PROJECT DOCUMENT

SECTION 1: PROJECT IDENTIFICATION

1.1 Project title: GEF Private areas - Realising the biodiversity conservation potential of private lands in Brazil

1.2 Project number: 9413

PMS:

1.3 Project type:

1.4 Trust Fund: GEF

1.5 Strategic objectives:

GEF strategic long-term objective: BD-4; LD-2; LD-3; SFM-1, SFM-2

Strategic programme for GEF IV:

1.6 UN Environment priority:

1.7 Geographical scope: National

1.8 Mode of execution: External

1.9 Project executing organization: Ministry of the Environment MMA, International Institute for Sustainability IIS

1.10 Duration of project: 60 months
Commencing: January 2018
Technical completion: December 2022

Validity of legal instrument:

1.11 Cost of project	**US$**	**%**
Cost to the GEF Trust Fund	**8,953,425**	**21%**
Co-financing	**33,892,917**	**79%**
MMA - SFB	16,900,000	39%
MMA - SBio	1,836,758	4%
SECIMA/GO	13,901,439	32%
IIS	1,254,720	3%
Total	**42,846,342**	**100%**

1.12 Project summary

In 2010, the Convention on Biological Diversity established 20 Aichi Biodiversity Targets, whose achievement depend on actions that go beyond the establishment of protected areas governed by government, multi-party bodies, or indigenous people. Brazil, one of the most biodiverse countries worldwide, has two pillars for biodiversity conservation: one of the largest systems of protected areas in the world (governed by federal government or by multi-party bodies) and the protected indigenous reserves. However, Brazil does not have a comprehensive set of instruments that support effective programs of biodiversity conservation in private areas, where approximately 53% of its remnant vegetation cover are located. The country thus has the potential of leading initiatives of conservation and sustainable use of biodiversity in private areas that can act as other effective area-based conservation measures, potentially assisting the achievement of some Aichi Biodiversity Targets.

Currently, the main threats to biodiversity in private areas with native vegetation in Brazil are unsustainable farming, unsustainable native vegetation management, illegal hunting, and spread of alien invasive species. Although several initiatives have been developed in order to overcome these threats, there are several factors which contribute to such threats that still need to be tackled, so conservation in private areas can be effective. The main factors are poor knowledge about conservation value of private areas; low institutional capacity and inadequate governance; and harmful subsidies.

Given this context, the long-term **goal** of this project is to enhance biodiversity conservation and ecosystem services provision, increase connectivity and native vegetation cover, reduce environmental degradation in private areas, improve endangered species conservation, and mitigate climate change. The short and medium-term **objective** of this project is to scale up sustainable landscape management and contribute to biodiversity conservation and ecosystem services provision in private areas in Brazil.

The project encompasses three interrelated components. First, implementing pilot areas located in the biogeographical regions of Atlantic Forest and Cerrado, where the activities that will be developed are related to reducing degree of fragmentation in production landscapes, increasing habitat availability for endangered species, and developing incentives schemes for conservation. Second, establishing a sectorial agreement with Forestry companies to enhance biodiversity conservation and recovery of native vegetation. Third, improving public capabilities to plan and implement conservation policies in private areas by mainstreaming conservation value in public policies and tools.

The project duration is 60 months, and it will be implemented by United Nations Environment Programme and executed locally by the Brazilian Ministry of Environment and the International Institute for Sustainability. The project is aligned with the Results Framework for GEF Trust Fund (6th Replenishment) on Biodiversity - BD (Objective 4, Program 9, Outcomes 9.1 and 9.2); Land Degradation - LD (Objective 2, Program 3, Outcomes 2.1 and 2.2; Objective 3, Program 4, Outcomes 3.1 and 3.2); and Sustainable Forest Management - SFM (Objective 1, Program 2, Outcomes 1 and 2; Objective 2, Program 5, Outcome 3;).

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ACRONYMS AND ABBREVIATIONS

ABC Plan	Sector Plan for Mitigation and Adaptation to Climate Change for the Consolidation of a Low Carbon Economy in Agriculture
ABIO	Organic Farmers Association of Rio de Janeiro State
APA	Environmental Protection Area89
APRPPN	Owners Association of Private Reserve of the Natural Heritage of Goiás and Distrito Federal
BMUB	Germany Federal Ministry of the Environment, Nature Conservation, Building and Nuclear Safety
CAB	Cultivating Good Water
CAR	Rural Environmental Register
CAT	Tourist Assistance Centre
CBD	Convention on Biological Diversity
CEDRO	Cooperative of Work, Consulting, Projects and Services in Sustainability
CEPA	Research State Centre in Agroforestry
CONABIO	National Biodiversity Commission
Conaveg	National Commission for Recovery of Native Vegetation
CRA	Environmental Reserve Certificate
CSRio	Rio Conservation and Sustainability Science Centre

CVPA	Conservation Value on Private Areas
DU	Demonstration Units
Emater	Rio Enterprise Technical Assistance and Rural State of Rio de Janeiro Extension
ENREDD+	National REDD+ Strategy
EOU	Evaluation and Oversight Unit
NBSAP	National Biodiversity Strategy and Action Plan
FBDS	The Brazilian Foundation for Sustainable Development
FIP	Forest Investment Program
FUNATURA	Pronature Foundation
GIZ	Deutsche Gesellschaftfür Internationale Zusammenarbeit
Ibá	Brazilian Tree Industry
ICMBio	Chico Mendes Institute for Biodiversity Conservation
IIS	International Institute for Sustainability
IKI	International Climate Initiative
iLPF	Integration of Crops-Livestock-Forestry
iNDC	intended Nationally Determined Contribution
ICMS-E	Ecological value added tax
INEA	Rio de Janeiro State Environmental Institute
IUCN	International Union for Conservation of Nature
KFW	German development bank
LPVN	Law on Protection of Native Vegetation
LR	Legal Reserve
MCTIC	Brazilian Ministry of Science, Technology, Innovation and Communications
MMA	Ministry of the Environment
NBSAP	National Biodiversity Strategy and Action Plan
NDC	Nationally Determined Contribution
OECMs	Other Effective Area-Based Conservation Measures
PAs	Private areas
PANs	National Action Plans for the Conservation of Endangered Species
PES	Payment for Environmental Services
PESAGRO	Agricultural Research Corporation of Rio de Janeiro State
PIR	Project Implementation Review
Planaveg	National Plan for Native Vegetation Recovery
PMFS	Sustainable Forest Management plan
PNMC	National Policy on Climate Change
PPAs	Permanent Preservation Areas (PPAs)
PRA	Environmental Regularization Program
Pronaf	Family Agriculture Strengthening Program
Proveg	National Policy for Native Vegetation Recovery

PSS	Sustainable Supply Plan
PUC	Pontifical Catholic University of Rio de Janeiro
REDD+	Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
Rio Rural Programme	Secretary of Agriculture and Livestock of Rio de Janeiro State
RPPNs	Private Reserves of Natural Heritage
SAFs	Agroforestry Systems
Secima / MARH	Secretary for the Environment, Water Resources, Infrastructure, Cities and Metropolitan Affairs
SFB	Brazilian Forest Service
SFM	Sustainable Forest Management
SiBBr	Information System on Brazilian Biodiversity
SiCAR	Rural Environmental Register System
Sisnama	National Environment System
SLM	Sustainable Landscape Management
SNUC	National System of Conservation Units
TEEB Regional	Local "Biodiversity Conservation through integration of ecosystem services in public programmes and business activities"
TFCA	Tropical Forest Conservation Act
ToR	Term of Reference
UnB Cerrado	University of Brasília - Center for Studies of the Cerrado of Chapada dos Veadeiros
UN Environment	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value Added Tax

TERMS AND DEFINITIONS

Terms	Definition
Biodiversity conservation effectiveness	Considers actions that allow populations and species to be viable and to persist in the long term.
Brazilian Forestry sector	Private companies that provide products obtained from planted trees, with special mention to wood panels and laminate flooring, pulp, paper, energy forests and biomass.
Buffer zone	All protected areas (except APAs and RPPNs) need this delimitation. Within it, human activities are subjected to norms and specific restrictions with the purpose of minimizing the negative impacts on the biodiversity present in protected areas.
Clear cuts	Clear cuts of plant species from the sub-woodland for agricultural production or to build summerhouses.
Climate change	Climate variations in global or regional scale on Earth throughout time.
Conservation value	Importance of exuberance of living organisms (individual and species), communities, ecosystems, their ecological complexities and provision of ecosystem services
Conventional systems	Farming with traditional soil preparation techniques and phytosanitary control using specific machinery and pesticides.
Ecological corridors	The total of remaining native vegetation spread in the landscape, which helps the biological flow. It does not necessarily structurally connect remaining areas of native vegetation. Occurs in regional scale.
Economic incentives	A series of economic policies (direct and indirect) that facilitate the input of capital to a certain activity.
Ecosystem services	Direct and indirect benefits obtained from ecosystems.
Edge effect	Biotic and abiotic changes due to changes in the original composition of native vegetation surrounding native remnants.

Forest corridors	Vegetation stripes that structurally connect two areas of remaining native vegetation, which were separated by areas that were not considered native vegetation. It occurs in local scale.
Habitat availability	It is a metric to measure the amount of habitat available for a species. This metric accounts for the amount and configuration of the native vegetation cover in a landscape as well as the species dispersal.
Integrated landscape management	A form of landscape management that considers different elements in the landscape (e.g. different landowners) for a particular purpose.
Integrated property management	A form of property management that aligns conservation and sustainable use of renewable natural resources.
Landscape connectivity	Landscape ability to facilitate or hamper biological flow.
Native vegetation restoration chain	Considers every stage, economic agents, input and services linked to recovery of native vegetation.
Private areas	Private areas considered by the law are all the rural privately owned lands, as well as settlements, and others that are not in the public land registry.
Production chain	Considers every stage and economic agents involved in the production of a specific product or service.
Productive area	Area exploited by economic activities that aim for productivity and income generation.
Protected Areas	Territorial spaces, including their environmental resources, with relevant natural characteristics, aiming at securing representativeness of significant and ecologically viable samples of diverse populations, habitats and ecosystems in the national territory and jurisdictional waters, preserving the existing biological heritage.
Savannah	Biogeographical region that occurs in flat regions whose prevailing vegetation are grass plants with scattered trees and isolated bushes or in small groups. They occur in regions of seasonal tropical climate with a well-marked dry season.
Selective logging	Partial exploitation of focal portions of native vegetation.

Stepping stones	Vegetation blocks that connect (not structurally) two or more remnants of native vegetation, which were separated by areas not considered as native vegetation. Can occur in local or regional scale.
Sustainability	Human actions and activities supported by a system of social, environmental and economically fair conditions.
Sustainable management	Management that allows rational exploitation with techniques of minimum environmental impact on natural resources.
Sustainable Use	Exploitation of environment as to ensure the perennially of renewable environmental resources and ecological processes, keeping the biodiversity and other ecological attributes in a socially fair and economically viable way.

SECTION 2: BACKGROUND AND SITUATION ANALYSIS (BASELINE COURSE OF ACTION)

2.1. Background and context

International and national context

1. **In 2010, the Convention on Biological Diversity (CBD) established 20 Aichi Biodiversity Targets (CBD, 2010).** Some of these Targets, due by 2020, are: i) people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably (Target 1); ii) the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced (Target 5); iii) areas under agriculture and forestry are managed sustainably, ensuring conservation of biodiversity (Target 7); iv) at least 17% of terrestrial and inland water, and 10% of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures (OECMs), and integrated into the wider landscapes and seascapes (Target 11); v) ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable (Target 14); and vi) ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification (Target 15). In Brazil, many of these Targets depend on actions that go beyond the protected areas overseen by government, multi-party bodies or indigenous people. Therefore, to achieve these Targets, it is crucial to acknowledge the importance, at the landscape level, of biodiversity in private areas and encourage their conservation, and sustainable use. These areas can act as other effective area-based conservation measures (OECMs).

2. **The term "other effective area-based conservation measures" has been added in Target 11 in recognition of the fact that some areas not currently recognized and reported as protected areas also contribute to the effective and sustained in-situ conservation of biodiversity.** OECMs are a geographically defined space, not recognized as a protected area, which is governed and managed over the long-term in ways that deliver the effective and enduring in-situ biodiversity conservation, with associated ecosystem services and cultural and spiritual values. The definition of an OECM under Target 11 has strong similarities with the IUCN definition of a protected area (Dudley, 2008): "*a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values*". The core difference is that while strictly protected areas should have a primary conservation objective (i.e., aim to promote the in-situ conservation of biodiversity), the defining criterion of an OECM is that it should deliver the effective and enduring in-situ conservation of biodiversity, regardless of its primary management objectives. Therefore, biodiversity conservation should be strategically planned considering not only formal protected areas, but also including OECMs. However, up to date, quantification of the effectiveness of OECMs for biodiversity conservation is missing.

3. **The International Union for Conservation of Nature (IUCN) has recently formalized a task force to establish conservation terminology, targets, and formal policies for OECMs.** Concurrently, some countries have also started to define legal instruments and tools that help preserving private areas. Strategies for preservation in private areas include mandatory tools, such as restrictions or law regulations, and voluntary instruments (e.g.

establishment of protected areas with private governance; Kamal et al., 2015). Therefore, these strategies vary from supporting legislation compliance to giving direct economic incentives to landowners. However, there is no consensus on the best strategies, and their use will vary according to decision makers and/or legislation of each country. Most countries however, do not have a comprehensive set of legal instruments that support effective programs of biodiversity conservation, sustainable landscape management, and reduction of native vegetation degradation in private areas.

4. **Brazil is one of the most biodiverse countries and has one of the highest rates of carbon sequestration in the world (refer to sub-section *Global Significance*), having thus a crucial role on biodiversity conservation and ecosystem services provision.** The country has two pillars for biodiversity conservation in the federal scope: i) one of the largest systems of protected areas in the world (the National Protected Areas System; Law Nº 9.985/2000; Crouzeilles et al., 2013a), which considers mainly the protection of public areas, and ii) the protected indigenous reserves (areas traditionally occupied by indigenous peoples and used for sustainable productive activities and preservation of natural resources). Although more than 30% of the Amazon is secured by protected areas, this number is much lower in the other five Brazilian biogeographical regions: 9% of the Atlantic Forest, 8% of *Cerrado*, 7% of *Caatinga*, 5% of *Pantanal* and 3 % of *Pampas* (Brasil, 2016a; Fig. 1). Since approximately 53% of the remnant native vegetation cover in Brazil is within private areas (Soares-Filho et al., 2014), the country has the potential to lead initiatives of conservation and sustainable management in such areas and to help to achieve the Aichi Biodiversity Targets.

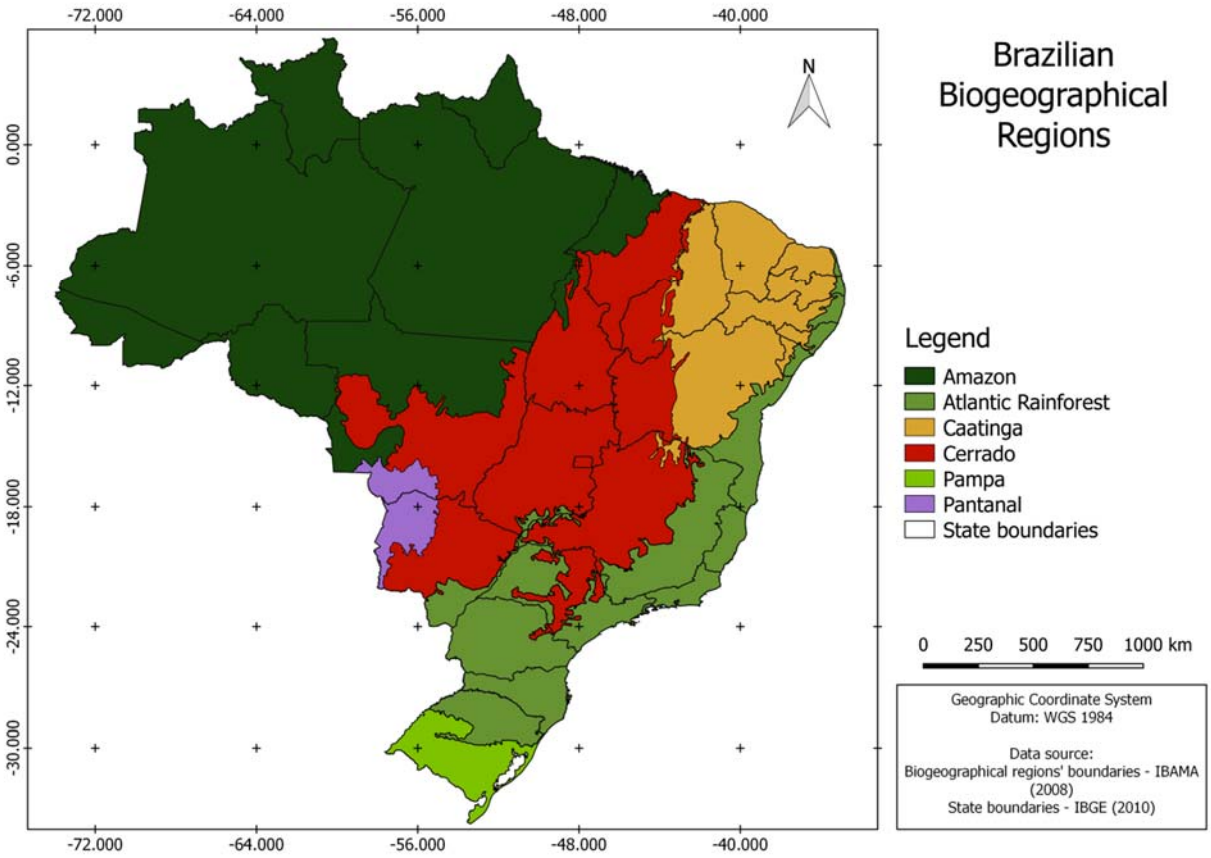

Figure 1. Brazilian biogeographical regions and state boundaries.

5. **This huge potential for conservation and sustainable management of native remnants in private areas in Brazil is supported by the recent Law on Protection of Native Vegetation (Law Nº. 12.651/2012, LPVN).** This is the central piece of legislation regulating land use and management on private properties (details in sub-sections *Institutional, sectoral and policy context* and *Baseline analysis and gaps*). The law considers as private areas all the rural privately-owned lands, as well as settlements, and others that are not in the public land registry[1]. It also requires that rural landowners conserve native vegetation on their rural properties, setting aside a: i) Legal Reserve (LR) that occupies 80% of the property area in the Amazon and 20% in other biogeographic regions, and ii) Permanent Preservation Areas (PPAs) that are riparian areas, steep slopes, and hilltops.

6. **When established the National Biodiversity Targets for 2020, the National Biodiversity Commission (CONABIO) in Brazil had already considered PPAs and LRs with native vegetation as contribution to achieve Target 11 (CONABIO, 2013).** The potential role of PPAs and LRs for conservation value in the five biogeographical regions in Brazil (except for the Amazon) is shown in Table 1. The last column summarizes the amount of PPAs and LRs estimated as legally protected by the LPVN (Sparovek et al., 2011). These areas add up to approximately 88 million hectares, that is, they are nearly two and a half times larger than the area in public

[1] Because title regularization is a complex process in Brazil, many rural landowners do not hold formal deeds to the land they occupy, and are classified as "possessors".

and private protected areas (34.4 million hectares). In addition, another 15 to 27 million hectares of degraded areas must be recovered by landowners to achieve compliance with LPVN (Soares-Filho et al., 2014). Consequently, the effective biodiversity conservation in private areas has the potential for broadening the current conservation systems (protected areas and indigenous reserves) in national and international context.

Table 1. Area (ha) of indigenous reserves, protected areas and private areas (Legal Reserves – LR – and Permanent Preservation Areas – PPA) in the five Brazilian biogeographical regions (BR) included in the project.

BR	**Indigenous reserves**	**% of BR area**	**Protected Areas**	**% of BR area**	**LR and PPA with native vegetation**	**% of BR area**
Cerrado	9,440,000	4.62	16,819,900	8.22	49,018,770	23.97
Atlantic Forest	682,900	0.52	10,088,100	7.67	14,234,207	10.82
Caatinga	267,800	0.32	6,269,700	7.38	18,028,834	21.21
Pampa	2,623	0.01	483,000	2.74	3,061,732	17.35
Pantanal	266,900	1.78	694,800	4.62	3,307,551	22.00
TOTAL	10,660,223		34,355,300		87,651,094	

Data source: Brasil (2016a), Sparovek et al. (2011).

7. **It is crucial to notice, however, that the percentage of LRs, PPAs and other areas of native vegetation exceeding the amount required by the LPVN are not necessarily effective for improving conservation value.** Not all of these areas have great conservation value; nonetheless, they are not deserts of biodiversity neither lack provisioning of ecosystem services, encompassing different levels of conservation value. These can range from large areas, well connected and slightly degraded, to small areas, isolated and very degraded. For example, the Brazilian Forestry sector (private companies that provide products obtained from planted trees), which has over 7.8 million productive hectares, has 5 million hectares in PPAs and LRs (Ibá, 2016). In addition, two companies from the energy sector (Vale and Votorantim) sum up more than 60 thousand hectares in private reserves not included in the SNUC categories (Scarano et al., in preparation). This, however, is not the rule in Brazil, since a good part of native vegetation remnants in Brazilian private areas are not large enough to individually maintain viable populations in the long term (e.g. Ribeiro et al., 2009). On the other hand, these small native vegetation remnants can complement the networks of protected areas and indigenous reserves, acting as ecological corridors, stepping-stones and buffer zones that increase environmental protection and landscape connectivity (Crouzeilles et al., 2013b).
8. **These LRs, PPAs, and native vegetation areas exceeding the requirements of the LPVN are surrounded by productive areas.** The latter are the reality of most rural landowners, where the areas for potential conservation value are regarded by most of the productive sector (landowners, extension agents, banks, among others) as adjacent to productive areas and of low conservation value.
9. **The Forestry sector also acts strongly in the Brazilian economy.** Brazil is a world reference in monoculture

production of exotic forest species (*Eucalyptus* and *Pinus*), especially due to biophysical factors. Besides, the country has over 40 years of research in this field. Currently, this sector covers an area of 7.8 million hectares, wherein 74.9% is planted with *Eucalyptus*, 20.8 % with *Pinus* and 4.3% with other species (IBGE, 2015). The largest plantations are in the states of Minas Gerais (1.8 million hectares), Paraná (1.6 million hectares), Rio Grande do Sul (1.1 million hectares), São Paulo (1.1 million hectares) and Santa Catarina (0.9 million hectares). The plantations of *Eucalyptus* are located mainly in the states of Minas Gerais, São Paulo and Mato Grosso do Sul. The plantations of *Pinus* cover 2 million hectares and are concentrated in Paraná and Santa Catarina. Thus, the largest planted areas are within the biogeographical regions of Atlantic Forest and *Cerrado*. The sector contributed with 1.2% of the Brazilian GDP and 6% of industrial GDP in 2015, yielding US$ 21,6 billion, which represents a growth of 3.0% in relation to the previous year (Ibá, 2016). With these results, the sector has stood out with a growth performance superior to other sectors of the Brazilian economy, such as agriculture and livestock (+1.8%), industry (-6.2%) and services (-2.7%) between 2014 and 2015. Besides, in 2015 the sector directly employed 540 thousand people. It is estimated that, in total, the number of jobs in forest activities (direct, indirect and resulting from the income effect) has been about 3.8 million (Ibá, 2016). In the social sphere, the activities from the production chain of forest plantation promote job and income in the rural area, helping in the reduction of rural exodus (Júnior & Ahrens, 2010).

Subnational context

10. **The Atlantic Forest has a long history of deforestation** with several cycles of natural resources exploitation since the 16th century, such as: logging, sugar cane and coffee plantations. Currently, only 22% of the original cover remains, which is spread in forest formations and ecosystems associated with *restingas*, mangroves, and *campos de altitude* (Brasil, 2016b). Nonetheless, this is one of the richest regions in biodiversity with a great quantity of endemic species in the world, considered a biodiversity Hotspot (Myers et al., 2000). In 2006, the Atlantic Forest Law (rules on the use and protection of the native vegetation of the Atlantic Forest Biogeographical region) was enacted (Law Nº 11.428/2006), which regulates the suppression of native vegetation remnants (refer to *Institutional, sectoral and policy context*). With a population of more than 145 million people (72% of the population) distributed among 3,429 municipalities (61% of Brazilian municipalities), the region can be considered Brazil's socioeconomic center, responsible for over 80% of the Gross Domestic Income. The region encompasses the greater part of cultivated land in Brazil, with predominant land use for large-scale agriculture, particularly sugar cane and cattle ranching.

11. **The Environmental Protection Area (APA) of São João River Basin/Mico Leão Dourado (hereafter referred as São João APA), one of the pilot areas of this project, is located in the Atlantic Forest of Rio de Janeiro State (Fig. 2).** APAs are protected areas for sustainable use (category VI of the IUCN), that allow a certain degree of human occupation for public and private areas, whose basic goals are to protect biological diversity, organize the occupation process and ensure sustainable use of natural resources (Law Nº 9.985/2000). An APA must have a Board presided by the agency responsible for its administration, consisting of representatives of public agencies, civil society organizations, and resident population. In addition, it must have a management plan with guidelines/rules on the use and zoning of the territory. The São João APA is located in the coastal plain of the State of Rio de Janeiro with an area of 150,700 hectares and encompasses part of the municipalities of Silva Jardim (91.2%), Casimiro de Abreu (70.8%), Rio Bonito (20.9%), Araruama (14.6%), Cabo Frio (13.8%), Cachoeiras de Macacu (6.5%) and Rio das Ostras (5.6%). The creation of the APA in 2002 intended to protect

water resources and forest remnants, as well as several endangered species in the region among which: the Golden Lion Tamarin (*Leontopithecus rosalia)*, Maned Three-Toed Sloth (*Bradypus torquatus*) and the Broad-snouted caiman (*Caiman latirostris*). In the APA, there are two strictly protected areas (categories I-IV of the IUCN): Poço das Antas Biological Reserve (1974) and the Federal Biological Reserve (1998). In addition, there are parts of a great forest fragment of Três Picos State Park (another strictly protected area), the Mico Leão Dourado Natural Municipal Park, and Private Reserves of Natural Heritage (RPPNs – private protected area for sustainable use; category IV from IUCN; which also needs a management plan). From these, 31 are located in Silva Jardim, municipality with the greatest number of RPPNs in Brazil. Approximately 30% of the APA is formed by degraded pastures (leading use in the region), followed by agriculture. However, the majority of the properties is being sold to foreigners who do not conduct productive activities. Despite current low deforestation rates, the region has a highly fragmented landscape due to historical land use, e.g. development of agricultural and cattle ranching activities and the construction of a highway and a railroad.

