaliptus grandis*, *Eucalyptus camaldulensis*, *Pinus taeda*, *Pinus ellioti* and *Melia Azedarach*. Only 10% of plantations corresponds to native species, predominantly: *Tabebuia sp. (lapacho)*, *Cedrela sp. (Cedro)*, *Cordia trichotoma (Peterevy)* and *Pterogine nitens (Yvyra ro)*<sup>33</sup>. At a national level, the surface area covered by sustainable forest management in line with Forest Law N°422/73 and INFONA's regulations represent only 1% of the total forest area. Only 2,000 hectares within this area are currently certified by Forest Stewardship Council standards<sup>34</sup>. Fuelwood remained the most important domestic source of energy until the early 2000s. Paraguay's per capita consumption of fuelwood was the highest in all of Latin America and the Caribbean and nearly three times the level of other South American countries. Charcoal is the energy supply for more than 51% of households in the rural sector and 87% of industries and an unquantified, but important, amount that goes into charcoal, traded legally or illegally, notably exported illegally to Brazil. Wood products are exported to over thirty countries buyers. In 2007, the sector exported products with an estimated worth of more than \$ 100 million.

6. Within the target multiple use landscape there are some plantations particularly in the departments of Upper Parana, and Canindeyu. The National Forestry Institute established the Upper Paraná Forestry Centre, with 117 ha of production near Ciudad del Este<sup>35</sup>, in order to consolidate and formalize forestry practices in the region where a third of timber production is believed to be exported illegally to Brazil.

#### Protected Areas

Protected Areas	Surface Area (ha)
Amambay	
Parque Nacional Cerro Corá	5538
Reserva Natural Arroyo Blanco	5714
Parque Nacional Bella Vista	7311
Reserva Biosfera De Cerrado del Rio Apa	174224
Canindenypu	
Refugio Biologico Binacional Mbaracayú	226995
Reserva Natural Del Bosque Mbaracayú	64405
Reserva Natural Morombí*	25000
Upper Paraná	
Reserva Biologica Limo'y	13600
Reserva Biologica Itabó	17879
Reserva Biologica Tati Yupi	2037
Monumento Moises Bertoni	200
Reserva Nacional Kuri'y	2000

<sup>30</sup> [http://pdf.usaid.gov/pdf\\_docs/PNADB964.pdf](http://pdf.usaid.gov/pdf_docs/PNADB964.pdf)

<sup>31</sup> [http://pdf.usaid.gov/pdf\\_docs/PNADB964.pdf](http://pdf.usaid.gov/pdf_docs/PNADB964.pdf)

<sup>32</sup> NBSAP 2004-2009 <http://www.cbd.int/countries/?country=py>

<sup>33</sup> <ftp://ftp.fao.org/docrep/fao/009/j3292s/j3292s00.pdf>

<sup>34</sup> Paraguay UN-REDD Programme 2010

<sup>35</sup> <http://www.infona.gov.py/documentos/CFAP.pdf>

Reserva Natural Ypetí*	13592
Parque Nacional Nacunday	2000
Total Protected Areas in Multiple Use Landscape	560495

7. In the target MUL there are 560,395 ha of protected areas conserving some remnants of Atlantic Forest in Paraguay, however most of the forest within this region (92%) is located outside the PA system. The region represents 9% of the 6,167,022 has of protected areas in the country. A network of fourteen national parks, biological reserves, Ramsar sites and biosphere reserves are located within this multiple use landscape. One of the most significant is Cerro Cora National Park, is the biggest protected area in Paraguav. Another site is the Mbaracaya Bi-national National Reserve, located within the humid subtropical forest of eastern Paraguav. It is the largest continuous remnant of the Atlantic forest in Paraguav. Different forest types cover almost 88% of the Reserve and the remainder consists of wetlands, pasture lands, lagoons, rivers and Cerrado vegetation.