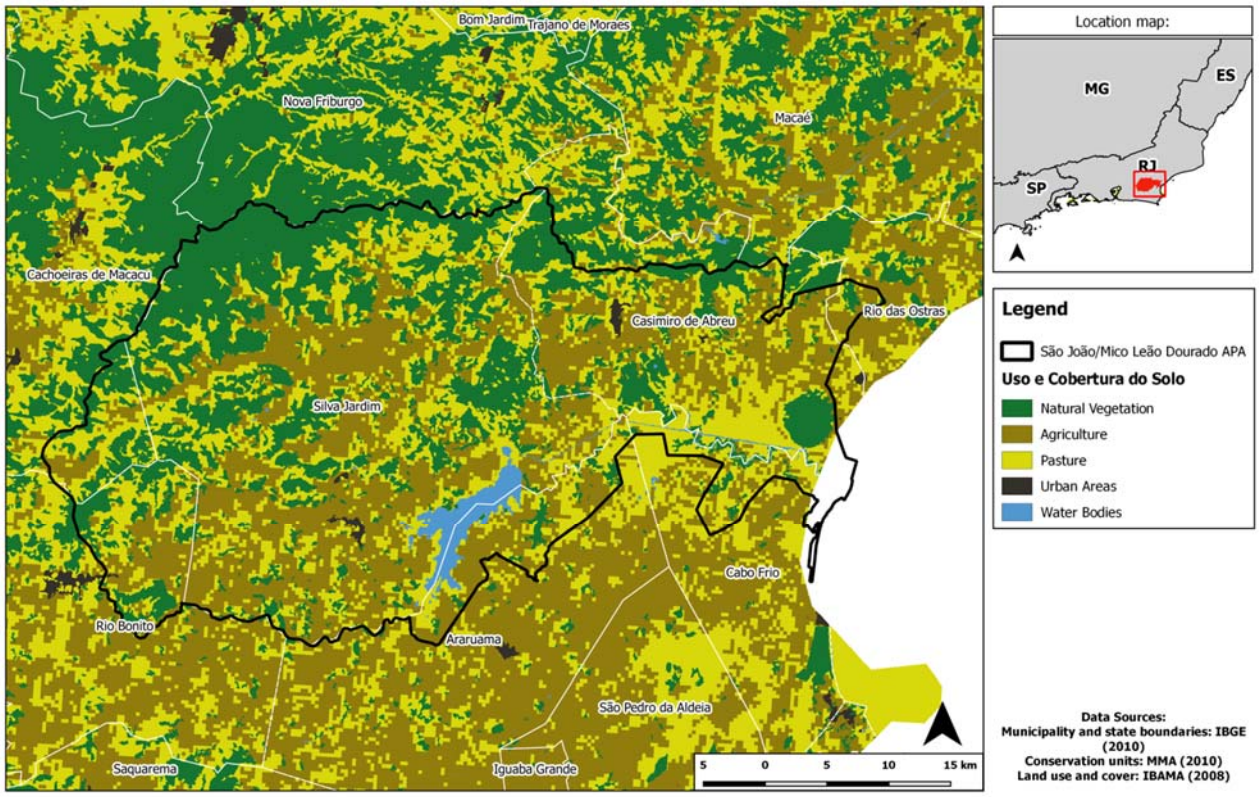

Figure 2. Map of location and land use and cover in the entire Environmental Protection Area (APA) of São João River Basin/Mico Leão Dourado, Rio de Janeiro, Brazil.

12. **The *Cerrado* has lost approximately 50% of its native vegetation cover, notably with the establishment of the new Brazilian agricultural frontier (Brasil, 2016c).** This is the second largest Brazilian biogeographical region, with 2,036,448 km² (~22% of the national territory) encompassing 5% of the planet's biodiversity; the

most biodiverse savannah in the world is also a biodiversity hotspot (Myers et al., 2000). In addition, the region harbors springs of the three largest watersheds in South America (Amazonian/Tocantins, São Francisco and Prata). Currently, the main land use is for agriculture and livestock, particularly cattle ranching (the most important region of meat production in Brazil, with the most extensive pastures and about 50% of the national cattle herd), soybean and other cultivation of commercial grains. The significant replacement of *Cerrado* with soybean fields in the past two decades was one of the main factors that contributed to the expansion of the total cultivated areas in Brazil (Brasil, 2016d). Other activities associated with native vegetation degradation occur in parallel to the progress of agricultural frontiers, such as charcoal production for steel industry, whose technological poles are centered in this biogeographical region.

13. **The APA of Pouso Alto (hereafter referred as Pouso Alto APA), the other pilot area of this project, is in *Cerrado* in the northeast of the state of Goiás (Fig. 3).** With an area of 872,000 hectares, it encompasses part of the municipalities of Alto Paraíso de Goiás (28.46%), Cavalcante (44.65%), Colinas do Sul (15.64%), Nova Roma (3.67%), São João D'Aliança (2.94%) and Teresina de Goiás (4.64%). The creation of the APA in 2001 intended to promote sustainable development and preservation of the flora and fauna (with 45 endangered species), water resources, physiography, geology and landscapes of the region. The APA is included in the *Cerrado* Biosphere Reserve, recognized by the United Nations Educational, Scientific and Cultural Organization (UNESCO) due to its biological importance, high rate of biodiversity and endemism, presence of diverse phytophysiognomies (from grasslands to dense woodlands), and unique ecological processes. In this APA, there are three strictly protected areas of municipality level (Municipal Parks of Lavapés, Municipal Parks of Abílio Herculano Szervimsks and Municipal Parks of São Jorge district), one federal protected area (Chapada dos Veadeiros National Park) and 21 Private Reserves of Natural Heritage. Chapada dos Veadeiros National Park was created in 1961 with 625 thousand hectares, but after downsizing decrees in 1972 and 1981, the Park currently encompasses 65 thousand hectares. In the past years, conservationists and environmentalists have strongly acted to increase its size in three to four times. This extension has been a priority for the Ministry of the Environment and for the environmentalist community, but it has generated great friction with some rural producers in the region. The region has a great variety of rural producers, and although small properties occur in higher numbers, the sum of the area covered by large properties is greater than the small ones in all APA.

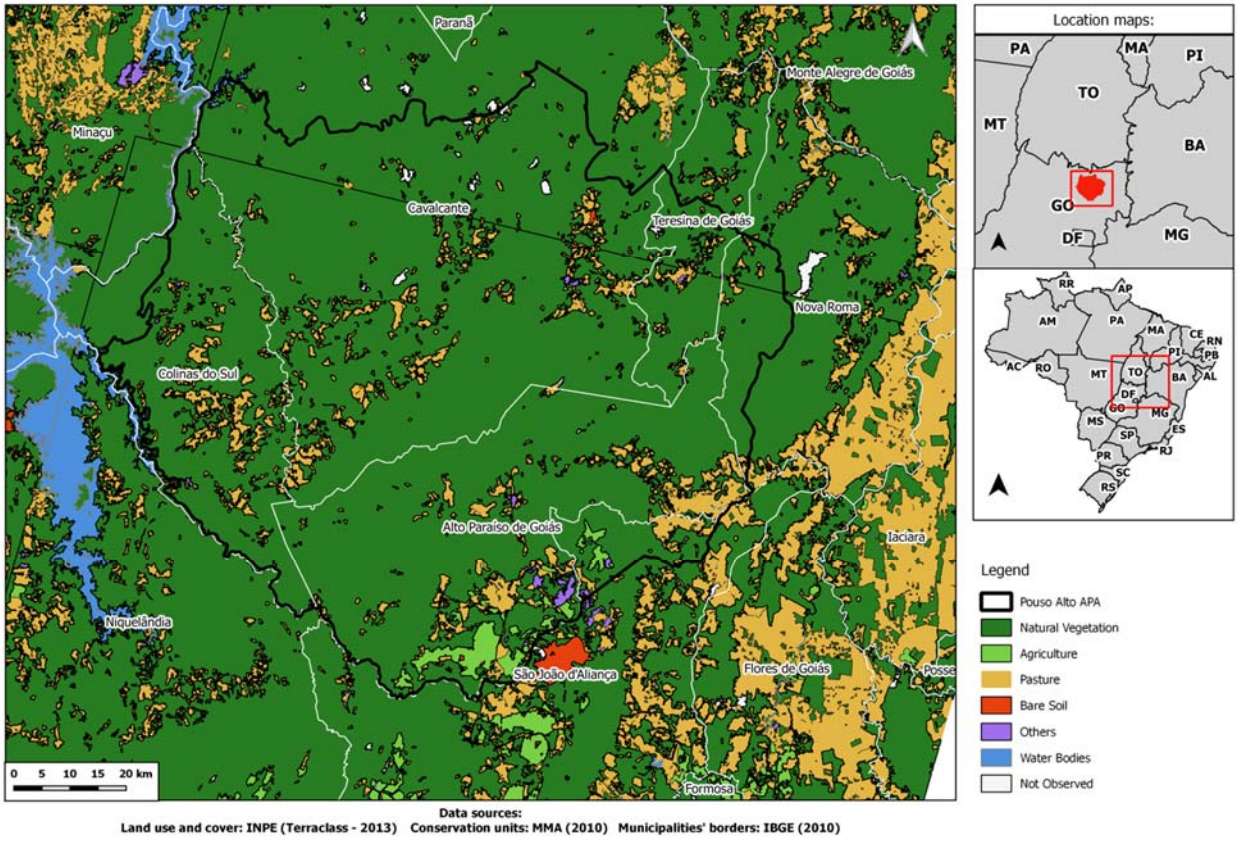

Figure 3. Map of location and land use of the entire Environmental Protection Area (APA) of Pouso Alto, located in the state of Goiás, Brazil.

14. **The *Caatinga* has a long history of human occupation and it is estimated that 80% of its native vegetation cover has already been deforested (Brasil, 2016c).** This is the only exclusively Brazilian biogeographical region, which covers an area of 84,445,300 ha (~11% of the national territory). This is the most diverse semi-arid biogeographical region in the world. However, 95% of the areas susceptible to desertification in Brazil are within *Caatinga*, and a great part of these areas is already extremely degraded. Thus, its preservation is closely associated with the combat of desertification. Approximately 21 million people live in the region, 44% of them in rural areas. The *Caatinga* vegetation supports local economy through firewood and coal as energy sources, and through a great amount of non-timber forest products (Brasil, 2016d). Among the activities with greater environmental impact is charcoal extraction for which fulfils domestic and industrial use. The exploitation of natural resources, however, has not been followed by human development. The socioeconomic indexes show the most unequal distribution in the country, with elevated illiteracy rates, low level of basic sanitation and lower life expectation.

15. **The *Pampa* covers 17,824,300 ha (~2% of the national territory) and is restricted to the State of Rio Grande do Sul (~63% of the state).** Currently, there is only 63% of its native vegetation cover (Brasil, 2016c). The main land use is directed to extensive cattle ranching (milk and beef), a traditional activity in the region, which plays a crucial role in the national economy (Brasil, 2016d). Agriculture also results in a great impact in this

biogeographical region with the expansion of soybean and commercial crops of rice, wheat, corn, tobacco and grapes. Silvicultural practices are the newest sector of transformation in the *Pampa* landscapes, with the plantation of *Eucalyptus* and *Pinus* for timer and cellulose production.

16. **The *Pantanal* is the largest floodplain in the world and is also declared Biosphere Reserve and World Natural Heritage by UNESCO.** This biogeographical region covers an area of 15,131,300 ha (~2% of the Brazilian territory) and is the best-preserved in Brazil, still harbouring 83% of its remnant vegetation (Brasil, 2016c). The highest rates of conversion occur in the highlands, in the north part of the biogeographical region, where extensive cattle ranching and agriculture are the predominant land uses. The main socioeconomic activities are fishing (which generates most jobs and income), cattle ranching, tourism, ore extraction and, in smaller scale, agriculture.

2.2. Global Significance

17. **Brazil is one of the most mega-diverse countries in the word.** There are 120 thousand invertebrate species and approximately 8,930 vertebrate species. There are 734 mammals (of which 153 are endemic and 110 are endangered), 1,982 bird species (222 endemic and 234 endangered), 732 reptile species (147 endemic and 80 endangered), 973 amphibians (584 endemic and 41 endangered) and 4,509 fish species (409 endangered) (MMA 2016, ICMBio 2017a and b; Table 2). Concerning the flora, the country is the most biodiverse in the world, comprising 46,223 species, of which 19,503 are endemic and 2,953 are endangered (Table 2; CNCFlora 2017). Brazil harbors two of the global biodiversity hotspots: the Atlantic Forest and the *Cerrado*, both covering 72% of endangered species in the country.

18. **In the Atlantic Forest, there are 20,000 species of vascular plants, 8,000 of which endemic.** Among vertebrate animals, the biogeographical region harbors 263 mammal species (71 endemic), 936 bird species (148 endemic), 306 reptile species (94 endemic), 475 amphibians (286 endemic) and 350 fish species (133 endemic) (Mittermeier et al., 2004). Because this biogeographical region has already lost much of its original vegetation cover (see above) and has great biodiversity and endemism, it has been referred to as the 'hottest of the hotspots' (Laurance, 2009). From the remaining forest fragments, less than 20% are larger than 50 hectares (Ribeiro et al., 2009). Fragmentation, in addition to having dramatic consequences for biodiversity and ecosystem services provision, also makes the region highly susceptible to climate change.

19. **The *Cerrado*, also a global biodiversity hotspot (Myers et al., 2000), harbors 10,000 plant species, 4,400 of which endemic**. Among vertebrates, 195 are mammal species (14 endemic), 605 bird species (16 endemic), 225 reptile species (33 endemic), 251 amphibian species (26 endemic) and 800 fish species (200 endemic; Mittermeier et al., 2004). In addition to the biodiversity conservation, the conservation of the *Cerrado* is important for global climate balance as well, since its habitat conversion is responsible for 26% of deforestation emissions in Brazil. Likewise, the *Cerrado* is crucial for water resources, harboring 43% of surface waters in Brazil outside the Amazon. However, only 19.8% of Cerrado's original area can be considered relatively intact (Brasil, 2015a). From 2002 up to 2011, the native vegetation conversion rate in the *Cerrado* has been three times higher than in the Amazon (Strassburg et al., 2017). In the past years the *Cerrado* became the biogeographical region with the highest conversion in absolute figures in Brazil. According to projections, the high degree of endemism along with accelerated conversion can lead to species extinction of unprecedented scale (Strassburg et al., 2017).

20. **Brazil also has global relevance in the combat to climate change, since it is by far the largest carbon**

repository in forests in the planet (Zomer et al., 2016). According to the Brazilian Forest Service, it is estimated that Brazil stores 80,813 million metric tons of carbon in its natural forests, wherein most of this stock is in the Amazon biogeographical region (68,571 million tons; Brasil, 2017). The second biogeographical region with the largest stock is the *Cerrado* (5,503), followed by the Atlantic Forest (3,295), *Caatinga* (2,475), *Pantanal* (703) and the *Pampa* (266). This carbon is located in different compartments: above-ground biomass, below-ground biomass, dead biomass, leaf litter and soil. Considering the entire country, over half of the stock is on above-ground biomass (47,998), followed by soil (20,711). However, disregarding the Amazon, the order inverts: the largest carbon stock is the soil, followed by above-ground biomass. Croplands can also contribute to carbon stock, where Brazil is also a world leader with the greatest total stock (Zomer et al., 2016). It is estimated that in the year 2000 these areas stocked 6.8 billion tons of carbon; in 2010, this volume increased almost by 14%, reaching 7.7 billion tons. Part of the gain can be associated with public policy incentives for good agricultural (the adoption of agroforestry related approaches) and cattle ranching practices. In addition, it can be associated with the abandonment or use of fallow periods in degraded pastures. Hence, it is important to encourage the adequate management of areas dedicated to agriculture and cattle ranching, contributing to the increase of carbon stocks and mitigation of climate change.

2.3. Threats, root causes and barrier analysis

21. **To develop this section, we used the Open Standards methodological approach (http://cmp-openstandards.org). This is one of the most modern and robust methodologies, recognized and adopted by many conservation organizations worldwide.** According to FOS (2009), this approach allows building a general conceptual model that is a convenient tool to help a project team understand and logically illustrate the circumstances occurring within the project site (Fig. 4). It explicitly depicts the interrelatedness among the factors affecting the biodiversity of a given site.

22. After the **project scope** (broad parameters or rough boundaries, geographic or thematic, for where or on what a project will focus) is defined, it firstly helps to set **conservation targets** (species, habitats, and/or ecological communities that you have determined represent and encompass the full suite of biodiversity you are trying to conserve and/or manage at your project area). Then, the project team needs to identify the **main direct threats**: human actions or unsustainable uses that immediately degrades one or more conservation targets (e.g. harvesting, pollution, global warming, dams, clearing etc.). It may be necessary in some cases to include **stresses** that describe the biophysical impact of the threat on the biodiversity target (e.g. habitat destruction, habitat degradation). The last phase is to distinguish the **contributing factors** (economic, political, institutional, social or cultural drivers) of the direct threats until the model is reasonably complete. Such factors can be either an **indirect threat - root cause -**, a factor identified in a situation analysis that is a driver of direct threats, or an **opportunity**, a factor identified in a situation analysis that potentially has a positive effect on one or more targets, either directly or indirectly. The Open Standards approach can be updated according to changes in the scenario and information gathering. Thus, it is possible to clearly understand and design the current logic of the processes affecting project targets.

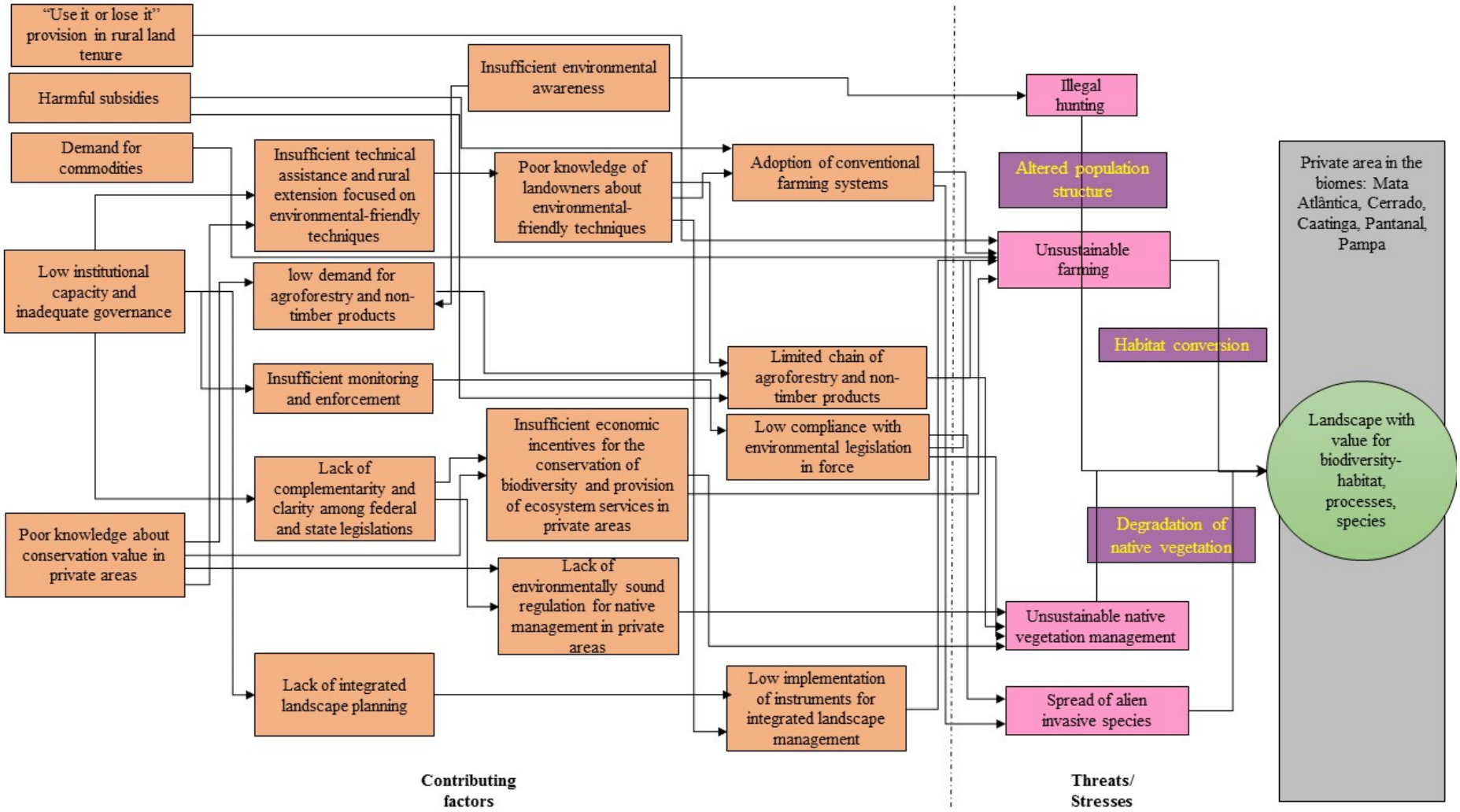

Figure 4. Conceptual model that analyses and summarizes the project's region context. The conservation target is in green; the direct threats are in pink; the stresses are in purple; and the contributing factors (either root causes or opportunities) are in orange.

23. **The general conceptual model was prepared in a participatory approach that has taken different stakeholders into account (refer to sub-section *2.5. Stakeholder mapping and analysis* and sub-section *3.1 Project rational, policy conformity and expected global environmental benefits*).** In the preparatory phase two-days workshops were developed in the two pilot areas of the project (São João APA and Pouso Alto APA), along with meetings with stakeholders from the government in Brasília and Brazilian Tree Industry - Ibá (the association responsible for institutionally representing the planted tree production chain) in São Paulo. Several ongoing initiatives in each pilot area were presented by stakeholders, so that the main threats for biodiversity and native vegetation were raised, along with its causes and barriers. Finally, possible strategies to reduce such threats according to the context of each place were discussed. Additionally, meetings with several public agencies and with the Forestry sector improved communication amid institutions. This process enhanced the appropriation of the project by local stakeholders, increasing its impact, decreasing its risks, and favouring its sustainability in the long term.

24. As our project objective is to scale up sustainable landscape management and contribute to biodiversity conservation and ecosystem services provision in private areas in Brazil, **our conservation target is landscapes with value for biodiversity-habitat, processes and species**. **The main threats** to such conservation targets **are: 1) unsustainable farming, 2) unsustainable native vegetation management, 3) illegal hunting, and 4) spread of alien invasive species. Illegal hunting and spread of alien invasive species** are addressed by the project GEF 'National Strategy for Conservation of Threatened Species' (PROSPECIES; GEF Project ID 9271), so they **will not be addressed in this project**. The biophysical impacts – **stresses** – of unsustainable farming and unsustainable native vegetation management can be **degradation of native vegetation** and, except for the latter threat, **habitat destruction**. By dealing with some of these threats and their contributing factors, we will be able to reach the conservation target and the project objective, as described further in this document (*refer to Section 3, especially the Theory of Change*).

25. **The main contributing factors that drive 1) unsustainable farming and/or 2) unsustainable native vegetation management are: poor knowledge about conservation value of private areas; low institutional capacity and inadequate governance; demand for commodities; and harmful subsidies (figure 4)**. Each of these factors leads to a series of other contributing factors (see figure 4) of the direct threats (unsustainable farming and/or unsustainable native vegetation management) of our conservation target (landscape with value for biodiversity-habitat, processes, species). The rural properties are perceived not only by landowners but also by several other stakeholders as exclusively productive areas, in which production and conservation are mutually exclusive. The native vegetation cover is currently seen as an impediment to the development of productive activities and as an area without economic value. Stakeholders do not usually realize the value of the forest and do not perceive it as a business opportunity. Consequently, there is still limited knowledge on how these areas can contribute to biodiversity conservation and provision of ecosystem services. Such poor knowledge about conservation value of private areas leads to another contributing factor of unsustainable farming and/or unsustainable native vegetation management: **insufficient economic incentives for the conservation of biodiversity and provision of ecosystem services in private areas.** Poor knowledge about conservation value of private areas along with low institutional capacity and inadequate governance cause **insufficient technical assistance and rural extension focused on environmental-friendly techniques**.

26. Economic incentive programs for conservation of biodiversity and provision of ecosystem services in private areas are sometimes affected by the poor knowledge on biodiversity of program developers and landowners. In this context, inadequate programs are designed, which underestimate biodiversity processes and ecosystem

services provision. Currently, there are no models focused on environmental-socioeconomic adequacy of rural private properties that can integrate environmental gains and economic improvement of activities. Considering the need of financial resources to develop activities to comply properties with the LPVN these aspects must be connected. Besides, few credit lines that have such connections are difficult to access (*refer to Section 2.6 – Baseline analysis and gaps*).

27. Caused by not only poor knowledge about conservation value of private areas but also low institutional capacity and inadequate governance, insufficient technical assistance and rural extension focused on environmental-friendly techniques prevents landowners of having knowledge about these techniques. There are too few projects on environmental education, awareness workshops, and materials about applicable legislation. For example, the conflict between developers of the Management plan for the Pouso Alto APA and the civil society has been largely caused by a lack of diffusion of information about specifications proposed in the plan.

28. With such **poor knowledge about environmental-friendly techniques** landowners are likely to **adopt unsustainable conventional farming systems**. In Pouso Alto APA, for example, the conversion of native grass to crop (mainly soybean) is common in the region and does not require permission/license, resulting in an aggressive land use for biodiversity. The mismanagement of natural pastures is a recurring threat in the *Cerrado* biogeographical region. Also, fire is used in several biogeographical regions as a traditional system to enhance soil quality in productive areas. However, if not properly done, it can reach nearby native vegetation, plantations and pastures (Lara et al. 2007). The lack of knowledge about some modern techniques entails problems in the production cycles, raising costs and, consequently, decreasing profit, in addition to increasing the resistance of landowners to participate in sustainable projects. Some studies focused on the perception of different stakeholders related to agriculture and cattle ranching in Brazil have indicated the need for an increase in qualified workforce, as well as for a propagation of technical knowledge (Alacorn et al. 2010; Latawiec et al., 2017), specially for small and medium landowners (Chiavani & Lopes, 2015).

29. Integrated landscape management is also crucial so that productive and conservation activities are not conflicting. However, this technical knowledge is absent to part of extension agents and rural landowners, which drives to **low implementation of instruments for integrated landscape management**. In many places, the main problem is shortage of personnel and qualified workforce to develop activities. Lack of technical assistants opens space for companies to recommend the use of fertilizers and pesticides (Latawiec et al. 2017). Since farms with technical assistance increase their productivity (Latawiec et al. 2017), it is necessary not only to increase the number of technical assistance agents, but also to train, both agents and landowners, taking into account practices of integrated property management and considering the landscape context. The need and will of producers to learn new practices – which frequently joins production and environmental protection – is manifested in many regions in Brazil (Latawiec et al. 2017).

30. In addition to that, landowners do not usually recognize that agroforestry and non-timber products, for example, can be profitable activities. So, poor knowledge of landowners about environmental-friendly techniques is also one of the causes of the existence of a **limited chain of agroforestry and non-timber products**.

31. Another result of scarce knowledge on conservation value of private areas – this time from consumers – is **low demand for agroforestry and non-timber products** (biodiversity-friendly products). Most of these products are more expensive than the products from conventional agriculture, and there is a lack of consumer interest to pay higher price – **insufficient environmental awareness**. Consequently, the production chain of agroforestry and non-timber products is insufficiently structured from demand to supply, and these products have low market value.

Among producers with proper conditions to develop family agriculture or even techniques of sustainable agro-extractivism, many quit because of difficulties with the outflow and sales of their products. There is limited infrastructure for outflow. Markets, even when they exist, are in distant regions since the local market is poorly developed. The local cooperatives, for instance, are neither solid nor expressive to ensure products purchases and sales.

32. Poor knowledge about conservation value of private areas is, finally, one of the reasons for a **lack of environmentally sound regulation for native management in private areas**. The LPVN, for example, allows economic exploitation of LR. This should happen through sustainable management of the native vegetation, subject to permission by State environmental agency. However, gaps on management techniques and lack of knowledge on the impacts of such techniques prevent LR areas to be sustainably managed in a manner that simultaneously generates revenue for landowners and contributes to biodiversity conservation. There is no federal regulation or guidelines detailing sustainable native vegetation management techniques that could be used in LR. In addition to that, while some State regulations are too strict others are too permissive or even inexistent.

33. With respect to **low institutional capacity and inadequate governance**, it can occur in different scales, from federal to municipal spheres. The lack of connection among public initiatives hinders strategy sharing, which makes them less synergetic and effective. This keeps projects isolated in their fields of knowledge and coverage. Decision-makers lack understanding regarding how landowners react to the adoption of environmental laws. To understand the multiple causes of non-compliance is certainly one of the main challenges in the fight against native vegetation degradation in the country. According to Alacorn et al. (2010), environmental laws have inhibited native vegetation conversion, but not ended it. Additionally, they have disregarded strategies that permit rural farmers to integrate conservation or recovery of natural resources with farming activities. Experiments have shown that lack of understanding about what boosts landowners to preserve biodiversity can lead to simplistic policies, compromise the effectiveness of actions and programs and possibly alienate potential stakeholders in adopting sustainable practices (Langpap 2006, Selinke et al. 2015).

34. Low institutional capacity and inadequate governance, apart from being a reason for insufficient technical assistance and rural extension focused on environmental-friendly techniques (as described above), is a cause of: **lack of complementarity and clarity among federal and state legislations**; **insufficient monitoring and enforcement**; and **lack of integrated landscape planning**.

35. The lack of complementarity among legislation of the same theme can occur because there is misalignment or lack of synergistic goals and requirements at certain level (federal and state). Many regulations occur only in the state sphere, as the Environmental Regularization Program (PRA) in the LPVN and licensing for native vegetation management. Thus, state regulations on the same theme can differ in each state. In the case of licensing for native vegetation management, state regulations are very diverse and can reflect a **lack of environmentally sound regulation for native management in private areas**. Some regulations are inadequate because they are too permissive, while others are difficult to implement. In the latter case, the difficulty can be due to high costs, complexity, and difficulties with credit access, preventing the landowner from acting in his property – a case of **insufficient economic incentives for the conservation of biodiversity and provision of ecosystem services in private areas**. In this context, landowners end up preferring another activity, such as legal conversion, for which licensing is cheaper and faster. The license for native vegetation management also varies according to the biogeographical region. In the Atlantic Forest the regulations are very strict, while in the *Cerrado* they do not even exist.

36. Sometimes, laws at different scales contradict each other. For instance, the definition of *fallow* in the LPVN (Law N°.12.651/2012) *vs*. in the Atlantic Forest Law (Law N°.11.428/2006). In the former, *fallow* is defined as the 'practice of temporary interruption of activities or agricultural, livestock or silviculture uses for a maximum of five (years) for the recovery of land use capacity, or soil physical structure'. However, according to the Law No. 11.428, *fallow* is the 'practice that foresees the interruption of activities or agricultural, livestock or silviculture uses of the soil for up to 10 (ten) years in order to recover its fertility'. Such incoherence leads to legal uncertainty regarding fallow areas, since there can be misguided interpretations of the laws. This is also the case for silviculture of native species, since landowners become afraid of planting and not being able to use the species economically in the future.

37. Possible diverse interpretations of current laws exist due to lack of clarity in the content. One example is the LPVN on LR recovery (article 66, paragraph 3). According to paragraph 3, article 66 of this law, recovery can occur through interleaved planting of native species between exotic and fruit species in an agroforestry system. Furthermore, the exotic species must be combined with local native species (item I, paragraph 3), and the area restored with exotic species cannot exceed 50% (fifty percent) of the total recovered area (item II, paragraph 3). There are, nonetheless, controversies that can lead to diverse interpretations. Article 66, paragraph 3 deals with interleaved planting of native species with exotic species, but it does not define the minimum number of species. One understands that the word *interleaved* does not allow an arrangement of 50% native on one side and 50% exotic on the other side of the LR's recovered area, but it allows infinity of other arrangements, including some very close to 50%/50%. In addition, it lacks a definition for 'agroforestry system'. These are just some cases, but the barrier exists in different legislations and regulations that affect biodiversity conservation in private areas.

38. When it comes to monitoring and enforcement of environmental legislation, the validation of the Rural Environmental Register (CAR*; refer to sub-section 2.4*), for example, depends on the ability of states to analyse the huge volume of data registered in the Rural Environmental Register System (SiCAR*; refer to sub-section 2.4*). However, human and financial resources have been insufficient to process these data, which is a **disincentive for landowners to comply with the environmental legislation**. Furthermore, despite advances in combating deforestation, Brazil still faces a challenge to effective enforcement of deforestation since deforestation patches have decreased in size, making them increasingly difficult to detect (Godar et al., 2015). In São João APA, one suppresses or cut plant species from the forest understorey to build houses. Part of the cuts is done so that deforestation cannot be recorded by satellites. Selective logging of native species often occurs without proper licenses and management plans, which can contribute to the sudden reduction of individuals of a target-species in a region (potentially bringing it to local extinction) due to its indiscriminate and unlimited cut.

39. Low institutional capacity and inadequate governance leads to a lack of landscape integrated planning which in turn (and along with poor knowledge about environmental-friendly techniques, as described above) drives to **low implementation of instruments for integrated landscape management**. Lack of integrated landscape planning capabilities hinders the dialogue among different stakeholders. Low institutional coordination to develop integrated landscape planning and mainstream biodiversity usually leads to a management that disregards integrated features of the landscape. To comply with LPVN landowners must plan their productive activities in conjunction with biodiversity conservation and restoration considering the landscape context. Currently, there are no tools that integrate areas for production and for conservation, both at property and landscape scales. For example, compliance with the LPVN by one landowner (e.g. restoration through forest corridors), if considering the outline of the native vegetation in surrounding properties, can increase landscape connectivity and consequently enable biological flow. This approach can increase efficacy both in biodiversity conservation and

productivity, since ecosystem services help to increase productivity.

40. **Demand for commodities** is another main contributing factor that drive unsustainable farming**.** The Brazilian economic matrix is strongly dependent on agricultural products. In 2015, this sector was responsible for 23% of the Brazilian Gross Domestic Product, and Brazil was the second largest world exporter of agricultural and livestock products. In the upcoming decade, it is expected to be the main supplier, responding to the global demand, which has been increasing (OECD/FAO, 2015). The production of commodities represented 83% (US$ 84 billion) of the gross value of agricultural production in 2011 in Brazil. From 1990 up to 2011, the area cultivated in Brazil has grown from approximately 53 million ha to 68 million ha, wherein over 80% of this expansion occurred in the Amazon and the *Cerrado*. The production in large scale focused on exportation (soybean, sugar cane and corn) was the main responsible for such growth in area. From 1990 to 2011, these crops have been enlarged from 53 to 70% of all cultivated areas in the country. Even though some crops and cattle ranching areas have been subject to agricultural intensification, a great part still has low productivity rates. For instance, in the case of cattle ranching, the average capacity is approximately one cattle head per hectare (Lapola et al., 2014).

41. Unsustainable farming is also a consequence of **harmful subsidies**. Agricultural credit policies fund activities that use both sustainable and unsustainable management techniques inside properties. In general, credit lines do not consider socioenvironmental aspects or the production system adopted, but only criteria related to production, to choose applicants. For instance, risk and viability analysis considers only cash flow and patrimony, but ignores positive and negative externalities of their activities, such as resilience, law compliance and impact on ecosystem services. There are many programs that encourage commodity agribusiness, such as rural credit lines and tax reduction. Thus, there is an unfair competition between conventional and more environmentally friendly agriculture (e.g. fruit species and oils) - harmful subsidies are, therefore, another cause for a **limited chain of agroforestry and non-timber products**. Subsidies for agriculture and cattle ranching can occur, for example, through enabling access to credit lines to open new area. Well-structured chains like cattle or agriculture have smaller risk and higher liquidity than others, enabling the expansion of these activities. The established forest market for exotic species products makes it even more difficult to value biodiversity-friendly products.

42. Finally, in Brazil, unsustainable farming benefits from a **"use it or lose it" provision in rural land tenure**. This provision requires landowners to use their land actively for agriculture or livestock grazing (by clearing native vegetation), or risk forfeiting it to the State, which could redistribute it to landless individuals (Buckley & Pegas, 2015).

2.4. Institutional, sectorial and policy context

43. **CBD requires countries to prepare a national strategy on biodiversity (or equivalent document) and to ensure that this strategy is mainstreamed into the planning of all sectors whose activities can have an impact (positive or negative) on biodiversity**. Accordingly, Brazil has produced its 'National Biodiversity Strategy and Action Plan' (NBSAP), which offers a contribution to achieve the Aichi Target 17. The document[2] briefly shows the rich participatory process to elaborate the National Biodiversity Strategy with the consolidation of the National Biodiversity Targets 2011-2020 (CONABIO, 2013); and the 1st Module of the Biodiversity Action Plan. It approaches the information, actions and projects coordinated by the Secretariat of Biodiversity from the Ministry

[2] Available in: <https://www.cbd.int/doc/world/br/br-nbsap-v3-en.pdf>. Access on Feb 2nd 2017.

of the Environment (agency responsible to create public policies on biodiversity in the federal sphere). Further commitments must follow these ones as well as others signed by different sectors, originating the 2nd module for the Biodiversity Action Plan. For that, the Secretariat of Biodiversity is conducting a process of bringing together secretariats from the Ministry of the Environment, other Ministries, states, and relevant institutions to the NBSAP in order to obtain a formal commitment to actions and initiatives that contribute to reach the National Biodiversity Targets in 2020, to be included in the second version of NBSAP.

44. **The NBSAP includes several actions that contribute to achieve the present project's goal**. Firstly, the National Action Plans for the Conservation of Endangered Species (PANs), which are aligned with the Official National Lists of Endangered Species are one of the instruments of the National Program for Conservation of Endangered Species, created by MMA Ordinance 43/2014 (focus of the project funded by the GEF entitled 'National Strategy for Conservation of Threatened Species – PROSPECIES' – GEF Project ID 9271). The PANs define, through a participatory process, strategies to improve the conservation of endangered species establishing pacts with several stakeholders. One of the current priorities is the production of a national strategy to implement the Pro-Species Program, as expected by MMA Ordinance 162/2016.

45. **The NBSAP also deals with the Environmental Monitoring Program of Brazilian Biomes** through MMA Ordinance 365/2015 to map and monitor vegetation and land use in the country. The mappings to be launched in 2020 focuses on native vegetation conversion, selective logging, vegetation cover and land use assessment, fire monitoring and vegetation recovery. They are instrumental providing information and support for public policies related to biodiversity and climate.

46. **Furthermore, NBSAP acknowledges the development of an Information System on Brazilian Biodiversity (SiBBr), the first step for Brazil to settle a solid national infrastructure of data and content on biodiversity.** The SiBBr was an initiative of the Brazilian Ministry of Science, Technology, Innovation and Communications (MCTIC) and was developed with technical support by the UN Environmental Program (UN Environment) and financial support by GEF (GEF Project ID 3722). The SiBBr is an online platform that intends to gather data and information on biodiversity in Brazil. In the scope of the SiBBr, the MCTIC, in partnership with the Secretariat of Biodiversity (SBio) of the Ministry of Environment (MMA), is currently investing in the development of a system to support decision-making. The goal of this system is to automate, whenever possible, processes and tasks to increase agility and qualification, and decrease costs of analyses to implement public policies on biodiversity. Some examples are the process of priority areas identification and actions for conservation, connectivity and fragmentation analysis, assessment of endangered species, identification of potential areas for provision of ecosystem services, and location of areas for native vegetation restoration. Such actions contribute to minimize the failure to comply with environmental laws, one of the causes of habitat conversion, resulted from insufficient monitoring of biodiversity and ecosystem services. Furthermore, the actions in the scope of SiBBr help to overcome barriers such as the limited knowledge on biodiversity value and provision of ecosystem services in private areas, which also leads to development of rural property management guidelines that may not incorporate environmentally sound and efficient techniques.

47. **Brazil established its National Environment Policy almost four decades ago through the Law N$^{0.}$ 6.938, of 31 August 1981, with the goal of preserving, improving and restoring environmental quality to ensure conditions for socioeconomic development, for national security and for protection of human life dignity.** Some of the instruments established by the National Environment Policy are economic tools, such as forest concession, environmental bonds and environmental insurance. These instruments can be used to deal with

another cause of habitat conversion mentioned above, the lack of economic tools for valuation of biodiversity. These economic tools can be elaborated by Federal, State, Municipal agencies, as well as by foundations established by Public Authority, responsible for the protection and improvement of environmental quality, all of which comprise the National Environment System (Sisnama), created by Law Nº. 6.938/1981.

48. In 2012, the main Brazilian environmental law (the Forest Code) was revised and gave place to the LPVN (Law Nº. 12.651/2012). PPA is a protected area, covered or not by native vegetation, aimed at preserving water resources, landscape, geological stability, and biodiversity, enabling gene flow of the fauna and flora, protecting the soil, and ensuring the well-being of human populations (see more in sub-section *2.1 - national context*). The intervention or suppression of native vegetation in PPAs can only occur in the hypothesis of public utility, social interest or low environmental impact. The LR aims at ensuring the sustainable economic use of natural resources of the rural property, enabling conservation and rehabilitation of ecological processes, promoting biodiversity conservation, and sheltering and protecting the wild fauna and native flora. Sustainable management of LR is allowed in two ways: without commercial purpose (for self-consumption), or with commercial purpose. The management with commercial purpose depends on permission by a competent agency and must attend the following guidelines and protocols: I – maintain original features of the vegetal cover and preserve the native vegetation conservation in the area; II – ensure preservation of species diversity; and III –manage exotic species adopting measures that enable regeneration of native species. The sustainable management for casual forest exploitation without commercial purpose, for local consumption in the property, does not need permission by competent agencies, but must be previously informed to the environmental agency about the motivation of exploitation and the volume exploited, limiting it to 20 (twenty) squared meters annually.

49. The LPVN introduced new mechanisms to facilitate enforcement, compliance and monitoring. It created the Rural Environmental Register (CAR) that requires all owners or "possessors"[3] of rural properties to register their lands, delineating the georeferenced LR and PPA on satellite images. In this context, the Ministry of the Environment developed the Rural Environmental Register System (SiCAR), a georeferenced web-based system that enables documentation of all Brazilian rural properties. Replicated to the States, the system is operated online and automatically calculates legal liabilities by simply uploading the georeferenced property boundaries and demarcating water bodies and forest patches. This tool is expected to signal land-use changes, thus reducing the costs of monitoring and enforcement. Landowners or "possessors" with LR or PPA deficit in SiCAR would have to stipulate how they plan to comply with the environmental law. This will serve as the basis for compliance monitoring. Then, such landowners must correct or "regulate" their deficits in 20 years and produce an Environmental Regularization Program (PRA) overseen by each Brazilian State. In this context, there is a key question of timing: when would such a property register (CAR) be sufficiently advanced and validated to serve as a (preconditioned) instrument for an at-scale environmental regularization? The speed of CAR implementation and validation is uneven across federal states.

50. The LPVN has determined that private properties correct their PPA and LR deficits. For PPA along watercourses illegally deforested prior to July 22th 2008, the buffer to be restored is specified according to property size and width of the river. For LR illegally deforested prior to July 22th 2008, only properties larger than four

[3] Because title regularization is a complex process in Brazil, many rural landowners do not hold formal deeds to the land they occupy and are classified as "possessors".

fiscal modules[4] are required to make up for such deficits. However, after that date, all landowners that reduce(d) native vegetation (PPA and LR) beyond the legal limits are required to return to compliance by restoring those areas (LR restoration percentages are bound by biogeographical regions, as previously detailed).

51. **One flexibility mechanism included in the 2012 law is the option for landowners to "compensate" for any LR deficits incurred prior to July 22th 2008 with LR surpluses on other properties, through the acquisition of Environmental Reserve Certificates (CRA)**. Small landowners (properties under four fiscal modules), however, are allowed to issue a CRA in 100% of any remaining native vegetation (outside of PPAs) even if such area does not exceed the legal requirements. CRA can also be issued to regularize public property over protected areas (i.e. "conservation units"). Owners of private areas within areas that the government has designated as conservation units are, in theory, supposed to receive compensation for their loss, but this process has been slow (May et al., 2015). The potential to sell CRA from these formerly private areas could generate revenues enabling the government to clear its compensation debts related to these lands and regularize their status as part of conservation units. The CRA system would permit landowners within the same biogeographical region to trade surplus reserves among themselves.

52. **According to the LPVN (Chapter VII), the exploitation with commercial purpose of native vegetation of public or private domain is subjected to licensing by an agency of Sisnama based on approval of a Sustainable Forest Management plan (PMFS).** It addresses techniques of conduction, exploitation, restoration, and management of forests in such areas.

53. **Furthermore, Chapter VII of Law Nº. 12.651/2012 mandates that people or companies who hold permission to cut the forest or extract raw material from it must reforest**. The industrial companies that use a large quantity of forest raw material are also obliged to elaborate and implement the Sustainable Supply Plan (PSS), to be submitted to approval by the environmental agency of Sisnama.

54. **Another central law for use and protection of native vegetation, but applicable only to the Atlantic Forest biogeographical region, is the Law Nº. 11.428/2006, known as 'Atlantic Forest Law'.** This law establishes that the cut and exploitation of the Atlantic Forest vegetation is specified according to the status of the vegetation: primary or secondary. The cut of primary vegetation or in advanced and medium stages of regeneration is prohibited in some cases and, in others, it is allowed only under consent of the environmental agency and environmental compensation. Even when it is secondary vegetation in initial stage of regeneration, the cut and exploitation must occur only under the permission of the environmental state agency. The Law Nº. 11.428/2006 has also established credit incentives for the Atlantic Forest conservation, prioritizing agricultural credit lines for small rural producers and traditional populations that have primary or secondary vegetation in advanced or medium stages of regeneration.

55. **The National Policy on Climate Change (PNMC), established by the Law Nº. 12.187/2009, has made official the voluntary commitment of Brazil to the United Nations Framework Convention on Climate Change (UNFCCC) to reduce greenhouse gas emissions between 36,1% and 38,9% until 2020.** Some instruments of this policy are: the National Plan on Climate Change; the Prevention and Control of Deforestation in Biogeographical Regions Action Plans; fiscal and tax measures designed to encourage the reduction of emissions

[4] The fiscal module is defined by the land area conceptually necessary to provide for basic needs of a rural household, which vary in size throughout Brazilian municipalities. In the Amazon region, for example, this module varies in most municipalities between 60 and 100 ha in size.

and removal of greenhouse gases, including special aliquots, exemptions, compensations, and incentives; and specific credit lines and funding by public and private financial agents.

56. The PNMC has also determined that the federal government must establish sectorial Plans for mitigation and adaptation to climate change which aim at reinforcing economy of low carbon consumption so that anthropic emissions are gradually reduced. For the agricultural and livestock sector, the **Sector Plan for Mitigation and Adaptation to Climate Change for the Consolidation of a Low-Carbon Economy in Agriculture (ABC Plan)** was created. Its main goal is to bring the transition of conventional agriculture to a production model that minimizes the GHG emissions in Brazil (from 2010 up to 2020). Some of the targets of the ABC Plan are to recover 15 million hectares of degraded pastures; increase the adoption of systems of Integration of Crops-Livestock-Forestry (ILPF) and of Agroforestry Systems (SAFs) in 4 million hectares; expand the use of direct plantation in 8 million hectares; expand the use of biological nitrogen fixation in 5.5 million hectares; and promote actions for reforestation in the country to expand areas with planted forests, currently used for the production of fibre, timber and cellulose, in 3.0 million hectares.

57. The ABC Plan has a credit line, the ABC Program, which aims at providing conditions for farmers to carry through the necessary investments for incorporating technological alternatives of low carbon emission in the productive process. To apply for it the rural producer must present a technical project showing that it will be used towards mitigating GHG emissions. This is an innovation in the history of the Brazilian rural credit lines, since other lines only support fundable items whereas the ABC Program fund items that will secure an environmental goal (OBSERVATÓRIO ABC, 2016). The recovery of pastures has been the flagship of the ABC Program which comprised 48% of the resources disbursed, and, in the past year, was seconded by direct plantation, which consumed 27% of disbursed resources. The ABC Program also has a credit line specifically oriented to fund forest recovery of PPAs and LRs (known as "ABC Environment")**.**

58. At the end of 2015, Brazil established its National REDD+ (Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries) Strategy (ENREDD+). The general goal established by the ENREDD+ is to contribute with mitigation of climate change through elimination of illegal deforestation, conservation and recovery of forest ecosystems, and development of a sustainable forest economy of low carbon to generate economic, social, and environmental benefits.

59. In September 2015, Brazil also presented to the Secretariat of UNFCCC its intended Nationally Determined Contribution (iNDC), in the scope of the Paris Agreement. With the instrument deposit that ratifies the agreement in September 2016, Brazil's Nationally Determined Contribution (NDC) ceased of being 'intended'. In the agreement, which came into force on November 4th 2016, Brazil committed to implement actions and measures to support compliance with targets established in the NDC – reduction of emissions by 37% by 2025, in regard to the levels of 2005, and by 43% until 2030. Regarding changes in land use, within the actions foreseen in the forest sector, the country aims at strengthening the compliance with the LPVN in federal, state and municipal scopes to restore and reforest 12 million hectares of forests for multiple purposes by 2030, and upscale sustainable management systems of native forests through geo-referencing and tracking systems to discourage illegal and unsustainable practices. In the agricultural sector, Brazil aims at strengthening the ABC Plan as the main strategy for sustainable development of agriculture.

60. In December 2016, during the Conference of the Parties at CBD (COP 13), the Brazilian government joined

the Bonn Challenge[5] **and the Initiative 20x20**[6]**.** In the scope of the Bonn Challenge, the country has established a voluntary contribution to restore, reforest and induce natural regeneration of 12 million hectares of forests for multiple uses, and implement 5 million hectares of integrated systems that join crop-cattle-ranching-forest in the context of the ABC Plan by 2030. Brazil's voluntary contribution to the Initiative 20x20 includes the recovery of 5 million hectares of degraded pastures by 2020, as well as other technologies aiming at raise the resilience of Brazilian agriculture to climate change.

61. Finally, the federal government has recently established the National Policy for Native Vegetation Recovery (Proveg) (Decree 8.972/2017) **to integrate and promote policies, programs and inductive actions for forest recovery and other forms of native vegetation, and to boost environmental regularization of Brazilian rural properties in the context of the Law 12.651/2012, in a total area of at least twelve million hectares by 2030**. The Proveg will be implemented through the National Plan for Native Vegetation Recovery (Planaveg), whose pillars must be: society awareness; availability of seeds and seedlings; markets; institutional cooperation; financing; extension services; spatial planning and monitoring; and research, development, and innovation. The Decree 8.972/2017 has also implemented the National Commission for Recovery of Native Vegetation – Conaveg, whose members are representatives from the MMA; the Staff of Presidency of Republic of Brazil through the Special Secretariat of Family Agriculture and Agrarian Development; the Ministry of Finance; Ministry of Agriculture, Livestock, and Supply; the Ministry of Planning, Development, and Management; and the MCTIC. Representatives from the States, Municipalities, and civil society also have seats in the Conaveg.

2.5. Stakeholder mapping and analysis

62. The Project was developed through a participatory process involving a broad group of stakeholders related to biodiversity conservation, sustainable management of native vegetation and environmental degradation in private areas acting in several scopes and scales. In the process, stakeholders and their efforts were identified allowing the detection of synergies among different initiatives. Hence, the project managed to build a network of stakeholders and initiatives that complete one another to reach the established goals. In a few cases, these interested parties can also benefit directly or indirectly from the project. The table below shows the stakeholders identified during the preparation of the project, the details of their role/actions and their participation and interest in the project (Table 2).

63. In addition to that, an appropriate gender analysis was conducted at the project preparation to determine the different roles, needs, and knowledge of women and men.

64. The inclusion of women can increase the workforce, produce wealth and foster entrepreneurship, expand family business opportunities, and promote the sustainable use of natural resources. In 2010 almost half of the Brazilian families were headed by women. Women have increased their share in the income of Brazilian families: about 40% of women contribute to the income of families in the country - in rural areas, the proportion reaches 42.4% (IBGE, 2010). When it comes to access to land, 72% of the properties of the agrarian reform are today registered in the name of the woman.

65. Even so, they still represent the minority of the economically active force: while 72% of men are active, only 50%

[5] http://www.bonnchallenge.org/.

[6] http://www.wri.org/our-work/project/initiative-20x20/

of women are active. In Brazil, women represent only 18% in the Senate and 9.9% in the Chamber of Deputies. In addition to that, the pay gap is a reality: women earn about 30% less than men.

66. When it comes to restoring forest landscapes, there is a huge growth potential for the role of women that deserves to be fostered: in developing countries, women make up 43% of the workforce in the rural areas and can grow by 20-30% results if they have the same access to inputs as men. In activities such as seed production and seedlings women already account for 50% of the workforce. The work with seeds and seedlings is historically linked to women, because while men went out to work in agriculture women were involved in activities linked to nature. Other productive activities, such as the making of jewellery and handicrafts, are also linked to women.

67. Unlike men, whose income from the forest reaches one-third of the total, forestry deals represent 50% of the income of the rural women and is of great importance for their livelihood.

68. Women tend to work in groups and easily recognize native and medicinal plants, which are fundamental to the success of complex projects of conservation value assessment and restoration of native vegetation. The ability of women to work with people and generate empathy is an asset to be tapped into global challenges. In the chain of restoration, the woman has the ability to work from the base to the top, especially for her ability to communicate with others.

69. This gender analysis was a critical first step to set the baseline and develop the project design with a gender responsive approach to actions and results (refer to Sub-Section 3.11 and Appendix 4).

Table 2. Stakeholders/Institutions, sector, role and project participation/functions.

Stakeholder, Sector and Role	Participation in the Project
Ministry of the Environment (MMA) Public sector. The MMA is the federal body that deals with the environment, among other subjects in its agenda. It rules the environmental public policies on conservation and restoration of biodiversity, protected areas and plans and actions for endangered species.	One of the executing agencies of the project. I) Department of Ecosystems: It will assist the general coordination of the project, in the improvement of the procedure to approve sustainable native vegetation management in areas of existing and recovering LR (e.g. bottleneck diagnosis, identification of possible solutions, formulation of the regulation proposal and advocacy), in the development of incentives to value biodiversity/native vegetation in private areas, and in the sectoral agreement with forestry companies. It will participate in every component of the project. II) Department of Endangered Species: It develops the PRODOC for the GEF 'National Strategy for Conservation of Threatened Species' (PROSPECIES; GEF Project ID 9271). III) Department of protected areas: It develops the PRODOC for the GEF 'Consolidation of National System of Conservation Units and Enhanced Flora and Fauna Protection' (TERRESTRE; GEF Project ID 4859).
International Institute for Sustainability (IIS) Private sector. Non-profit, non-governmental institution that assists with decision-making of governmental and non-governmental organizations on landscape sustainable use.	One of the executing agencies of the project. It will coordinate the technical execution and implementation of the entire project with the MMA, UN Environment and other project partners. It will participate in every component of the project.
Pontifical Catholic University of Rio de Janeiro - PUC-Rio Centre for Synthesis in Science Rio Conservation and Sustainability Science (CSRio) Private sector. Non-profit, academic and scientific institution in sustainability and conservation science.	It will provide technical support to every component of the project.
The Brazilian Foundation for Sustainable Development (FBDS) Private sector. Non-profit, non-governmental institution that thinks and structures projects and partnerships in the subject of sustainable development.	It will assist in the establishment of a sectorial agreement with the forestry sector, summarizing biodiversity data made available by the companies of this sector; it will co-develop protocols for native species recovery, and the co-develop/apply protocols for biodiversity monitoring within the areas leased by forest companies. It will participate in the component 2 of the project.
United Nations Environment Programme (UN Environment) UN agency with the mandate to keep the environment under review and advice countries on environmental policy based on sound science.	UN Environment is GEF Implementing Agency that will provide technical assistance during the full project cycle. As such, it supports project development and supervision of implementation including Monitoring and Evaluation, ensuring fiduciary standards. It will participate in every component of the project.

Brazilian Forest Service (SFB) Public sector. Linked to the MMA, it promotes knowledge, sustainable use and expansion of native cover (particularly forests), making this agenda strategic for the country's economy. The SFB manages the SiCAR, supports the implementation of the Rural Environmental Registry and of the Environmental Regularization Programs in the states, and manages the issuing of the Environmental Reserve Certificates.	Federal governmental Institution They are responsible for the Rural Environmental Registry (CAR) and its online System (SiCAR), in addition to acting in the forest management area. Therefore, it will be a vital partner to the project. They will provide training to those hired by the project to validate the CAR and initiate the Environmental Regularization Programs with the landowners at the São João APA. They will create a module within SiCAR where a spatial database on biodiversity value in private areas will be added. They will assist in the stakeholders training on the use of this spatial database in SiCAR. Furthermore, they will also assist to expedite/improve the procedure to approve sustainable forest management in areas of existing or recovering LR (e.g. bottleneck diagnosis, identification of possible solutions, formulation of the regulation proposal and advocacy). They will potentially assist in the development/implementation of mechanisms to value biodiversity/native forests in private areas. For example, using spatial database on biodiversity value in private areas to negotiate the CRAs. It will participate in the components 1 and 3 of the project.
Chico Mendes Institute for Biodiversity Conservation (ICMBio) Public sector. Agency linked to MMA that offers, implements, manages, protects, controls and monitors Federal protected areas; it promotes and performs programs on biodiversity research, protection, preservation and conservation of such protected areas; and it acts as environmental police force to preserve federal protected areas.	The ICMBio, with personnel from its headquarters and federal protected areas located in the project's pilot areas (e.g. São João APA, Pouso Alto APA and Chapada dos Veadeiros National Park), will assist with the development of biodiversity/native forests appreciation in private areas and with incentives to create and strengthen Private Reserves of the Natural Heritage in Pouso Alto APA. It will participate in the component 1 of the project.
International Union for Conservation of Nature (IUCN) Public-private sector. Institution that acts to inform, add and spread conservation efforts globally, boosting and enabling the exchange of information and the implementation of solutions for global challenges on conservation.	The IUCN has recently made official a Task Force to establish terminology, targets and formal policies of conservation in OECMs. This institution is a partner that will assist with disseminating the project, especially internationally. The lessons learned in the project on biodiversity conservation in private areas will support the IUCN Task Force, which will help publicize the results internationally. It will participate in the component 3 of the project.
Consulting Board of São João APA Public sector. Created by the Order (No. 87 from 12/07/05), it consists of 39 members from federal, state and municipal bodies and governmental entities, and by civil society. It aims to contribute to the arrangement and implementation of actions destined to achieve the protected area goals. Currently, it is not very active, for these activities are being held by the Mosaic of the Mico Leão Dourado.	It will provide support for the activities development in the pilot area of São João implementation of practices of integrated landscape management, promotion of restoration and development of incentives to appreciate native forests/biodiversity in private areas. It will participate in the component 1 of the project.
Mosaic of Mico Leão Dourado	Council to strengthen Mosaics of protected areas (in this specific case, in the region of São João APA).

Public sector. It is included in an action by the Federal government to strengthen the mosaics of protected areas (a series of protected areas that are close or overlapped). The law (Order of the MMA No. 418/2010) recognizes the Mosaic and its management structure. Currently, it acts as the Board of São João APA. The Mosaic is in 75% of the APA and consists of 19 governmental and non-governmental institutions, in addition to the civil society.	Will support the development of activities in the pilot area of São João APA implementing of practices of integrated landscape management, promoting restoration and developing incentives to appreciate native forests/biodiversity in private areas. It will participate in the component 1 of the project.
Non-governmental Organization Mico Leão Dourado Private sector. Non-profit, non-governmental institution that promotes conservation, mainly of the Golden Lion Tamarin (endemic and endangered species of the Atlantic Forest).	Working since 1992 in São João APA, this NGO is extremely engaged with rural landowners and institutions active in the APA region. In addition, it monitors a symbolic endemic and threatened species in the region – the Golden Lion Tamarin. Therefore, the NGO will be a partner of the project in implementing integrated management practices of property and landscape, in addition to monitoring the Golden Lion Tamarin in the pilot area of São João APA. It will participate in the component 1 of the project.
Rio de Janeiro State Environmental Institute (INEA) Public sector. Governmental State institution that aims to protect, conserve and recover the environmental heritage of the State of Rio de Janeiro through an agenda of sustainable development.	This institution assists among other thing: i) the restoration planning of small properties with native seedlings, ii) real-time monitoring of land use changes (*Projeto Olho Verde*), and iii) the creation of RPPNs. INEA will be a partner in the project aiding with the activities development in São João APA, particularly with the validation of the Rural Environmental Registry (CAR) in the APA, and subsidies to develop restoration. It will participate in the component 1 of the project.
Secretariat of Agriculture and Livestock of Rio de Janeiro State- Rio Rural Programme Public sector. This state program aims at funding the sustainable rural development in micro-watersheds in the state of Rio de Janeiro.	The Rio Rural Programme has already made a GEF project in which the goal was to improve biodiversity protection and increase sustainability of productive areas in private properties in some parts of the state of Rio de Janeiro (mainly the northeast of the state). Since the goal of the GEF Rio Rural project wass aligned to the one proposed in the present project, Rio Rural Program will assist with the negotiation with EMATER (see below) regarding technical assistance and training courses to implement SLM, SFM and native vegetation recovery in São João APA. It will participate in the component 1 of the project.
Technical Assistance and Rural Extension – EMATER Public sector. It is responsible for technical assistance and rural extension in the State of Rio de Janeiro.	It employs the extension agents who will act in the pilot area of São João APA. Hence, the company will approve, in the annual work plan of extension agents, the participation in the training programs to implement SLM, SFM and native vegetation recovery. It will participate in the component 1 of the project.
Agricultural Research Corporation of Rio de Janeiro State (PESAGRO)	Due to its experience in executing projects on sustainable productive practices with landowners, it will be a partner on the implementation of SLM e SFM in the pilot area of São João APA.

Public sector. It enables technological solutions and funds public policies for rural development in the State of Rio de Janeiro.	It will participate in the component 1 of the project.
Rural Union of Silva Jardim and Casemiro de Abreu Private sector. Association of rural producers interested in improving their productivity and forming cooperatives.	Since the project will be developed in private areas, it is vital the participation of this association to implement the project in the pilot area of São João APA. The Union will be one of the main elements to connect the project with landowners in the region. It will participate in the component 1 of the project.
Small, medium-sized and large landowners Private sector. Private landowners with interests in the biogeographical regions encompassed by the project, but particularly from Pouso Alto and São João APAs.	These will benefit in two different levels. Nationally: Landowners will participate and benefit from lessons learned in the pilot areas (São João and Pouso Alto APAs), and from the improvement in the procedure for approval for a sustainable forest management in existing or recovering LR areas. Pilot Areas: The landowners will participate and benefit from technical assistance, awareness and training for SLM, SFM and native vegetation recovery, in addition to a better knowledge on the biodiversity value in São João and Pouso Alto APAs. It will participate in the components 1 and 3 of the project.
Universities and research institutions Public and private sector. They do scientific and academic research.	They will collaborate with the creation of research networks, synthesis of data and development of the spatial database of biodiversity conservation value of private areas for each of the five biomes covered by the project. In addition, specific universities and research institutes will collaborate in the biodiversity monitoring in the pilot areas. They will participate and benefit from: the field data collected and assist with decision-making related to environmental public policies; the publishing of high impact international papers; and the creation of a network for ecology and landscape sustainability synthesis. It will participate in the components 2 and 3 of the project.
Brazilian Tree Industry (Ibá) Private sector. The association responsible for institutionally representating the planted tree production chain. The association represents 60 companies (e.g. Fibria, Klabin, Suzano, Eldorado, International Paper etc.) and nine state entities that provide products obtained from planted trees, with special mention to wood panels and laminate flooring, pulp, paper, energy forests and biomass. Ibá advocates on behalf of the industry's interests aiming at adding value to products obtained from planted pine and eucalyptus trees, as well as other species used for industrial purposes.	In this project, the Ibá will be a partner in the development of a sectorial agreement with the Forestry sector companies, and will help develop and implement conservation and restoration actions within the private areas managed by the Forestry sector companies. It will participate in the component 2 of the project.
Consulting board of Pouso Alto APA	After many years, it managed to create the Management plan of Pouso Alto APA. However, it is not yet implemented. Thus, the

Public sector. Created by the Decree (No. 5.419, from 05/07/01), it is formed by members from federal, state and municipal governmental bodies and entities and by the civil society. Its goal is to promote the sustainable development and preserve the flora, fauna, springs, geology and landscaping in the region of Pouso Alto, located at Chapada dos Veadeiros.	board will assist the project's activities related to the implementation of the Management plan of Pouso Alto APA and the creation of incentive packages to appreciate biodiversity/native vegetation. It will participate in the component 1 of the project.
Chapada dos Veadeiros National Park Public sector. Federal protected area managed by ICMBio.	It will assist with contacts to local landowners, associations and surrounding communities, since the Park is the main tourist attraction of Pouso Alto APA, it also acts directly in the implementation of the APA's Management plan and collaborates with the local community (e.g. volunteers' training to work in the Park). It will further assist in the contact with organization of family agriculture products chains (e.g. Agroforestry Systems and extractive activities) and the strengthening of the networks of the Private Reserves of the Natural Heritage in the pilot area of Pouso Alto APA. It will participate in the component 1 of the project.
Secretariat for the Environment, Water Resources, Infrastructure, Cities and Metropolitan Affairs (Secima / MARH) of the State of Goiás Public sector. State secretariat responsible for environmental issues in the state of Goiás.	A key project partner, which will offer technical and political support to the implementation of the pilot in Pouso Alto APA. It is interested in changing the criteria to receive the Ecological Sales Tax (ICMS-E), since it is not proportional to the protected areas within the municipality. In addition, it is interested in assisting projects that integrate biodiversity conservation and sustainable productive practices within Pouso Alto APA. Hence, the Secima/MARH will be a vital partner in the creation and strengthening of the Private Reserves of the Natural Heritage, and in the implementation of the management plan. It will participate in the component 1 of the project.
Municipal Governments of Pouso Alto APA Public sector. Municipal management, including the agenda of biodiversity conservation.	The Municipal Governments will assist in the negotiation to allow extension agents to enrol in the training programs planned for Pouso Alto APA. In addition, some are interested in increasing the incentive to create Private Reserves of the Natural Heritage in Pouso Alto APA supporting some of the Projects activities. It will participate in the component 1 of the project.
University of Brasília (UNB *Cerrado*) Public sector. Educational and research institution focused on *Cerrado*'s biodiversity studies.	This institution will be vital for the project, assisting with biodiversity monitoring in the pilot area of Pouso Alto APA and helping disseminate activities and results. It will participate in the component 1 of the project.
Owners Association of Private Reserve of the Natural Heritage of Goiás and Distrito Federal (APRPPN) Private sector. Social organization that represents the owners of RPPNs in the region of Pouso Alto APA.	The APRPPN has sought to strengthen the initiatives to create Private Reserves of the Natural Heritage and its tourism. However, this association is weak and uninvolved. Hence, the APRPPN will be a partner strengthened by the project. It will help to increase biodiversity/native forests appreciation in private areas through incentives to create and strengthen the Private Reserves of the Natural Heritage in the pilot area of Pouso Alto APA.

	It will participate in the component 1 of the project.
Environment Secretariat of Silva Jardim Public sector. Municipal institution that aims at protecting, conserving and recovering the environmental heritage of the Municipality of Silva Jardim	This partner can offer political support to the implementation of the pilot in São João APA. It is interested in assisting projects that integrate biodiversity conservation and sustainable productive practices within the São João APA. It will participate in the component 1 of the project.
State Council of *Cerrado* Biosphere Reserve Public sector. The Council is in charge of elaborating policy guidelines and approving the Action Plan in the area designated as Biosphere Reserve.	The Management plan of Pouso Alto APA is not yet implemented. Thus, this council will assist in the project's activities related to the implementation of the APA's Management plan and the creation of incentive packages to appreciate biodiversity/native vegetation. It will participate in the component 1 of the project.
Collective mandate of Alto Paraíso Public-private sector. Collective organization of municipal management that occupies the position of councilman in Alto Paraíso municipality.	This council will assist in the project's activities related to the implementation of the Management plan of Pouso Alto APA in the municipality of Alto Paraíso. It is also important due to the good relation with the rural landowners, facilitating the implementation of the Management plan. It will participate in the component 1 of the project.
Pro-nature foundation (FUNATURA) Private sector. Develops networks and projects with the goal of nature conservation and improvement of life quality for local communities in the biogeographical regions of *Cerrado* and *Pantanal*.	This foundation may support the collected field data to monitor biodiversity conservation and can help to create/improve the network of RPPNs in Pouso Alto APA. It will participate in the component 1 of the project.
Observatório do Código Florestal (Forest Code Observatory). Network of several civil society institutions aims at monitoring the implementation of the LPVN (Forest Code) in Brazil.	The group is involved in several discussions related to the LPVN implementation, create databases, develop research and group discussions in order to assure a more transparent and effective implementation of the Law. A collaboration with the group will support the project by contributing to up-to-date information on the LPVN implementation. Also, it will contribute to the correct implementation of the CAR and its validation, reducing any risks it might have. It will participate in component 1 of the project.
National Agency for rural extension (ANATER). Private Sector. Promotes, incentivizes and stimulate the implementation of rural extension projects focusing on best practices, considering innovative and effective instruments.	The Agency was created in order to recognize the importance of technical extension assistance to rural landowners, and develop several projects for the implementation of sound and innovative instruments for the improvement of rural techniques that are beneficial to the environment. ANATER can contribute for the pilot area of Rio de Janeiro State, particularly for the implementation of Demonstration Units, as well as in the development of the Training course. It will participate in Component 1 of the project.

Further information on Stakeholder participation in the project is provided in Section 5 below.

2.6. Baseline analysis and gaps

70. **The project will be implemented in territories with high conservation value but also high habitat conversion and degradation.** There are several ongoing initiatives in Brazil that are directly or indirectly aiming at improving conservation actions in the country, but many have not surpassed barriers yet, such as low institutional capacity and inadequate governance, limited knowledge on conservation value of private areas (see Section 2.3). The following subsection describe the baseline and gaps regarding the biodiversity conservation and provision of ecosystem services in the two project pilot areas, in the forestry sector and in some national environmental policies, based on the status of different types of mechanisms being implemented.

Ongoing initiatives at the Pilot areas (São João and Pouso Alto APAs) [US$ 11,386,460.96]

71. **There are several initiatives being implemented both at the São João and Pouso Alto APAs.** These are related to increasing incentives for conservation and restoration of native vegetation and local stakeholder participation in such initiatives. **However, there are still gaps regarding these initiatives that this project will overcome**.

72. **Within the São João APA, there are some initiatives developed**, such as: the establishment of a network of technical assistance of civil society by the Cooperative of Work, Consulting, Projects and Services in Sustainability (CEDRO), the creation of the Research State Center in Agroforestry (CEPA) by the Agricultural Research Corporation of Rio de Janeiro State (PESAGRO), the promotion of participatory organic certification by the Organic Farmers Association of Rio de Janeiro State (ABIO), the dissemination and diffusion of knowledge on agroforestry systems by the Götsch Agenda, and the recovery of native vegetation (mainly through forest corridors) to increase the quantity and connectivity of habitats by the Mico Leão Dourado Association. The latter, in addition to creating forest corridors, has been conducted to support family agriculture, promote agroecological practices, encourage the implementation of nurseries of native seedlings and the adoption of agroforestry systems for the recovery of degraded areas since 2004. It is one of the largest and most recognized initiatives in the region and it is developed in partnership with a network of local stakeholders (ICMBio, associations of farmers of the settlements for agrarian reform, Secretariat of Agriculture and Environment from the municipalities of Silva Jardim and Casimiro de Abreu).

73. **Many of the initiatives in the São João APA are based on the implementation of successional agroforestry systems, which act as productive systems that assist in biodiversity conservation.** These systems present higher permeability than simplified pastures and agroecosystems, which increases landscape connectivity, wildlife food resources, and possibly the number of habitats for species like the Golden-Headed Lion Tamarin (*Leontopithecus chrysomelas*; Oliveira et al. 2011). Besides, the agroforestry practices can also be incorporated into the ecological restoration through the method of agro-successional restoration (Vieira et al. 2009). Agro-successional restoration increases income and involvement of rural landowners in the restoration process and favours food safety and socioecological resilience (Altieri et al. 2015).

74. **However, discontinuity of projects, changes in the public administration or funders, lack of collaboration, or difficult engagement with stakeholders are some of the problems related to low institutional capacity and inadequate governance in the São João APA.** Examples of projects that faced these challenges were coordinated by the City Hall of Casimiro de Abreu, which has encouraged the agroforestry systems from 2004 up to 2009, but has interrupted the work since the change of government. Similarly, the Mico Leão Dourado NGO has invested in the implementation of agroforestry systems, but not expanded this activity. The watershed committee once conducted a program of PES that encouraged good socioenvironmental practices without direct payment, but had to interrupt it. Another issue is that federal and State legislation on forest and agroforest management is not clear, especially regarding tree pruning in LR - **lack of complementarity and clarity among federal and state legislations and lack of environmentally sound regulation for native management in**

private areas.

75. **Further, there is no established market for organic products in the region of the São João APA, and goods outflow is still very difficult in the Pouso Alto APA - limited chain of agroforestry and non-timber products.** In the former location, there are two groups that produce organic products: Juturnaíba Group and Serramar II Group. The main challenge faced by both groups is product sales, for there is no established market for organic products in the region. Currently, the products are sold in the same market of conventional family agriculture, which limits their prices. Thus, one of the requests of these farmers regards dissemination of organic production. The Pouso Alto APA has initiatives for organic production and certification, but the outflow of goods is still very difficult, which also hinders the gains in scope.

76. **Within the Pouso Alto APA,** (eco-, adventure, and cultural) tourism is one of the main economic activities. In addition to that, there are a few experimental activities and projects in the region related to environmental education, green labels, environmental certification, and agroecology. Also, the State Secretariat for the Environment is developing the program Cultivating Good Water (CAB – *Cultivando Água Boa*), which intends to train environmental agents to improve soil management for water use and reuse. **However, within the Pouso Alto APA, there are some problems related to the activities and initiatives developed. To begin with, there is low institutional capacity and inadequate governance regarding such initiatives.** For instance, the council of the São João APA, which works with management and action plan, is currently inactive, and the Mosaic of the APA is the main promoter of activities in the place (refer to sub-section *Stakeholder mapping and analysis* for the differences between the council and the Mosaic of the São João APA). Likewise, the Pouso Alto APA has taken more than a decade to develop its Management plan, which is still depending on approval in many topics. Divergences among stakeholders related mostly to the productive sector in the APA's Council – in 2012 caused such delay. Low stakeholder participation or development of initiatives not based on participatory processes can also be an obstacle for effective project execution, since it might result in poor implementation, opposition from local actors or lack of conformity (e.g. Langpap 2006, Guimarães & Almeida 2007, Brito 2009, Lima et al. 2011, Rajão et al. 2012, Stickler et al. 2013).

77. In addition to that, Although Cavalcante, one of the municipalities that belongs to the APA, has over 150 waterfalls catalogued, there is still a lack of public policies to encourage tourism through investment in infrastructure, and logistics to enable access to the municipality (roads are not paved) - **insufficient economic incentives for the conservation of biodiversity and provision of ecosystem services in private areas**. The Tourist Assistance Center (CAT) exists, but it is not functional due to lack of employees. The agricultural practice at APA of Pouso Alto has a land structure marked by land concentration and high environmental liability - **low compliance with environmental legislation in force**. For instance, Goiás State (where the APA is located) leads the national ranking regarding consumption of pesticide with toxicity class I (highly toxic; Goiás, 2016) - **adoption of (unsustainable) conventional farming systems**. Most of the initiatives mentioned above are being still developed with poor articulation, failing to generate practice improvements. In many cases, the probability that such initiatives will remain, in the long term, is low. This is also due to the **insufficient technical assistance and rural extension focused on environmental-friendly techniques**, such as management techniques that integrate farming and biodiversity conservation and restoration.

Ongoing Forestry sector initiatives [US$ 52,329,771.57]

78. **The Brazilian Forestry sector has developed and applied biodiversity-friendly practices in its business.** Several companies manage their plantations in a matrix of native vegetation that function as ecological corridors. These companies also develop technologies to restore, monitor, and predict climate change effects. These practices have great coverage in private areas: 13 million hectares are managed by these forestry companies and 5 million of them are in PPA and LR. In addition, this sector also has a stake on national (for instance, it is a

member of the Brazilian Coalition on Climate, Forests, and Agriculture) and international (when announcing commitments to combat climate change during the Paris conference of the UNFCCC in 2015) environmental issues.

79. **Nevertheless, the good practices of the sector in relation to biodiversity need more visibility and improved spatial targeting.** The contributions of the Brazilian forestry sector regarding biodiversity conservation and restoration have not been considered in the national and international targets related to biodiversity – given the **poor knowledge about conservation value in their private areas**. The Aichi Targets and the Global Strategy for Plant Conservation, for instance, are commitments signed by Brazil whose indexes and metrics are incomplete if they do not consider the effort of the forestry sector. Thus, there is room for this sector to sign commitments to identify areas of high conservation value among their lands and improve their biodiversity monitoring.

80. **Besides, as a portion of the area managed by forestry companies is leased, such companies interact with landowners in local scale that have environmental (PPA or LR) deficits**. Driven by environmental certification schemes forestry companies have been interacting with landowners so that the latter find alternatives for making up for their **non-compliance with environmental legislation in force**. Another challenge for forestry companies is to optimize the achievement of such compliance by overcoming the **lack of integrated landscape planning**. This makes the Forestry sector an ally of the cause regarding biodiversity conservation in private areas. **Ongoing national-scale initiatives** [US$ 183,100,000]

81. **There are several national and subnational initiatives focused on increasing conservation value across Brazil.** Nevertheless, many lack regulations and markets, or other obstacles exist regarding their implementation and correct enforcement. Examples are the ICMS-E (Ecological Value Added Tax or Ecological VAT), environmental certificates/sustainable labels, Payment for Environmental Services (PES), REDD+, agricultural credit lines conditioned to the adoption of good environmental practices, and CRAs.

82. **The ICMS-E is an intergovernmental ecological fiscal transfer which redistributes VAT revenues from states (collected from taxes on goods and services) to municipalities and that is used today in the majority of Brazilian States (Sauquet et al. 2014; Brasil, 2015b).** The mechanism aims at reducing biodiversity loss by stimulating conservation initiatives, e.g. the creation and management of protected areas. For example, the more municipalities encourage or create protected areas in private areas (e.g. Private Reserve of the Natural Heritage) the higher is the reward they receive. However, there are still lack of awareness of decision-makers (mayors, governors, legislative assemblies) to ensure that the reward received by municipalities is fed back into protected areas or oriented to new conservation activities. It is often used in degrading or non-sustainable activities, what reflects **poor knowledge about conservation value of private areas**. Thus, there is still no mandatory legal mechanism that ensures compensation, for example, to the RPPN's owners, or encourages people to take other conservation actions. There are few examples in which the fund is obligatorily converted to promote activities for conservation of biodiversity (e.g. in the municipality of Varre-Sai in northern Rio de Janeiro). In the São João APA, there are municipalities with high ICMS-E collection, as is the case of Silva Jardim, the Brazilian municipality with the most Private Reserves of the Natural Heritage. However, the revenues do not necessarily support conservation activities.

83. **PES is an economic tool in which the provider of ecosystem services receives direct or indirect economic incentives from those who benefit from such services.** There are several initiatives for PES being established and gaining support in Brazil, like the "Projeto Conservador das Águas"[7]. The project was implemented in the beginning of the 2000s in the city of Extrema (MG), in the Atlantic Forest (but outside the São João APA), and is currently well established, contributing with an increased income for the local producers. Despite resistance at the

[7] http://extrema.mg.gov.br/conservadordasaguas/

beginning, today the farmers themselves seek to join the program. Many of the PES programs implemented in Brazil, however, do not cover opportunity costs of farmers, which often leads to low adherence or withdrawal. The landowners end up considering the opportunity cost of their activities first, instead of recognizing the biodiversity value, since the benefits are dispersed and unknown, which also hinders the charging for such services. This is a typical case of **insufficient economic incentives for the conservation of biodiversity and provision of ecosystem services in private areas**. Finally, the national proposal for PES has not been accepted yet: it has been in progress since 2007 in the National Congress, but not yet finalized.

84. **There is also in Brazil several REDD+ initiatives under development in national and subnational scales**, particularly in the Amazon biogeographical region. Despite the existence of many programs and of a National Strategy (ENREDD+), there are still obstacles for the development of such initiatives. For instance, such initiatives receive payment for tons of not emitted carbon, but they do not consider the conservation value in the preserved areas, another example of **insufficient economic incentives for the conservation of biodiversity and provision of ecosystem services in private areas**. Moreover, a hot discussion within the REDD+ national agenda is whether this program should be implemented only in areas with greater carbon stock and higher risk of deforestation, which would bring more additionally to the project.

85. **Regarding credit lines, the ABC Program is one of the few powerful credit lines in economic terms, with funds directed to implementation of sustainable agriculture.** Nevertheless, the ABC Program has never presented 100% of performance (full amount contracted in relation to total available). In the 2015/16 program, 68% of the available amount was hired, while the best performance (90%) was observed in 2012/13 (Observatório ABC, 2017). When created (in 2010) the ABC Program presented low interest rates as a competitive differential; however, such rate has gradually raised to the current level (2016/17 crop), driven by the country's economic situation (Observatório ABC, 2017). Consequently, ABC Program's interest rates have lost their attractiveness, and, for small landowners, credit lines of the Family Agriculture Strengthening Program (Pronaf) have been the best option, because they have had the lowest interest rates in the market (Observatório ABC, 2017). The amounts made available (limits) through Pronaf, however, are lower than those made available by the ABC Program. Other credit lines considered less bureaucratic by landowners have offered interest rates equivalent to those of the ABC Program, a fact that have significantly reduced the economic appeal of the ABC Program (Observatório ABC, 2017).

86. **ABC Environment (oriented to recovery of PPAs and LRs) has been barely accessed** (0.38% of disbursed resources were contracted in 2015; Observatório ABC, 2016). The low attractiveness of ABC Environment refers to the fact that this credit line funds activities that do not generate immediate financial feedback, as agricultural and livestock products do (grains, meat etc.; Observatório ABC, 2014). As the CAR, the PRA, and the commerce of the CRAs grow, the tendency is that the disbursement to the ABC Environment increases. Furthermore, since the Law No. 12.651/2012 allows economic exploitation of the LR area, the federal government intends to encourage the production of assai, palm oil (*dendê*), and cocoa through the ABC Environment (Observatório ABC, 2016). However, it is necessary that ABC Environment is linked to the monitoring of mitigated carbon to be effective, which has not happened yet (Observatório ABC, 2014).

87. **Pronaf also provides credit lines that support sustainable agricultural techniques and recovery of PPAs and LRs (Pronaf Agroecology, Pronaf Eco, and Forest Pronaf).** Again, credit lines focused on the latter have low demand, because landowners consider that recovery of PPAs and LRs not only does not have a direct financial return but also makes them lose area already used for agriculture or cattle (Cardoso, 2011).

88. This issue of credit lines illustrates, again, the problems of **poor knowledge about conservation value of private areas** and of **insufficient economic incentives for the conservation of biodiversity and provision of ecosystem services in private areas**. In this context, it is necessary to improve existing lines by creating incentives like

financial reward to and risk mitigation of investments focused on landowners who have joined the process of environmental regularization (Cardoso, 2011).

89. **The issuance mechanism of CRAs, predicted in the LPVN, is still to be regulated at federal level.** The CRAs can create a forest market adding monetary value to the native vegetation (Soares-Filho et al. 2014). The implementation of a CRA market will be critical to offset the often-prohibitive costs of native vegetation restoration in some regions (Soares-Filho et al. 2014), and it can be the best cost-effective option to protect important areas for biodiversity which could be legally deforested. A key point for the success of the CRAs market is the balance between supply and demand of quotas. In this context, according to models made by Soares-Filho et al. (2016), there is a risk that oversupply (from quotas related to areas of native vegetation of LR in small properties and of rural properties located within protected areas of public domain not yet expropriated) may flood many of the regional CRA markets. The study points out that the more constrained the market, the bigger is its economic potential, and the smaller the net loss of CO_2 between potential sequestration by restoration that would be offset and emissions from avoided legal native vegetation conversion by trading CRAs. A larger supply of CRAs from a wider geographic area depresses the CRA price and hence the total market value despite larger trading volumes.

90. **The legal rule regulating the CRA market is expected, at first, to consider all surplus areas as having the same value for biodiversity conservation, given the poor knowledge about conservation value of private areas.** Therefore, knowledge on the biodiversity value of such areas allows decision-makers to make economic incentives more effective for conservation. For the CRA market to consider the biodiversity value, however, SiCAR must incorporate information on the biodiversity value within the private areas. Currently, only the center for database collection and the central modules are operating at SiCAR (Fig. 5). The module of analysis and the module of the PRA are under development and should be launched soon. By December 2016 over 400 million hectares have been registered at SiCAR, which corresponds to 3.2 million rural properties.

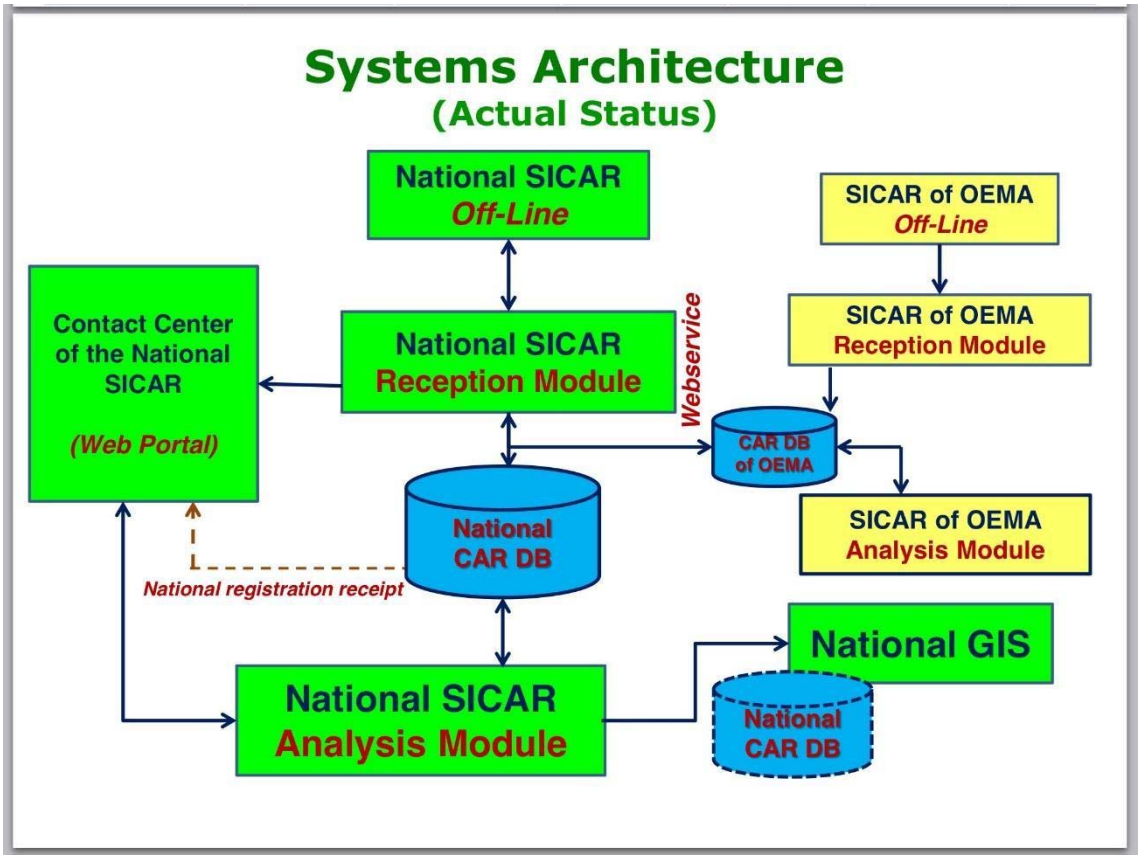

Figure 5. Scheme showing the process of registry, reception, contact centre, analysis and modules of Environmental Regularization Program (PRA). OEMAS – State environmental agencies.

91. Brazil has already adopted a national target for biodiversity which includes private areas as part of the effort to achieve the Aichi Target 11. The national target 11 considers not only protected areas (protected areas in the Brazilian case), but also OECMs. However, there is no clear definition or guideline to classify private areas as OECMs in terms of biodiversity value - **poor knowledge about conservation value of private areas**. Some argue that the OECMs must exclusively aim at preserving biodiversity. Nonetheless, others allege that including the PSAA as part of the target can hinder biodiversity conservation as the OECMs can encompass different levels of protection, from completely protected areas to areas with few restrictions to land use activities.

92. Finally, there are also national programs focused on integrated property management and restoration, e.g. those that stimulate production of non-timber products. The National Plan to Promote Socio-biodiversity Production Chain, established in 2008, is one of them. This program has a national scope involving 500,000 families with the main purpose of strengthening productive chains for non-timber products in strategic places. Among the products covered by the program is the *pequi* (*Caryocar brasiliense*), a typical *Cerrado* fruit. Brazil has produced 5,786 tons of *pequi* seed in 2010, which has generated R$10.6 million. Although there is an extensive framework of programs and plans on the subject, there is still no policy that effectively values products of socio-biodiversity, including the ones that may come from native vegetation in LR – **a lack of environmentally sound regulation for native management in private areas**. Also, there is a need to strengthen institutions which promote and control this subject, clarify roles, and coordinate actions – given the existence of **low institutional capacity and inadequate governance**. For instance, unless intermediaries of the *pequi* chain in the northern region of Minas Gerais State are involved in the planning of actions of the productive process the chain as a whole can be compromised.

2.7. Linkages with other GEF and non-GEF interventions

93. The present project shows a connection with many other GEF and non-GEF projects.

GEF Projects

94. The project **'National Strategy for Conservation of Threatened Species – PROSPECIES**' (GEF Project ID9271), whose goal is to promote initiatives to reduce threats and strengthen the conservation status of endangered species in all Brazilian biogeographical regions, has two components that will contribute to the achievement of our project's goal. The first component focus on mainstreaming threatened species conservation into sectoral policies, e.g. agriculture, which can orientate the establishment of partnerships with universities and institutions to monitor endangered species in both pilot areas of the present project and the spatial prioritization (considering landscape connectivity for endangered species) for forest recovery in one of them, São João APA (Component 1; *refer to Sub-section 3.3*). The second component of PROSPECIES has an output related to the training of at least 200 enforcement agents to apply intelligence and capacity related to tackle illegal wildlife trade and poaching. Since such trained agents can disseminate information in areas where the present project acts, the second component of PROSPECIES complements the present project.

95. Aligned with the present project, the goal of the project **'Conservation, Restoration and Sustainable Management Strategies to enhance *Caatinga*, *Pampa* and *Pantanal* Biodiversity – GEF Terrestre**' (GEF Project ID 4859) is to contribute to survival of priority endangered species, avoid carbon emissions, and increase forest and non-forest areas under sustainable management practices. There is also a component for recovery of degraded areas in priority areas that involves formulating plans and protocols to monitor such areas. The formulation process of these activities can be a valuable source of information when the present project develops the biodiversity monitoring protocol in areas retained by forestry companies (Component 2; refer to sub-section *3.3*).

96. The regional project **'Amazon Sustainable Landscapes Program**' (GEF Project ID 9272) aims at protecting biodiversity and implementing policies to encourage sustainable land use and native vegetation recovery. The project conducted by Brazil and focused on the Brazilian Amazon will also contribute to the present project even though the Amazon is not addressed in the latter. The integrated landscape management component of the regional project aims at encouraging the restoration of ecosystems to increase ecologic connectivity amid the protected areas and, consequently, the resilience of the services provided by ecosystems. The activities of this component will promote practices that reduce deforestation, enhance forest recovery, and generate income to farmers. Such component might give insights to conduct some activities in the São João APA (Component 1 of the present project) regarding wide-scale implementation of SLM, SFM, and native vegetation recovery (Outcome 1.1; refer to sub-section *3.3*). The other component of the regional project focuses on strengthening the abilities of federal and state governments to develop and implement sectorial policies and financial mechanisms that aim at reducing deforestation and promoting forest recovery. The activities of this component will prioritize building capacity to monitor forest recovery and improvement of financial incentives for landowners to invest in native vegetation recovery. This component might also contribute to the biodiversity inventory and monitoring data retained by forestry companies (Outcome 2.1) and the improvement of incentive schemes for SLM, SFM, and native vegetation recovery in both pilot areas of the present project (Outcome 1.3; refer to sub-section *3.3*).

97. The present project will benefit from the results of the project **'Improving Brazilian Capacity to Conserve and Use Biodiversity through Information Management and Use'** (GEF Project ID 3722), whose goal is to facilitate and integrate information on biodiversity (through the SiBBr) in decision-making. The present project intends to use a module of SiBBr to support decision-making, which will guide many activities and studies in specific geographic areas related to biodiversity conservation.

98. Furthermore, another project that has connection with the present project is the one entitled **"Mainstreaming**

biodiversity conservation and sustainable use into NTFP [Non-Timber Forest Products] and AFS [Agroforestry Systems] production practices in multiple-use forest landscapes of high conservation value" (GEF Project ID 5091). This project, focused on Amazon, Caatinga and *Cerrado*, has a double approach. The first one includes setting harvest limits to avoid the use of wild resources beyond sustainable limits, improving understanding about production value of NTFP and its contribution for the economy and livelihoods, strengthening decision support system to add value to the production of NTFP and AFS. The second approach seeks to increase profitability and scale up incentives for NTFP and AFS by disseminating information on production levels to access different markets, improving quality of such products and access to funding. Lessons learned from implementation of both approaches can enlighten the process of building a network of community associations in the Pouso Alto APA to promote sustainable extractivism (Outcome 1.2; refer to sub-section *3.3*).

99. Finally, there is a potential convergence between the present project and the project **'Sustainable, Accessible and Innovative Use of Biodiversity Resources and Associated Traditional Knowledge in Promising Phytotherapic Value Chains in Brazil'** (GEF Project ID 9449). The present project, if applicable to some local community in its pilot areas, can benefit from GEF Project ID 9449 with respect to strengthening phytotherapic value chains (originated from the use of either preserved or restored native vegetation) within local productive arrangements[8]. This action would contribute to the Outcome 1.3 - SLM, SFM and native vegetation recovery in private areas are developed and improved through incentive schemes (refer to sub-section *3.3*).

Other projects

100. The present project also has synergies with several non-GEF projects. One of them is the project **'Biodiversity and Climate Change in the Atlantic Forest'.** This project is coordinated by the MMA and funded by the Federal Ministry of the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) of Germany, with technical support from the *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH* and financial support from the KFW (German development bank), in the scope of the International Climate Initiative (IKI)[9]. The project aims at promoting biodiversity conservation and vegetation recovery in some mosaics of protected areas in the Atlantic Forest, and contributing to climate change mitigation and adaptation. In its first component there are activities such as areas prioritization for conservation and biodiversity recovery that can enlighten the spatial prioritization for forest recovery in the Mata Atlântica's pilot area of the present project (Outcome 1.1; refer to sub-section *3.3*). It also supports the landowner's inscription on CAR and their validation by states, which might give insights to support the use of CAR in the São João APA (Outcome 1.1; refer to sub-section *3.3*). The second component focus on increasing the availability of financial resources for the recovery of native vegetation in large scale, which relates to the improvement of incentive schemes for SLM, SFM and native vegetation recovery in private areas (Outcome 1.3; refer to sub-section *3.3*).

101. The Project **'Biodiversity Conservation through ecosystem services integration in public policies and in business activity' (TEEB Regional-Local)** aims at integrating biodiversity and ecosystem services in decision-making processes by public stakeholders and companies. One of the activities conducted in this project is to give incentives to landowners from the Federal District (within biogeographical region of *Cerrado*) that adhere to PRA and whose properties are in compliance with LPVN. The development process of an incentive scheme for conservation in the Pouso Alto APA (Outcome 1.2; refer to sub-section *3.3*) can learn from such experience.

102. The Project **'TEEB Regional-Local'** aims to integrate biodiversity and ecosystem services in decision-making

[8] Local productive arrangements are clusters of businesses located in the same territory, which present a profile of productive specialization and maintain joint linkages, interaction, cooperation and learning from each other and with other stakeholders, as a means of promoting local development.

[9] https://www.international-climate-initiative.com/en/projects/projects/details/biodiversity-and-climate-protection-in-the-mata-atlantica-363/?no_cache=1?b=4,4,30,0,1,0&kw=.

processes by public stakeholders and companies in the Federal District (within biogeographical region of *Cerrado*). Among the activities conducted, it promotes awards for environmental services originated at rural properties adherents to the Environmental Regularization Program (PRA) that have at least 20% of its area covered by native vegetation, and that do not have consolidated rural area affecting PPA or LR. This will happen with the establishment of specific rules targeting two benefits: preferred participation of these environmental services providers in the Agricultural Production Acquisition Program, with product sales at prices up to 30% higher than the reference prices, and in the sales of products to the National School Feeding Program with product sales at prices up to 20% higher than the reference prices, and individual sales limit up to 50% higher than the other producers.

103. The **"TFCA – Tropical Forest Conservation Act"**, established in 1998 by the Department of Treasury of United States of America, has appropriated over $95 million in Congressional funding via grants and debt-for-nature agreements for twelve developing countries, mostly in Latin American and the Caribbean. While the majority of TFCA money are transformed into debt-swaps for protection of tropical forests, a substantial portion — over $18 million — has been converted into bilateral "Tropical Forest Conservation Funds" to support grants for sustainable management of tropical forests[10]. In Brazil TFCA is focused on the biogeographical regions of the *Caatinga*, *Cerrado*, and Atlantic Forest. One of the actions of such initiative is intrinsically related to the present project because as it promotes the CAR in Pouso Alto APA, directly supporting refinement and implementation of its management plan (Outcome 1.2) and improve incentive schemes for SLM, SFM and native vegetation recovery in private areas in the *Cerrado*'s pilot area (Pouso Alto APA) (Outcome 1.3).

104. **Component 1** will benefit from ongoing projects that are focusing on the increased capacity of federal, state and local institutions to implement the LPVN, particularly focusing on the implementation of the CAR, as well as the development of the PRA. The first project, entitled **"Land and environmental management (Cadastro Ambiental Rural)"** is developed by GIZ and funded by BMZ, and executed by the Brazilian Forest Sector (SFB). The second, **"Rural Environmental Registry in the Amazon",** is funded by BMZ and implemented by KfW, with partnership with the Brazilian government. Although both are focused in the Amazon biogeographic region, and developed specifically in the São João APA, where the training programs will be developed and to the implementation of legally binding arrangements (PRA) will be made, the experiences from these projects can contribute to a better implementation of Component 1 (Output 1.1) of this project.

105. Finally, both Outcomes 1.2 and 1.3 of the present project will benefit from the project **"CAR-FIP in the *Cerrado*"**, included in the projects of the Brazilian Investments Plan, funded by the Brazilian Government in the scope of FIP (Forest Investment Program), linked to the Climate Investment Fund. Currently developed by the MMA in partnership with state environmental agencies, it aims at supporting implementation of CAR in the *Cerrado* as a strategy to promote the reduction of native vegetation conversion and degradation, and the improvement of forest sustainable management so that CO2 emissions are reduced, and forest carbon stocks are protected.

106. The proposed project will coordinate its efforts with all of the abovementioned initiatives in different levels and through different strategies. The project will have a coordination and communication strategy which will include activities for project coordination with other initiatives. The first coordination activity was already developed in the PPG, during which several stakeholders responsible for those projects participated in the project conception. In the project inception phase, a workshop with project managers from the related projects will be held in order to maximize synergies and minimize overlaps between the projects. In this meeting an inter-project coordination strategy will be developed. This and other projects will be in constant communication

[10] http://www.tropicalforestgroup.org/tfca-2/

through the Project Coordination Unit (PCU), and in practical terms through meetings between the coordination and management teams. Further, the project will have a protocol to establish regular meetings for project development communication to partners, and the project agenda will be disseminated to other partners facilitating coordination. Finally, according to the project communication strategy, several documents will be released with project news and results. These will all be disseminated to partners and other institutions.

SECTION 3: INTERVENTION STRATEGY (ALTERNATIVE)

3.1. Project rationale, policy conformity and expected global environmental benefits

107. The project rationale is based on two recent developments: first, as part of a global trend, the Brazilian government decided to put more efforts on biodiversity conservation in private areas to complement the role of protected areas and protected indigenous reserves. As 53% of native vegetation remnants in Brazil are in private areas, this might bring substantial benefits for biodiversity conservation. Second, the Brazilian government has made considerable investments to spatially identify private properties and have them registered by the landowners in the SiCAR. This effort is a key component to enable a paradigm shift in the capability of the Brazilian government to plan, implement and monitor biodiversity conservation policies, and mainstream them into wider productive landscapes. Although the CAR is a key component, additional barriers must be overcome to realize the potential conservation value of private areas in Brazil.

108. Once we have defined the project scope; set our conservation target; identified the main direct threats and the stresses; and distinguished the main contributing factors of direct threats (see Section 2 for more details), we identified the **key intervention points (the contributing factors selected for project intervention**; Figure 6). In order to identify the key intervention points for action, we evaluated all factors included in our conceptual model and identified which ones could best be leveraged for achieving the project objective. In such evaluation we considered contribution to threat abatement, ability to influence multiple factors in the model, and urgency of addressing the factor (or its downstream factors).

109. Then, we defined the **strategies to address such key intervention points** (Figure 6). A strategy is considered here as a set of actions with a common focus that work together to achieve specific goals and objectives by targeting key intervention points, integrating opportunities, and limiting constraints. **Project outcomes, outputs, and activities derived from these strategies**.

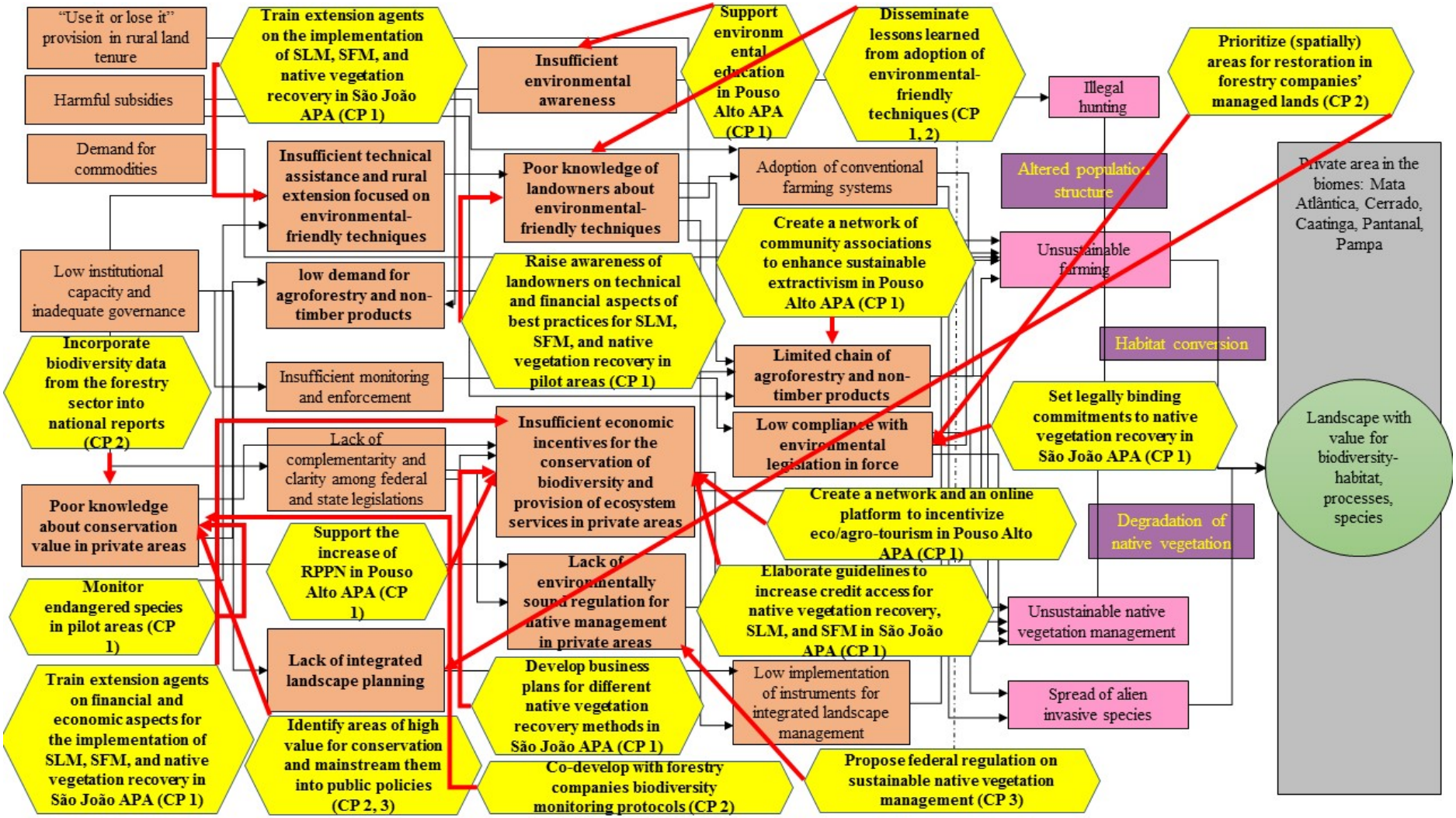

Figure 6. Conceptual model with key intervention points (orange boxes within which the text is in bold) – contributing factors selected for project intervention – and project strategies (yellow hexagons). CP = Component. The conservation target is in green; the direct threats are in pink; the stresses are in purple; and the contributing factors (either root causes or opportunities) are in orange.

110. This project was developed considering three main components, each of them with complementing impact pathways. The **Theory of Change** (see Figs. 8, 9, 10 and 11) presents the project logical framework for the **three Components**, showing how **outputs will lead to intermediate outcomes, outcomes, and finally to the project expected impacts, considering the drivers and assumptions**. The combination of activities derived from each output (products and services delivered directly by the intervention) will lead to the intended results or outcomes (changes in stakeholder capacity resulting from outputs). The intermediate outcomes are transitional stages between outputs and outcomes. The steps from the output to the intermediate outcome and, finally, to the outcome, depend on drivers and assumptions. Drivers were considered as external conditions that must occur to enable outcomes to happen, to which the project has some control. Assumptions are also external conditions, but the project has no control over them.

111. **The project has three main impact pathways, or components** (*refer to sub-section Project components and expected results*): **i) implementation of pilot areas with bottom-up approaches, ii) agreement with the Forestry sector companies (paper and cellulose companies), and iii) improvement of public capabilities to plan and implement biodiversity conservation policies in private areas**. Each component will contribute to tackling more than one of the contributing factors cited in Section 2, and two or more components can act on the same contributing factor. Component 1 will deals with poor knowledge of landowners about environmental-friendly techniques, insufficient technical assistance and rural extension focused on environmental-friendly techniques, low compliance with environmental legislation in force, and poor knowledge about conservation value in private areas, insufficient environmental awareness, limited chain of agroforestry and non-timber products, and insufficient economic incentives for the conservation of biodiversity and provision of ecosystem services in private areas. Component 2 will act on poor knowledge about conservation value in private areas, low compliance with environmental legislation in force, and poor knowledge of landowners about environmental-friendly techniques. Finally, Component 3 will tackle lack of environmentally sound regulation for native management in private areas, poor knowledge about conservation value in private areas.

112. The **expected outcomes** of these three components are described in Table 3. In addition, the project will complement other policies, initiatives, and projects developed in private areas in Brazil. For instance, the project will assist with the implementation of the LPVN in a pilot area and it is aligned (in a complementary and not overlapping way) with three other large projects that are being subjected to the GEF (*refer to sub-section 2.7*). Therefore, the results expected from this project will generate not only local benefits, but also global benefits, such as the ones listed below (Table 3).

Table 3: Local and global benefits related to the project's expected outcomes.

Project Outcomes	Local Benefits	Global Benefits
1.1. Increased vegetative cover, reduced degree of fragmentation in production landscapes and increased habitat availability for 'Golden Lion Tamarin' in the Atlantic Forest pilot area of the São João APA (KBA area in the State of Rio de Janeiro).	Increased income for rural landowners. Increased knowledge on integrated property management (extension agents and rural landowners). Agricultural and livestock practices developed in a more sustainable way with practices for native vegetation recovery. Increased compliance with the	Conservation of globally significant biodiversity. Increased adoption of management practices for GHG emission reduction and carbon sequestration [1.399.200 tCO2eq]. Improved provision of agro-ecosystem and forest ecosystem goods and services. Increased carbon sequestration in

	LPVN. Increased knowledge and training on forest recovery and its methods (extension agents and rural landowners). Areas with natural regeneration potential (low cost forest recovery) identified. Tested techniques of native vegetation recovery.	production landscapes Reduction in forest loss and forest degradation Maintenance of the range of environmental services and products derived from forests
1.2. Reduced conversion rates and degree of fragmentation of current area of native vegetation cover in production landscapes and improved conservation actions for key endangered species populations in the Cerrado pilot area of the Pouso Alto APA (KBA are in the State of Goiás)	Increased knowledge and education on environment and biodiversity conservation. Increased application of sustainable extractivism activities. Increased protected areas through the creation of RPPNs.	Conservation of globally significant biodiversity. Improved provision of agro-ecosystem and forest ecosystem goods and services. Reduction of greenhouse gases emissions [44.635.758 tCO2eq]. Reduction in forest loss and forest degradation Maintenance of the range of environmental services and products derived from forests
1.3. Biodiversity conservation, ecosystem services provision, SLM, SFM and recovery of native vegetation in private areas in the two pilot areas enhanced by the development of direct and indirect incentives schemes	Increased compliance with the LPVN. Increased income for rural producers through improved management practices, native vegetation recovery with commercial purpose, or incentives packages. Credit lines for forest recovery accessed by rural landowners.	Conservation of globally significant biodiversity. Increased carbon sequestration [46 million tCO2eq]. Increased water resources conservation. Reduction in forest loss and forest degradation Maintenance of the range of environmental services and products derived from forests
2.1. Biodiversity conservation, ecosystem services provision, SLM and SFM in areas of highest conservation value managed by Forestry sector companies enhanced through an agreement for the implementation of improved conservation and restoration guidelines	Dissemination of the importance of Forestry sector lands for biodiversity conservation. Improved biodiversity monitoring. Improved decision-making on priority areas for restoration within areas managed by Forestry sector companies.	Conservation of globally significant biodiversity. Improved provision of agro-ecosystem and forest ecosystem goods and services Reduction in forest loss and forest degradation Maintenance of the range of

		environmental services and products derived from forests
3.1. Biodiversity conservation and Ecosystems Services mainstreamed into national regulatory framework to support SLM, SFM and restoration in private areas	Improved proceedings for sustainable forest management. Increased income through SFM activities.	Conservation of globally significant biodiversity. Conservation and sustainable use of biodiversity in productive landscapes. Reduction in forest loss and forest degradation. Maintenance of the range of environmental services and products derived from forests.
3.2. Conservation value of private areas mainstreamed into public policies and tools	Stakeholders on biodiversity conservation engaged. Key stakeholders and decision-makers trained on the use of the new spatial databases that indicates the conservation value of private areas.	Conservation of globally significant biodiversity. Reduction in forest loss and forest degradation. Maintenance of the range of environmental services and products derived from forests.

113. Given the expected outcomes, the project is aligned with the Results Framework for GEF Trust Fund (6th Replenishment)[11] on Biodiversity - BD (Objective 4, Program 9, Outcomes 9.1 and 9.2); Land Degradation - LD (Objective 2, Program 3, Outcomes 2.1 and 2.2; Objective 3, Program 4, Outcomes 3.1 and 3.2); and Sustainable Forest Management - SFM (Objective 1, Program 2, Outcomes 1 and 2; Objective 2, Program 5, Outcome 3; *refer to sub-section 3.3, Figure 7, and appendix 15*).

[11] https://www.thegef.org/sites/default/files/documents/GEF6_Results_Framework_for_GEFTF_and_LDCF.SCCF__0.pdf

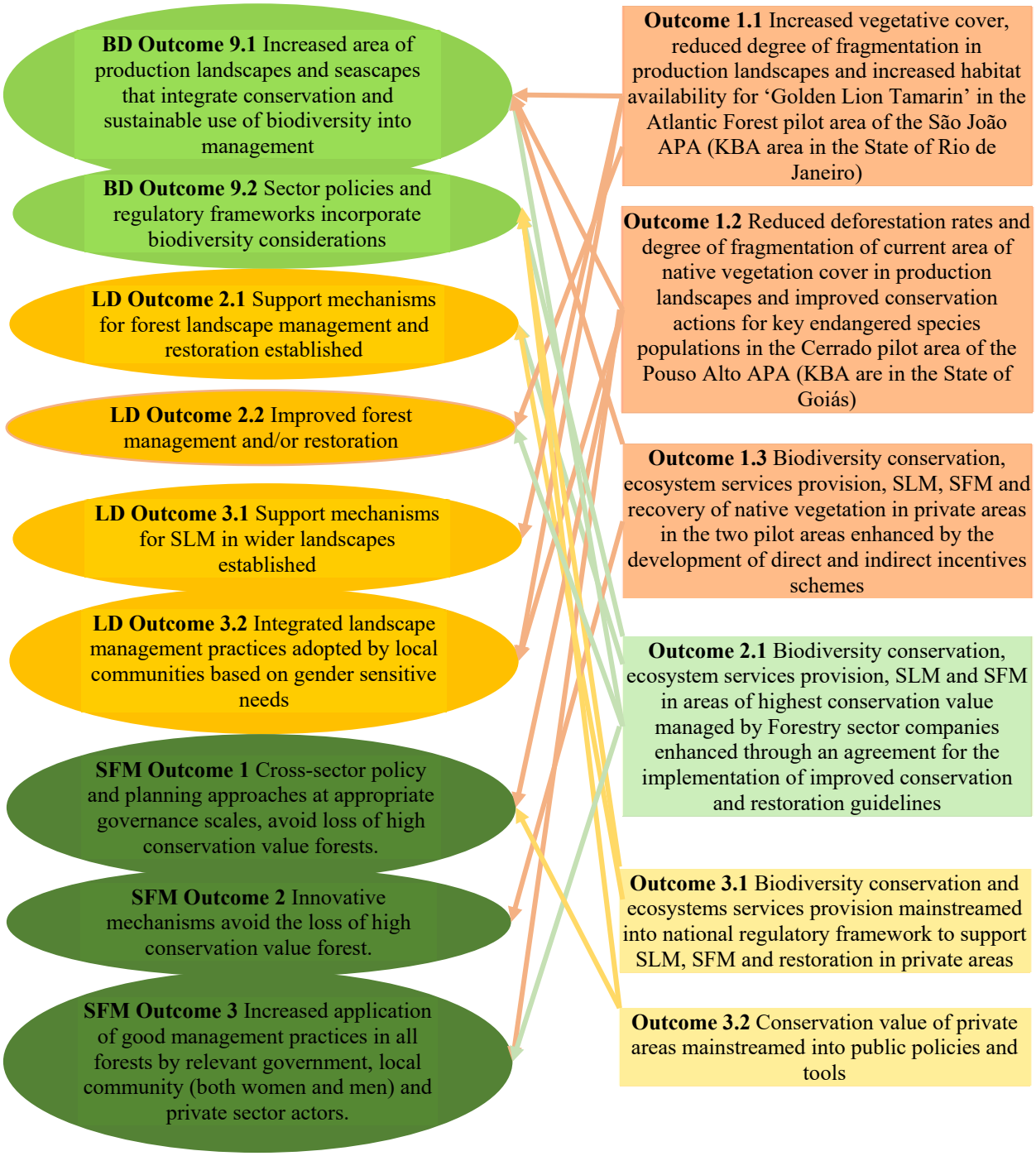

Figure 7. Relation between the Results Framework for GEF Trust Fund - GEFTF and the expected outcomes of the project.

3.2. Project goal and objective

114. The project goal is linked to the project's conservation target and represent the desired status of the conservation target over the long-term – it is the formal statement of the ultimate impacts we hope to achieve. **The goal is: to enhance biodiversity conservation and ecosystem services provision, increase connectivity and native**

vegetation cover, reduce environmental degradation in private areas, improve endangered species conservation, and mitigate climate change.

115. The project objective is considered here as a formal statement (in short) of the outcomes and desired changes that are necessary to attain the project goal. The project objective summarizes the desired changes in the factors (direct and indirect threats and opportunities) that we would like to achieve in the short and medium-term. **The objective is: to scale up sustainable landscape management and contribute to biodiversity conservation and ecosystem services provision in private areas in Brazil.**

116. The Theory of Change for the project is presented in Figure 8.

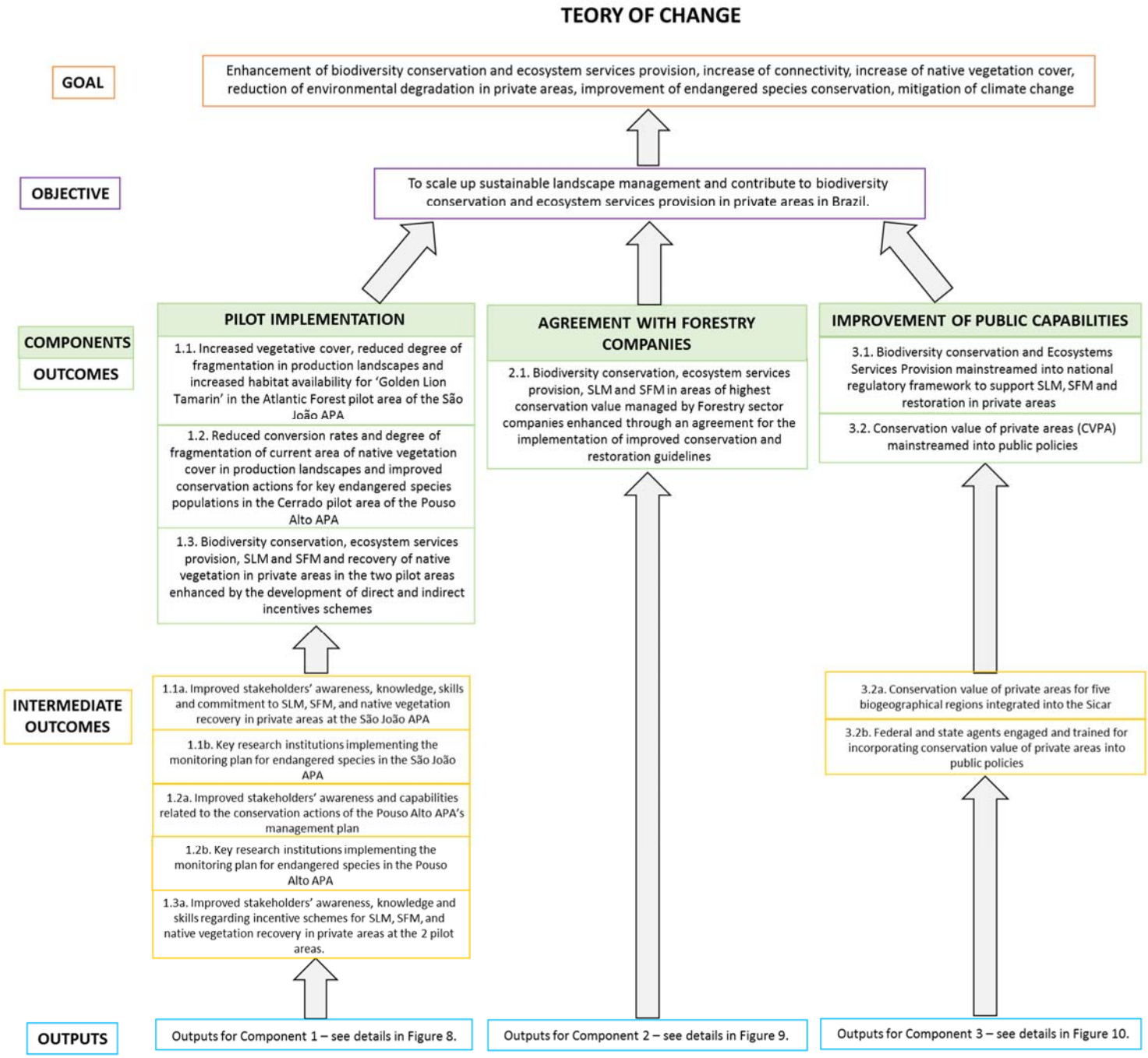

Figure 8. The Theory of Change for the Project. It presents the project logical framework, showing how outputs (light blue boxes) will lead to intermediate outcomes (yellow boxes) and outcomes (green boxes), and finally to the project objective (purple) and expected impacts (orange box).

3.3. Project components and expected results

117. **The project has three components**. **Component 1 is related to the implementation of pilot areas** (in the global biodiversity hotspots of Atlantic Forest and Cerrado) aiming at creating the enabling conditions for mainstreaming the conservation value of private areas in productive landscapes. The Atlantic Forest's pilot area will be in the São João APA (State of Rio de Janeiro). The activities to be developed in this area aim primarily at enabling forest conservation or recovery through integrated landscape planning and management in rural properties that do not yet comply with LPVN, and through the improvement of incentive schemes in the region. The main steps will be landscape planning; training rural landowners and extension agents on integrated landscape management; forest recovery; the establishment of Demonstration Units; and facilitation to access credit lines and incentives for forest recovery. The Cerrado's pilot area will be in the Pouso Alto APA (State of Goiás). The activities to be developed in this area aim at supporting the implementation of key actions of the APA's Management plan. The main steps will be landscape planning; promotion of an environmental education program; support for the creation of RPPNs in priority areas; and development of incentive packages for actions that favour biodiversity conservation and sustainable management.

118. **Component 2 is related to a signed agreement with the Forestry sector companies** for developing and implementing conservation and restoration activities within their managed areas. The activities to be developed in these areas aim at implementing improved conservation and restoration practices within areas managed by Forestry sector companies. The main steps will be the identification of areas with high conservation value and, within these areas, the implementation of improved protocols for biodiversity monitoring, SLM and SFM. Also, the project will identify priority areas for restoration based on biodiversity conservation goals and focus restoration actions from the Forestry sector companies to comply with the LPVN within these priority areas.

119. **Component 3 is related to conservation activities at national scale**. The activities to be developed will focus on the clarification of the regulation at federal level regarding sustainable native vegetation management in LRs through the development of a regulation proposal; and the development and incorporation of information on conservation value of private areas into governmental tools to assist decision-making and public policies. The main steps will be the identification of the main obstacles and solutions to obtain permission for sustainable native vegetation management in LRs, which will allow the development of a new and viable proposal to regulate such topic; the development of spatial databases on the conservation value of private areas for five biogeographical regions; the incorporation of such databases into the SiCAR; and the engagement and training of public agents to mainstream conservation value into public policies.

<u>Component 1 – Pilot implementation</u>

120. Component 1 results in three main Outcomes, each being achieved via a set of activities (the activities proposed, however, can contribute to achieve more than one Outcome; Fig. 9). The Outcomes are:

Outcome 1.1: *Increased vegetative cover, reduced degree of fragmentation in production landscapes and increased habitat availability for 'Golden Lion Tamarin' in the Atlantic Forest pilot area of the São João APA (KBA area in the State of Rio de Janeiro)*

Outcome 1.2: *Reduced conversion rates and degree of fragmentation of current area of native vegetation cover in production landscapes and improved conservation actions for key endangered species populations in the Cerrado pilot area of the Pouso Alto APA (KBA are in the State of Goiás)*

Outcome 1.3: *Biodiversity conservation, ecosystem services provision, SLM, SFM and recovery of native vegetation in private areas in the two pilot areas enhanced by the development of direct and indirect incentives*

schemes

121. The **assumptions** made to achieve these outcomes are: i) LPVN remains without changes that could negatively impact the Project; ii) turn-over of government officials do not impact significantly the development of the Project; iii) local, regional, and national financial situation do not impact significantly the development of the Project; iv) geographic limits of the APA are not altered; v) low socio-environmental structure of the municipalities does not interfere with the development of Project activities; vi) conflicts between communities and public authorities of Pouso Alto APA do not significantly interfere with Project activities; and vii) banks keep the lines of credit for restoration (Figure 9).

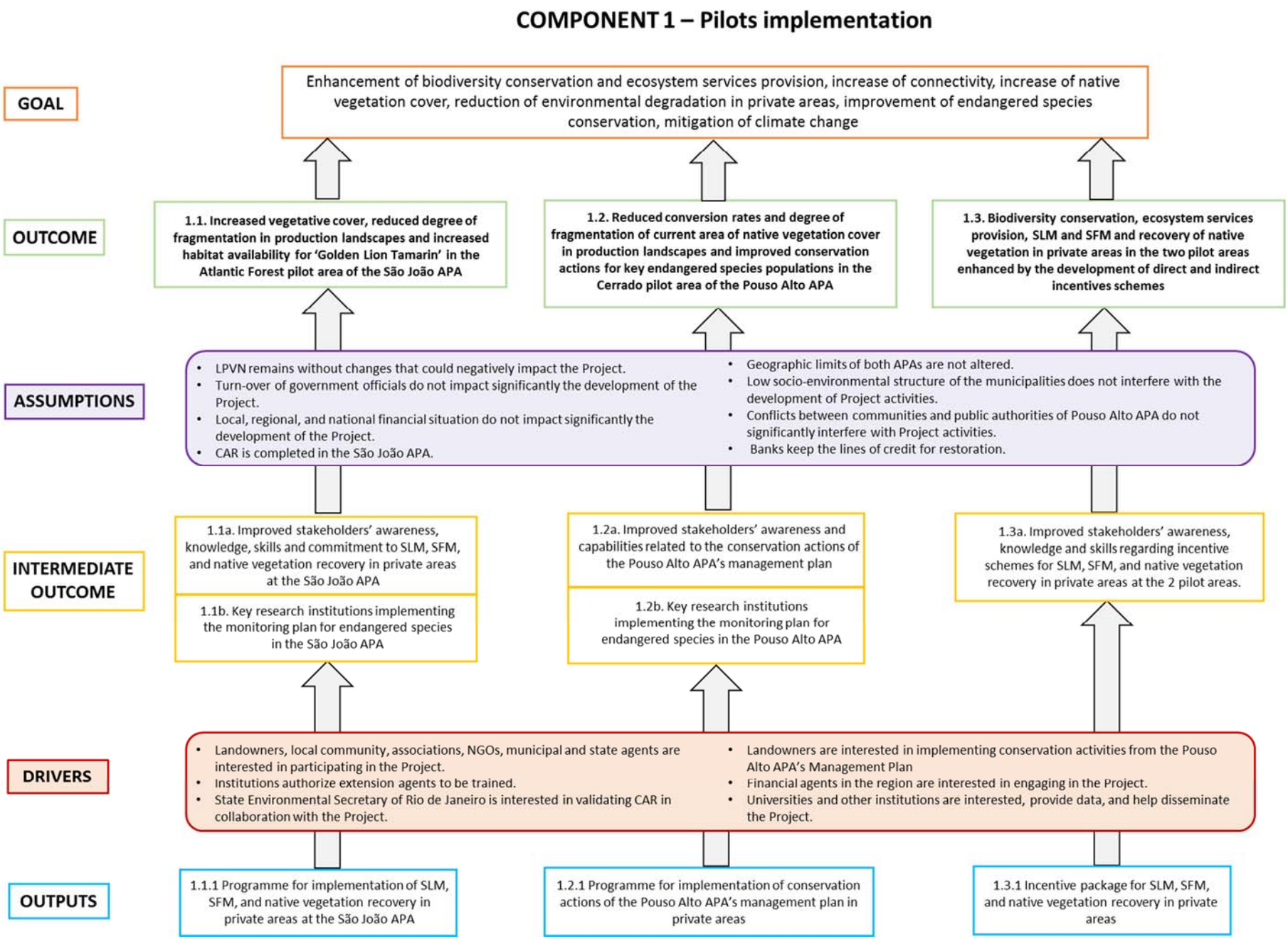

Figure 9. The Theory of Change for the Component 1. It presents the project logical framework, showing how sub-outputs (light blue boxes) will lead to intermediate outcomes (yellow boxes) and outcomes (green boxes), and finally to the project expected impacts (orange box), considering the drivers (red boxes) and assumptions (purple boxes).

<u>Outcome 1.1:</u> Increased vegetative cover, reduced degree of fragmentation in production landscapes and increased habitat availability for 'Golden Lion Tamarin' in the Atlantic Forest pilot area of the São João APA (KBA area in the State of Rio de Janeiro)

122. The approach that will guide the project for the achievement of Outcome 1.1 is inspired by Planaveg, so that the enabling conditions for landowners to implement forest recovery and comply with the LPVN are created. After the indirect threats of **insufficient technical assistance and rural extension focused on environmental-friendly techniques** and **poor knowledge of landowners areas about environmental-friendly techniques** are tackled, landowners and extension agents are expected to acknowledge that it is important and possible to reconcile farming with forest conservation (avoiding deforestation, degradation, and fragmentation) or recovery (increasing forest cover and reducing degradation and fragmentation). This will result in the increased vegetative cover, reduced degree of fragmentation in production landscapes and increased habitat availability for 'Golden Lion Tamarin" in the Atlantic Forest Pilot area of the São João APA (Outcome 1.1).

123. The **drivers** considered to achieve Outcome 1.1 are: i) landowners and local community are interested in participating in the Project; ii) associations and NGOs are interested in participating in the Project; iii) institutions authorize extension agents to be trained; iv) municipal and state agents are interested in and contribute to the Project; v) State Environmental Secretary of Rio de Janeiro is interested in validating CAR in collaboration with the Project (Figure 9).

124. The Outcome will be achieved through one output namely **programme for implementation of SLM, SFM, and native vegetation recovery in private areas at the São João APA (Output 1.1.1)**. This output has **six sub-outputs** explained in more detail below.

125. The first step to achieve this outcome is to develop an **engagement and awareness program to landowners regarding technical and financial aspects of best practices for SLM, SFM, and native vegetation recovery with a principal focus on LPVN compliance (Sub-output 1.1.1.1 and 1.3.1.1)**. Engagement and awareness programs are important steps since this project is based on a permanent participatory approach, i.e., several stakeholders who act or are involved in the area of scope and action of the project will be included in the discussions and decision-making process. Understanding the needs of rural landowners can simultaneously increase participation and interaction among local stakeholders, assist the proposal of proper support and incentives and the removal of barriers to adopt sustainable measures (Moon & Cocklin 2011). Possible participatory approaches that will be developed include workshops, meetings, focus groups, networking and economic games. These approaches are also vital to bring awareness to landowners, understand their motivation to conserve (or not) biodiversity/ecosystem services and their status of knowledge on conservation value, as well as to listen and propose strategies to adopt more sustainable practices in private properties. Such participatory process ensures the best interaction with a variety of stakeholders, strengthens groups and their common interests, improves institutional and inter-institutional coordination and assists replicability of the project´s goal in the future. Besides, the participation of stakeholders from several institutions with local experience ensures applicable and effective solutions that can be tested in pilot areas, and their knowledge can be taken to wider levels. In the preparatory phase the project conducted three workshops and several meetings with stakeholders, which involved such participatory approach: stakeholders from different institutions have helped to build the present project collectively. Throughout the execution of the project, each sub-output will be shared and assessed with the stakeholders and with other parts involved.

126. The first activity of this component will be contracting one 'focal point' for this pilot area (1)[12]. The second activity, which will support the implementation of both pilots, is to promote workshops with national and

[12] The numbers between parentheses "( )" are related to activities that will be developed during the project and are described in Appendix

international specialists to collect experiences on biodiversity conservation in private areas and integrated property and landscape management (2). Further, key stakeholders will be engaged in the project and help to access landowners to participate in the first official meeting for project information dissemination (3 and 4). After the event for project initiation, questionnaires will be developed (5) and applied (6) to capture perceptions, motivations, and ideas of rural landowners regarding: i) implementation of practices of integrated property and landscape management (Outcome 1.1), ii) forest recovery (Outcome 1.1), iii) participation in programs for economic incentives (Outcome 1.3), and iv) sustainable native vegetation management (Outcome 3.1, refer to Component 3). From this information assessment, the project team will not only understand the main obstacles for landowners to ensure integrated property management, forest recovery, and compliance with LPVN but also receive suggestions regarding the most viable actions and practices - bottom-up approach. Once practices and incentives that tackle the issues raised on the questionnaires are identified, the project will hold focus groups to validate these information with rural landowners (7), organize a workshop and promote networking (8) to disseminate this information and the importance of best practices in their properties. The development of Sub-Output 1.1.1.1 will contribute to the achievement of the **Intermediate Outcome 1.1a "Improved stakeholders' awareness, knowledge, skills and commitment to SLM, SFM, and native vegetation recovery in private areas at the São João APA (KBA area in the State of Rio de Janeiro)"**.

127. During and after the questionnaire application (6), the workshop, and the networking (8), landowners will be selected to develop **Demonstration Units (DU) with best practices for SLM, SFM and native vegetation recovery in their properties at the São João APA (9) (Sub-Output 1.1.1.2)**. Two extension agents will be hired to assist the implementation activities (10). For each chosen property, biophysical, social, and economic data will be collected (11), providing information for the definition of activities to be developed in the DU (12). The DUs will be implemented (13) and managed by a subcontracted organization that should operate in the region and have extensive experience on integrated property management techniques and forest recovery (14). Techniques such as rotational management, mixed systems and agroforestry systems will be implemented in the DUs, combined with native vegetation recovery. The natural vegetation in this region are forests, thus forest recovery methods such as assisted regeneration and seed or tree planting (including planting with economic purposes) will be used (not necessarily in the same DU). Assisted regeneration is a low-cost recovery method that tends to be vital to amplify forest recovery; it needs to be demonstrated to landowners, but it is not possible to be used in all areas. In areas where the potential for natural regeneration is lower (identified through the spatial prioritization, described below), the alternative is planting. Nevertheless, tree planting usually has high costs, which is a barrier for the use of this method by small and medium-sized landowners. Management of DUs will have an adaptive approach so that eventual changes can be incorporated in the process. DUs will be monitored regarding economic, social, and environmental aspects (14), and **lessons learned will be recorded (36) (Sub-Output 1.1.1.6).**

128. Concomitantly, the project will organize a **training program in the region for extension agents, focused on the implementation of SLM, SFM and native vegetation recovery (Sub-Output 1.1.1.3)**. The course will be divided into three modules with subjects related to: i) integrated property and landscape management; ii) methods of forest recovery; and iii) guidelines about access to credit lines and investments for forest recovery (see Outcome 1.3). The training programs for modules one and two will have theoretical and practical classes (at DUs), whereas the one for module 3 will have only theoretical classes. To assure that extension agents can participate in the course, the project will engage private and public extension companies to facilitate their inclusion (15). As soon as the program modules and materials are developed (such as video lessons) (16 and 17), they will be launched (18) and applied (19).

129. To favour compliance with the LPVN, the project will arrange a **set of legally binding commitments to native vegetation recovery (PRA) considering habitat availability for Golden Lion Tamarin to be signed by landowners (Sub-Output 1.1.1.4)**. The total environmental debit (LR and PPA deficit) in the APA is 5,000 ha

and the project propose to have legally binding commitments signed related to 4,000 ha. Members of the Brazilian Forest Service, federal agency that manages the SiCAR, will train two technicians from the state environmental agency that will further validate the CAR in the São João APA (20; 21; 22; 23). The validated CAR will be gathered in a GIS database. The CAR database, in addition to information on environmental and socio-economic data collected for the São João APA properties (24), will be used for the development of a spatial prioritization map focused on increasing habitat availability (which includes amount and configuration of native vegetation cover within a landscape and species dispersal ability) for Golden Lion Tamarin through the forest recovery of PPA and LR deficits in the form of forest corridors (map of increased habitat availability for Golden Lion Tamarin; 25). This map will assist in (26): i) the selection of priority properties to DUs implementation, forest recovery (towards compliance with the LPVN), and facilitation to access bank credit lines or investments for forest recovery (see Outcome 1.3); and ii) the identification of the natural regeneration potential in the region. Further on, this map will be validated by key stakeholders in a workshop (27). A not-validated CAR does not prevent the landowner from joining the PRA, but does prevent its execution (the actual forest recovery - or compensation, in the case of LR). Thus, after validation of CAR, the project will engage and assist landowners to commit to the native vegetation recovery (PRA; 28), which will also contribute for the achievement of Outcome 1.3. This is a key instrument to assure forest recovery regarding compliance with the LPVN across the next 20 years. The development of the PRA will take into account the map of increased habitat availability for Golden Lion Tamarin.

130. The development of Sub-Outputs 1.1.1.1, 1.1.1.2, 1.1.1.3, and 1.1.1.4 will contribute to the achievement of the **Intermediate Outcome 1.1b "Key research institutions implementing the monitoring plan for endangered species".**

131. Complementing the activities mentioned above, the project will develop an **endangered species monitoring plan for the São João APA together with key research institutions (Sub-Output 1.1.1.5)**. These institutions will be engaged in the Project (29) and the existing data on endangered species will be compiled (30). A working group will be conducted with the aim of developing the monitoring plan (31), and the plan will be implemented (32). These data will be analysed and systematized (33) to better reflect the current status of endangered species, as well as to help developing future strategies for these species persistence (34). The team of the 'National Strategy for Conservation of Threatened Species – PROSPECIES' project (GEF Project ID9271) can be one of the partners in this activity (refer to sub-section 2.7). Another relevant institution is Universidade de São Paulo, particularly the group on Landscape Management and Conservation (LEPAC), and the associated *"Interface Project"*, which focuses on the evaluation of ecosystem services and biodiversity in fragmented ecosystems.

132. Finally, in order to complete the programme for implementation of SLM, SFM, and native vegetation recovery in private areas at the São João APA, a **dissemination program for lessons learned and replicability of activities implemented will be developed (Sub-Output 1.1.1.6)**. A communication strategy will be designed for dissemination of lessons learned (35 and 36) and materials such as banners, brochures, posters, and videos will be produced (37) to the general public, and dissemination events will be organized (38). The creation of a network of landowners will enable the dissemination and application of SLM and SFM, particularly by landowners that have implemented the DUs (39). Several studies (e.g. Selinker et al. 2015, Ecker 2016) suggest the adoption of networks and conservation programs as a crucial point for the success of projects. These landowners will be invited to be tutors during visits (practical classes) in their properties. Such field visits will have specific themes and allow exchange of experiences among local landowners, extension agents, researchers, governmental representatives etc. Landowners engaged with sustainable practices will thus act as replicability agents, assuring the long-term sustainability and replicability of the project. In addition, replicability will also be assured by trained extension agents (see Sub-Output 1.1.1.3). Not only will these agents supervise activities of forest recovery conducted in the DUs, but also assist stakeholders in the region to conduct native vegetation recovery and comply

with the LPVN (40). Hence, the project will involve larger number of landowners rather than those only who have developed the DUs.

Outcome 1.2: Reduced conversion rates and degree of fragmentation of current area of native vegetation cover in production landscapes and improved conservation actions for key endangered species populations in the Cerrado pilot area of the Pouso Alto APA (KBA are in the State of Goiás)

124. The following **drivers** were considered to achieve Outcome 1.2 (Figure 9): i) landowners and local communities are interested in participating in the Project; ii) associations and NGOs are interested in participating in the Project; iii) Universities and other institutions are interested in, provide data for, and help disseminate the Project; iv) municipal and state agents are interested in and contribute to the Project; and v) landowners are interested in implementing conservation activities from the Pouso Alto APA's Management plan.

125. The activities proposed for the Pouso Alto APA comprise the **programme for implementation of conservation actions of the Pouso Alto APA's management plan in private areas (Output 1.2.1)**. Although recently published, the APA's Management plan has taken over a decade of negotiations to become a reality. The Project will focus on the most pertinent strategies for biodiversity conservation in private areas in the region. To fulfil this goal, it will be necessary to minimize some indirect threats such as poor knowledge of landowners about environmental-friendly techniques, insufficient environmental awareness, limited chain of agroforestry and non-timber products, insufficient economic incentives for the conservation of biodiversity and provision of ecosystem services in private areas, and poor knowledge about conservation value in private areas.

126. The first step is to develop an **engagement and awareness program to key stakeholders, especially local communities, regarding the implementation of the Pouso Alto APA's management plan (Sub-Output 1.2.1.1)**. A local focal point will be hired, and local stakeholders will be identified and involved (41 and 42), which will facilitate access to and engagement with local communities. An initiation workshop will be conducted in order to present the project (43), and to identify local stakeholders' perceptions and motivations regarding environmental conservation and sustainable activities. This first workshop will be followed by other events (44), during which stakeholders and local community will debate and raise awareness on the importance of the implementation of the APA's management plan. As a result of these gatherings, the key actions of the management plan that should be implemented will be identified and evaluated (45). Alternatives for the principal actions in each theme (e.g. environmental education, sustainable extractivism and creation of RPPNs) will be validated by local communities and associations (46). It is expected that this first step of the project will result in the **Intermediate Outcome 1.2a**, which is **improved stakeholder's awareness and capabilities related to the conservation actions of the Pouso Alto APA's management plan.**

127. The implementation of an **environmental education program based on the conservation actions of Pouso Alto APA's Management plan** will be co-developed with the local community across all 872,000 ha of the APA **(Sub-Output 1.2.1.2)**. Its modules will include a participatory preparation of a workplan (47; 48; 49) for the main actions selected to be implemented in the Management plan; workshops to raise awareness about the priority ecosystem services and endangered species in the APA; proposition of socio-educational actions to raise consciousness about the Ecological-Economic Zoning; recommendation of sustainable activities for extractivism; dissemination of information on the creation and implementation of RPPNs; training on the sustainable use of natural resources; and workshops and interviews to raise initiatives of incentives for biodiversity conservation. The idea is that the program (50 and 51) will reach a range of stakeholders. Through this program, the project intends to raise awareness among landowners and other stakeholders on the importance of the APA and of the implementation of its Management plan to maintain the conservation value.

128. At the same time, the project will promote an **Integrated network of Community associations for sustainable extractivism (Sub-Output 1.2.1.3)** that will assist in communication and dissemination of techniques, materials, and experiences of rural landowners and other stakeholders interested in biodiversity conservation. Extractivist associations of the APA and teachers of municipal schools will be encouraged to participate in the Network to promote and disseminate the sustainable use of resources. This action will be connected to the Environmental Education Program as it will promote awareness, engagement, and training on sustainable management of native vegetation. After the engagement of community association and other stakeholders (52), the network will be created (53). Landowners interested in developing sustainable extractivism activities will be identified (54) and will participate in workshops and a two-day forum in order to improve sustainable extractivism practices focused mainly on endangered species (55 and 56). Finally, field trips to teach sustainable practices will be carried out in the region.

129. The creation of RPPNs was indicated as a priority action in the workshop held during the preparatory phase of the project. This action is also regarded as an important one to be implemented by the Management plan of the Pouso Alto APA. Thus, the present project aims to boost the **creation of strategic RPPNs in priority areas for conservation actions in the region through the arrangement of a set of studies and documents (Sub-Output 1.2.1.4).** To do so, the project will collect environmental and socioeconomic data in the Pouso Alto APA (57), which will be analysed (58) to produce a spatial map on priority areas for conservation actions in the Pouso Alto APA (59). This map focuses on the identification of areas with high conservation value (Sub-output 3.2.1.1), high potential for future loss of native vegetation in the region, and significant socioeconomic aspects (to be selected). The spatial prioritization map will not only promote the creation of RPPNs, but also help to identify areas that require other types of conservation actions in the Pouso Alto APA. Such spatial prioritization map will be validated by key stakeholders and landowners of the APA in a workshop (60). Considering the priority areas for conservation actions, landowners interested in creating RPPNs will be identified and engaged (61). These landowners will be assisted by the project team in preparing the required documents for creating the RPPN (62), such as georeferencing of the property boundaries (63), assessing biophysical, economic, and social data (64), developing a management plan for each RPPN (65), and completing other legal procedures (66).

130. The project will also develop an **endangered species monitoring plan for the Pouso Alto APA (Sub-Output 1.2.1.5) with key research institutions**. These institutions will be engaged in the project (67) and the existing data on endangered species will be compiled (68). A workshop will be conducted with the aim of developing the monitoring plan (69), which will later be implemented (70). These data will be analysed and systematized (71) to increase knowledge about the current status of endangered species as well as to develop future strategies for its persistence (72). This output will lead to the **Intermediate Outcome 1.2b "Key research institutions implementing the monitoring plan for endangered species".**

131. To ensure the sustainability of the activities and project results, the project team will work together with landowners for the development of a **dissemination program of lessons learned in the Pouso Alto APA (Sub-Output 1.2.1.6).** The program will count on: i) the design of a communication strategy for the dissemination of lessons learned (73; 74); ii) the development of dissemination materials (e.g. banners, brochures, posters, videos) (75); iii) the organization of events for dissemination of lessons learned (76); and iv) the creation of a landowners' network for capacity building and dissemination of environmental education, sustainable extractivism, and creation of RPPNs (77).

132. The combination of each of these activities will complete the delivery of the programme for implementation of conservation actions of the Pouso Alto APA's management plan in private areas (Output 1.2.1) provided that: i) turn-over of government officials do not impact significantly the development of the Project; ii) local, regional, and national financial situation do not impact significantly the development of the Project; iii) conflicts between communities and public authorities of Pouso Alto APA do not significantly interfere with Project activities; iv)

geographic limits of the APA are not altered; and v) low socio-environmental structure of the municipalities does not interfere with the development of Project activities (Figure 9).

Outcome 1.3: Biodiversity conservation, ecosystem services provision, SLM, SFM and recovery of native vegetation in private areas in the two pilot areas enhanced by the development of direct and indirect incentives schemes

The **drivers** considered to achieve both Outcomes 1.1 and 1.2 are the ones considered to achieve Outcome 1.3, and i) Financial agents in the region are interested in engaging in the Project.

133. All of the abovementioned actions to be developed in the two pilot areas of this Project (São João and Pouso Alto APAs) aiming at the implementation of SLM, SFM, and native vegetation recovery and conservation of private areas will be complemented by activities resulting in the development of an **incentive package for SLM, SFM, and native vegetation recovery in private areas in the two pilot areas (Output 1.3.1).**

134. The project will work both in São João and in Pouso Alto APAs through different approaches. In São João APA, the project will work with landowners to facilitate access to rural credit lines and to investments focused on sustainable land management. This will be a result from the perceptions, motivation, and suggestions gathered during the first workshops and questionnaires applied in the regions (78) (Sub-output 1.1.1.1). Based on this information and on the landowner's profiles (79), **business plans tailored to different native vegetation recovery methods** will be created (80) **(Sub-Output 1.3.1.1)** and launched (81). The experiences from the vegetation recovery methods implemented in the DUs (Sub-Output 1.1.1.2) will be used to improve capacity building and to implement the business plans in the properties of interested farmers (82). Through this output, we expect that **stakeholders' awareness, knowledge and skills regarding incentive schemes for SLM, SFM, and native vegetation recovery are increased (Intermediate Outcome 1.3).**

135. Concomitantly, to support both extension agents and landowners in the process of credit access, the project will develop **guidelines together with the financial sector to increase credit access for native vegetation recovery, SLM, and SFM (Sub-Output 1.3.1.2).** To this end, local banks and other financial institutions will be mapped, engaged (83), and invited to the first workshop to discuss potential investments for native vegetation recovery (84). Further, bottlenecks for credit access will be assessed by both financial institutions and landowners (85 and 86; Sub-Output 1.1.1.1). The guidelines will be developed with banks based on the solutions proposed, which will be further disseminated (87). Also, one of the **training program** modules described above (Sub-Output 1.1.1.3) will be **focused on financial and economic aspects for the implementation of SLM, SFM, and native vegetation recovery** (88; 89; 90; 91; **Sub-Output 1.3.1.3**).

136. In the Pouso Alto APA, improvement of incentives will be made through the development of an **Economic Incentive Package for conservation co-developed with local stakeholders, based on conservation value of private areas (Sub-Output 1.3.1.4)**. Key actors will be identified and engaged, and their perceptions, motivations (92), and suggestions regarding potential incentive programs will be assessed during workshops (93). The type of incentive to be improved or implemented in the region will depend on the local stakeholders' suggestions and on the articulation with initiatives that work with incentives in the region, which will be done to increase coordination between institutions. The economic package will be disseminated to landowners and other key actors in the region (94).

137. Another way of incentivizing conservation in private areas in Pouso Alto APA is through the development of eco and agro-tourism. The project will act toward the **creation of a network and an online platform to promote eco and agro-tourism focused on conservation actions in private areas in Pouso Alto APA (Sub-Output 1.3.1.5).** The creation of the network will enable landowners, who are willing to develop sustainable conservation practices in their properties (such RPPN), to receive financial returns through the implementation of agroecological tourism. The first step is the engagement of local stakeholders interested in the development of

this network, particularly landowners within priority areas for conservation actions in the APA (95 and 96; see Outcome 1.2). A workshop with such actors will be conducted to identify possible conservation actions to be developed, as well as to assess the needs for tourism development in the region (97). Research groups will also collaborate with the network by developing extension activities and research inside these chosen properties (98). These properties will be connected through the network in an online platform to incentivize eco/agro-tourism, which will be disseminated (99 and 100).

138. The results and lessons learned from the economic incentives activities implemented to achieve Outcome 1.3 will be diffused through the creation of a **dissemination program in both pilot areas (São João and Pouso Alto APAs; Sub-Output 1.3.1.6)**. To ensure the sustainability of these activities, the lessons learned will be disseminated through the same mechanisms described above (Sub-Outputs 1.1.1.6. and 1.2.1.6): i) design of a communication strategy for the dissemination of lessons learned (101 and 102); ii) development of dissemination materials (e.g. banners, brochures, posters, videos) (103); iii) organization of events for dissemination of lessons learned (104); and iv) creation of a landowners' network for capacity building and dissemination of existing economic incentives in each APA (105).

Component 2 - Agreement with Forestry Sector Companies

139. Properties owned or leased by forestry companies have around five million hectares of native vegetation. The main focus of this component is to enhance biodiversity and ecosystem services conservation and restoration in the Forestry sector companies. To do so, the project will intervene on the indirect threats of **poor knowledge about conservation value in private areas, lack of integrated landscape planning, low compliance with environmental legislation in force**, and **poor knowledge of landowners about environmental-friendly techniques**.

140. The project intends to support Forestry industries to go beyond acknowledging the importance of biodiversity conservation, current monitoring actions, and forest recovery. The expectation is that the sector boosts its performance in these components, systematise these achievements into evidence that instructs Brazilian government regarding its targeted achievements in the scope of the CBD, and disseminates solutions found within and outside the sector. It is the sector interest: i) that protocols for biodiversity monitoring, SLM, SFL and restoration are improved, and that data obtained from it are incorporated into national reports in the scope of CBD; ii) that their areas of highest conservation value are identified and properly managed based on the improved protocols; and that iii) priority areas for native vegetation restoration are identified and considered by the companies. Therefore, the project, in partnership with the forestry sector companies, will give visibility to a great quantity of data on biodiversity, not available today for stakeholders, as well as increase conservation and restoration quality in these areas.

141. The **expected Outcome** is (Fig. 10):

Outcome 2.1**:** *Biodiversity conservation, ecosystem services provision, SLM and SFM in areas of highest conservation value managed by Forestry sector companies enhanced through an agreement for the implementation of improved conservation and restoration guidelines*

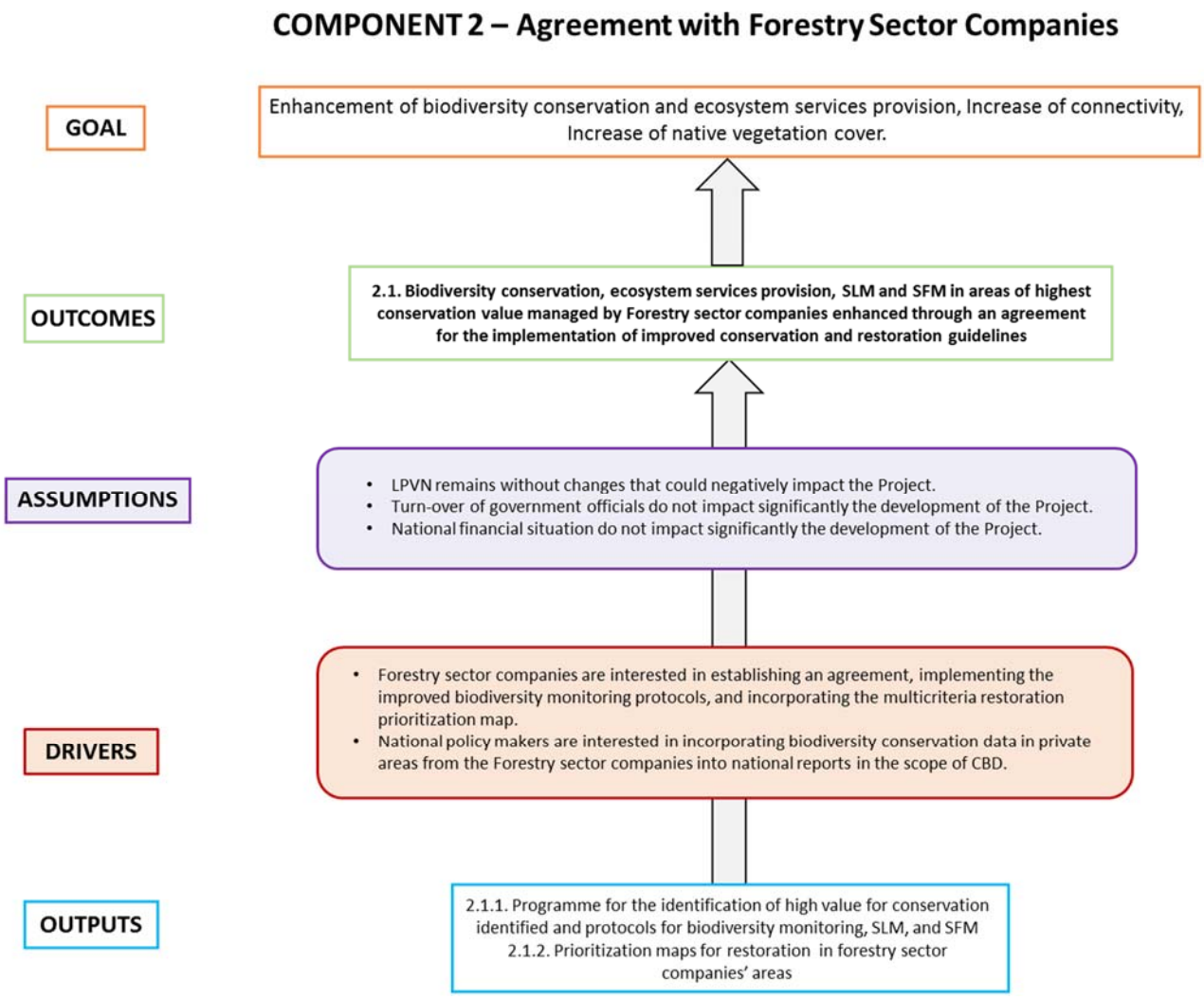

Figure 10. The Theory of Change for the Component 2. It presents the project logical framework, showing how outputs (light blue boxes) will lead to outcomes (green boxes), and finally to the project expected impacts (orange box), considering the drivers (red boxes) and assumptions (purple boxes).

142. The **assumptions** made here are: i) LPVN remains without changes that could negatively impact the Project, ii) national financial situation do not impact significantly the development of the Project; and iii) turn-over of government officials do not impact significantly the development of the Project (Figure 10).

143. The **drivers** considered to lead to the Outcome 2.1 are: i) the Forestry sector companies are interested in establishing an agreement, implementing the improved biodiversity monitoring protocols, and incorporating the multicriteria restoration prioritization map and ii) national policy makers are interested in incorporating biodiversity conservation data in private areas from the Forestry sector companies into national reports in the scope of CBD (Figure 10).

144. Forestry Sector companies that are most promising for up-scaling potential conservation strategies will be first identified and engaged into the project (106). Once those are identified and engaged, **an agreement will be developed establishing a partnership for improving and implementing protocols for biodiversity monitoring, SLM and SFM**. (107). Forestry companies will be gathered to discuss the agreement, which will be set and further monitored and evaluated regarding its advances, barriers and lessons learned. The agreement can be signed with specific and selected forestry companies. Two meetings with companies have already taken place and the participants have demonstrated interest in such agreement. They already monitor the biodiversity in their lands, but such monitoring still has gaps, and data is not yet translated or informed to the government to be considered into national conservation planning and into national reports in the scope of CBD (e.g. Aichi Targets). In this sense, the first activity to be developed is the collection and compilation of existing **data on biodiversity** (108). These data will be **analysed and synthetized, including its lessons learned** (108; 109; **Sub-Output 2.1.1.1**). Also, this information will be used to **identify areas with high value for conservation (Sub-output 2.1.1.2)**, using the methodology described in Component 3 (Output 3.2). Concomitantly, the protocols already implemented by the forestry sector companies will be evaluated, and improvements will be proposed (113). An **improved protocol for biodiversity monitoring, SLM and SFM will then be developed and validated** with the Forestry sector and further implemented (114, 115; **Sub-Output 2.1.1.3**). Finally, **institutions that are available to include specific data on biodiversity inventory and monitoring will be identified, and data will be adjusted according to the institution needs** (116; 117) (**Sub-output 2.1.1.4**).

145. Concomitantly, the project will deliver a map of **multicriterial restoration prioritization of companies' private areas, considering the landscape context** (which includes endangered species distribution; **Sub-Output 2.1.2.1**). This map will assist in the: i) identification of the natural regeneration potential in those areas, ii) indication of priority properties for native vegetation recovery, iii) incorporation of their results in programs for forest recovery of companies, and iv) implementation of an integrated landscape management. The development of workshops with interested Forestry sector companies to discuss scenarios and variables to be included in the multicriteria prioritisation map will be the first activity to be developed (117). Environmental and socio-economic data will be collected in order to give input information into the model (118). After data is synthesized and analysed (119), the spatial database will be generated (120) and validated with the participating companies (121). The use of this spatial database will be disseminated through a capacity building event to Forestry Sector companies who are interested in the subject (122).

146. Then, a **dissemination program and lessons learned from the agreement and conservation actions developed with Forestry sector** companies will be created (123; 124). Information on biodiversity monitoring and inventories, conservation strategies, as well as on the prioritisation map will be disseminated through banners, brochures, posters, events, among others, enabling its replicability in other areas (125, 126; **Sub-output 2.1.2.2**). At this stage, the project will have completed the **Output 2.1.2 – Spatial database related to the prioritization for restoration in forestry sector companies' areas.**

Component 3 – Improvement of public capabilities to plan and implement conservation policies in private areas

147. The Component 3 is split in two main Outcomes, both to be developed in a national scale (Fig. 11). The Outcomes are:

Outcome 3.1. *Biodiversity conservation and Ecosystems Services mainstreamed into national regulatory framework to support SLM, SFM and restoration in private areas* and

Outcome 3.2. *Conservation value of private areas mainstreamed into public policies and tools.*

148. The achievement of Outcomes 3.1 and 3.2 considers the following **assumptions**: i) turn-over of government officials does not impact significantly the development of the Project; ii) national financial situation does not impact significantly the development of the Project, and iii) LPVN remains without changes that could negatively impact the Project.

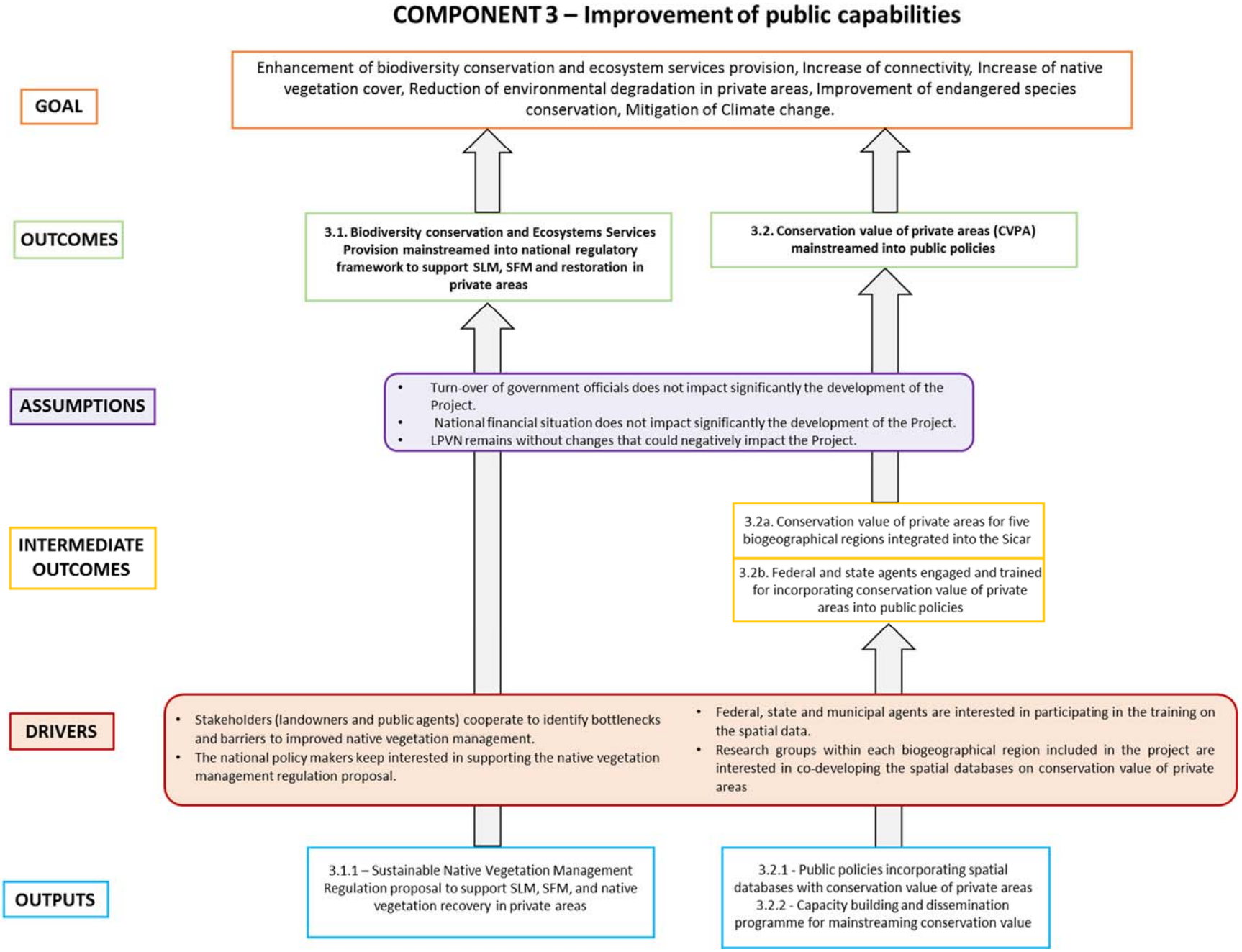

Figure 11. The Theory of Change for the Component 2. It presents the project logical framework, showing how outputs (light blue boxes) will lead to intermediate outcomes (yellow boxes) and outcomes (green boxes), and finally to the project expected impacts (orange box), considering the drivers (red boxes) and assumptions (purple boxes).

Outcome 3.1: Biodiversity conservation and Ecosystems Services mainstreamed into national regulatory framework to support SLM, SFM and restoration in private areas

149. The first aim of component 3 is to clarify procedures related to sustainable management of native vegetation in LRs, given the indirect threat of **lack of environmentally sound regulation for native management in private areas** (*refer to Section 2*).

150. The **drivers** considered here to achieve Outcome 3.1 are: i) stakeholders (landowners and public agents) cooperate to identify bottlenecks and barriers to improve sustainable native vegetation management in LRs; and ii) national policy makers keep interested in supporting the sustainable native vegetation management regulation proposal.

151. The first step to achieve Outcome 3.1 is to assess the **current bottlenecks regarding the application of sustainable native vegetation management in LRs considering biodiversity conservation and ecosystem services**. Stakeholders (public agents, civil society, rural landowners in the pilot areas) will be engaged and asked to answer questionnaires developed by the project team (see **Sub-Output 3.1.1.1**). Although this Outcome is national, bottlenecks will be accessed with stakeholders from the project's pilot area of São João APA because workshops on best practices for SLM (Sub-output 1.1.1.1), for example, will already be conducted there and because this is one way to scaling up lessons learned from a pilot area to a national level of intervention. Questionnaires will also include legal and economic aspects (focusing on transaction costs, for instance) of the regulations, and an additional assessment of difficulties related to the application of such regulations. Once bottlenecks are raised (128), the next stage is to look for solutions through a participatory process (129 and 130). This process will involve consultation (through a workshop) of stakeholders such as lawyers, licensors, and producer representatives, as well as representative from State environmental agencies. Then, based on an in-depth study of current legislation and bottlenecks assessed, solutions will be proposed.

152. The next immediate step is to provide a **Sustainable Native Vegetation Management Regulation proposal incorporating conservation value** (131; **Sub-Output 3.1.1.2**). The proposal will be based on the consultations described above (128-130), on an analysis of how the proposed national regulation will interact with state level ones and will be validated with federal and state agents and further advocated to Ministries (Environment and Agriculture, Livestock, and Food Supply), Brazilian Forest Service, IBAMA, and State agencies (132). The advocacy should be followed by a dissemination strategy that seeks to engage people on the matter (133). Once Sub-Outputs 3.1.1.1 and 3.1.1.2 are delivered, the **Output 3.1.1 - Sustainable Native Vegetation Management Regulation proposal to support SLM, SFM, and native vegetation recovery in private areas** is reached.

Outcome 3.2: Conservation value of private areas mainstreamed into public policies and tools

153. The second focus of Component 3 aims at dealing with **poor knowledge about conservation value in private areas** by mainstreaming the conservation value of private areas into public policies and tools (Outcome 3.2). In order to achieve this aim, decision-makers and civil society need decision support data and tools related to the biodiversity value of nature remnants in private areas, which are likely to be very heterogenous given particular socioecological contexts.

154. The **drivers** considered for the achievement of this outcome are: i) research groups within each biogeographical region included in the project are interested in co-developing the spatial databases on conservation value of private areas and ii) federal, state and municipal agents are interested in participating in the training on the spatial data.

155. In the context of Outcome 3.2, **spatial databases on conservation value of private areas will be produced for five biogeographical regions (Sub-Outcome 3.2.1.1)**. To generate this spatial database, the first step will be to map, articulate, and engage key institutions and research groups within each biogeographical region (134) to

create collaborative networks (research groups that study biodiversity in private areas) in each biogeographical region (135). The project will organize one workshop for each biogeographical region to gather researchers and formalize the networks (total of five workshops and five synthesis networks). Data collected from each research group (ecological, social, and economic data) will be compiled in a database and made available (136). Once the database is complete, specialists will discuss on a second round of workshops about: i) data that affect the conservation value of private areas (which data should be considered in the modelling) and ii) spatially explicit modelling methods. The analysis will result in a predictive model for conservation value in private area for each biogeographical region, which will consider the patterns presented by environmental data gathered in the field and the socioeconomic factors that most influence the conservation value (137; 138; 139;140). With this spatial database, it will be possible to identify which private areas contribute most for biodiversity conservation. The results will be validated by members of each synthesis network (141). Once validated, the spatial databases referring to the conservation value of private areas for each biogeographical region will be included at SiCAR (managed by the Brazilian Forest Service) as a specific module (142), reaching the **Intermediate Outcome 3.2a "Conservation value of private areas for five biogeographical regions integrated into the SiCAR"**.

156. However, public agents need to be trained on how to access and manipulate the databases produced. In order to achieve this aim, **guidelines to train federal and state agents to use the spatial database integrated into the SiCAR will be structured and disseminated** (143; **Sub-Output 3.2.1.2**).

157. Then, the project will identify, engage, and train key stakeholders best positioned to incorporate the evidence produced into public policies. Also, the spatial databases can be incorporated into other public policies apart from the SiCAR, in order to mainstream conservation value (e.g. establishment of priority areas for native vegetation restoration, in the context of implementation of Planaveg). In this context, the project will develop an **engagement and training program for federal and state agents to mainstream conservation value of private areas into public policies (Sub-Output 3.2.2.1)**. Thus, key federal and state agents in position of incorporating the spatial database will be identified and trained on how to use the spatial database (144; 145; 146). Later, an event for experience sharing regarding the use of the spatial database will be organized (147), achieving the **Intermediate Outcome 3.2b "Federal and state agents engaged and trained for incorporating conservation value of private areas into public policies"**. The target is to incorporate conservation value of private areas into at least three public policies by the end of the project.

158. Finally, the project will also develop an **international program in which experiences of managing and improving conservation value of private areas will be disseminated (Sub-Output 3.2.2.2)**. Since the beginning of the project, international collaborations will be pursued so that we can both learn from their experiences, but also disseminate the lessons learned from this project on how to incorporate conservation value of private areas in governmental systems (148 and 149). A communication strategy will be designed, and materials for dissemination developed (150 and 151).

3.4. Intervention logic and key assumptions

159. The main pillar for biodiversity conservation in Brazil has been the establishment of government, multi-party, or indigenous people-governed protected areas. However, approximately 53% of the remaining vegetation cover is in private areas, and these remnants have not been recognized as important for biodiversity conservation. Therefore, the additional value of the project for Brazil is the recognition of private lands as important for biodiversity conservation and sustainable use (at landscape level).

160. The project intervention logic is to tackle the key intervention points – the contributing factors of our concept model with the highest leverage potential for achieving the project objective (*refer to Sub-section 3.1*):

(1) Poor knowledge about conservation value in private areas;

(2) Insufficient technical assistance and rural extension focused on environmental-friendly techniques;

(3) Poor knowledge of landowners about environmental-friendly techniques;
(4) Insufficient environmental awareness;

(5) Low demand for agroforestry and non-timber products;

(6) Limited chain of agroforestry and non-timber products;
(7) Lack of integrated landscape planning;
(8) Insufficient economic incentives for the conservation of biodiversity and provision of ecosystem services in private areas;
(9) Lack of environmentally sound regulation for native management in private areas; and
(10) Low compliance with environmental legislation in force.

161. These factors will be addressed through the strategies defined in workshops with different stakeholders and decision-makers, so that the native vegetation cover in private areas becomes another pillar for biodiversity conservation in the country (*refer to Sub-Section 3.1 and Figure 6*). **From these strategies derived the activities, outputs, and outcomes that comprise the three project components abovementioned, so that the project objective can be achieved** (*refer to sub-section 3.3*).

162. Achieving project's outcomes and ensuring project's sustainability will become reality due to the project interdisciplinarity and bottom-up participatory approach. As Brazilian environmental issues, especially regarding conservation in private areas, relate to a multi-faceted socioeconomic system, the present project will be interdisciplinary.

163. In addition, it is essential to consider the stakeholders of each of the facets, so that the project is effective and successful. This project captures this need by working on the ground in two pilot areas with different realities, but a common demand for native vegetation conservation or recovery. Conservation outside public protected areas is poorly developed and disseminated in the country, so their implementation requires a large debate on how it should be done. Large-scale restoration is a challenge, not only nationally, but also globally. Brazil has a target to recover native vegetation over 12 million hectares (refer to sub-section 2.4), and successful regional examples of native vegetation recovery are vital to demonstrate the feasibility of such target. Circulation of successful studies that show how to reconcile increased farming productivity with biodiversity conservation or restoration is vital. Thus, the project encompasses a range of approaches for mainstreaming biodiversity conservation or restoration and ecosystem services provision in managing rural properties.

164. The **key assumptions** - external conditions necessary for project results to lead to next-level results, over which the project has no control – are: i) LPVN remains without changes that could negatively impact the Project; ii) turn-over of government officials do not impact significantly the development of the Project; iii) local, regional, and national financial situation do not impact significantly the development of the Project; iv) geographic limits of the APAs (pilot areas) are not altered; and v) low socio-environmental structure of the municipalities in the pilot areas does not interfere with the development of Project activities.

3.5. Risk analysis and risk management measures

165. Because the project depends on the implementation of environmental laws (e.g. LPVN) and third-party interest/participation (e.g. farmers), there are some risks to achieve project outcomes. These risks can be mitigated through several actions (table 4). Since the project has been developed through a participatory process with different stakeholders (*refer to sub-sections 2.5*), most of the risks are low (Table 4).

Table 4: Risks, risk assessment and project mitigation.

Risk	Assessment (low, medium, or high)	Mitigation
Stakeholders of the pilot areas do not engage in project`s activities	Low	To prevent non-engagement, the project will be conducted in a bottom-up strategy so stakeholders would be involved in decision making. Throughout the preparation phase of the Project, workshops were held in both pilot areas, and contacts with local associations, state and municipal governments were made and maintained. Furthermore, the projects foreseen events and activities such as raising awareness and training among landowners to mitigate the risk of non-engaging.
Non-compliance of landowners with the LPVN	Medium	Although LPVN is already in force, landowners involved in the project (within the Atlantic Forest's pilot area) might risk not complying with this law. In such pilot area the main goal is to support forest recovery so that landowners comply with the LPVN. The process of law compliance will be speeded since the project will have activities for CAR validation and PRA initiation. Once CAR is validated, landowners in the São João APA can implement PRA and start recovering native vegetation in their lands. Hence, the risk of non-compliance in this region is minimized. Nevertheless, in other regions in Brazil this risk is medium, because it will be mitigated only after the dissemination of the lessons learned in this pilot area.
Non-validation of the CAR in the next years	High	State governments are responsible for validating CAR. Although the risk of non-validation if the CAR for the entire territory is high, this risk is reduced in the São João APA, where validation is most essential for the project development. As mentioned above, in the São João APA the project will support CAR validation, so this risk is mitigated in this region. In the Pouso Alto APA TFCA project (see sub-section 2.7) is promoting CAR and, consequently, enabling validation afterwards, so that the risk of non-validation is reduced. Therefore, although the risks are high for the national territory, our mitigation strategies reduces them for the two pilot areas.
Inefficient establishment of PRAs by state governments	Medium	As the project team is in close contact with Brazilian Forest Service, which is in charge of

		technically supporting and monitoring PRAs in the states, the risk of inefficient PRA implementation is mitigated. Besides, this risk is additionally mitigated by some project activities such as raising awareness among landowners and training of extension agents with focus on compliance with LPVN (which includes PRA implementation), supporting CAR validation and PRA initiation, developing incentive packages for native vegetation conservation and recovery.
Mechanisms of incentives for native vegetation conservation and recovery are not implemented	Low	This risk will be mitigated by the project through several actions. Some incentives have already been studied and discussed with the stakeholders from the pilot areas throughout the preparation of the project. Furthermore, additional consultations with local stakeholders will be held to determine which incentives are the most viable and accepted. Finally, the reasons why some incentive mechanisms implemented in the region have or have not worked will be assessed.
Agreement with Forestry sector companies is not signed	Low	FBDS have already briefed and consulted the main representatives in the Forestry sector (e.g. president of Ibá) about such agreement, and the latter have expressed interest in signing it. FBDS will continue to interact with such representatives in order to minimize the risk of the agreement not being signed.
Regulation bodies do not incorporate proposals of spatial database and changes in regulations	Medium	During the development phase of the project, the team set several meetings with regulation agencies (e.g. Brazilian Forest Service) to engage them in the project. Furthermore, the project plans to develop an advocacy strategy to minimize the risk of such bodies not incorporating project proposals.
Research group do not make databases available for the spatial modelling regarding biodiversity value	Low	The project team has been articulating with researchers to form a group of synthesis for the Atlantic Forest and the Cerrado. The formation of such groups must encourage researchers of the other biogeographical regions to form their respective research groups and mitigate the risk of databases not being available for spatial modelling regarding conservation value.
Some strategies of the Management plan of the APA of Pouso Alto are not implemented in every municipality in the APA	High	The Pouso Alto APA has a great variety of rural landowners, from small to large ones. The activities to be implemented in the project (and based on the Management plan) will hardly be completely implemented in every municipality in the APA. Therefore, the project will focus on the municipality of Alto Paraíso (the only municipality whose area is completely inside the APA and where the touristic potential is best developed), but certain strategies can be focused in other municipalities. Thus, there can be a balance between strategy risk and effectiveness. In

		addition, during the development and execution of the project, the lessons learned from other projects and from this project will be considered to ensure effectively and replicability in other municipalities.
The rural landowners do not improve biodiversity conservation in their properties	Medium	The project will conduct activities that will raise landowners awareness (bottom-up approach) so that they recognize the value of biodiversity and ecosystem services and understand practices that reconcile biodiversity conservation with farming production. Furthermore, extension agents will be trained on how to assist landowners to achieve that. Incentive packages for native vegetation conservation or recovery will be negotiated with banks so that they are available to landowners. Finally, the lessons learned and examples in the pilot areas will provide proof of the economic and environmental benefits of conservation should minimize the risk of landowners not improving biodiversity conservation in the other biogeographical regions in Brazil.
Rural landowners do not give access to their properties	Low	As abovementioned, there will be several activities aimed at raising awareness among landowners, which will be executed along with organizations that have been in touch with these landowners in the pilot areas for many years, which will mitigate the risk of them not allowing access to their properties.
Low replicability, sustainability and amplification of the project	Low	There is a specific strategy in the project to systematically disseminate lessons learned so that they can be repeated and magnified in other places. In addition, once core strategies such as improvement of regulations (e.g. sustainable forest management), training of stakeholders (e.g. landowners and extension agents), and development of incentive mechanisms are implemented, they become self-sustainable.
Climate Change and extreme weather events affect negatively the project implementation, SLM, SFM and native vegetation recovery, and biodiversity conservation	High	The project considers possible climate change and variations in weather into its strategies in order to make them more resilient, as well as to mitigate these effects. For instance, the selection of the species to be used in the restoration initiatives will take into account each species vulnerability to climate change. In the Pouso Alto APA, the environmental education and training programmes will pay particular attention to climate adaptation measures, including improved fire management and water resources management techniques. Further, the implementation of the project on the ground practices (such as Demonstration Units) and all awareness, training and capacity building efforts will consider practices that contribute to reducing GHG emissions, as well as increasing

		climate resilience through climate-smart agriculture and ecosystem-based adaptation. Finnaly the potential os specific regions to act as climate refugia in the context of climate change will be considered in the development of the databases of the conservation value of private lands.

3.6. Consistency with national priorities or plans

166. The project is consistent with national strategies, plans, and policies aimed at conservation, sustainable use, and restoration of biodiversity.

167. Under the current United Nations Development Assistance Framework (UNDAF) in Brazil, the project is aligned with the axis "Sustainable management of natural resources for present and future generations" and more specifically with the following Expected Results:

2.1 Models of participatory governance of sustainable management of natural resources and ecosystem services, effective and strengthened, seeking integrated, resilient and inclusive territories.

2.2 Institutional capacities strengthened to promote public policies, their coherence and implementation, for the sustainable management of natural resources and ecosystem services and the fight against climate change and its adverse effects.

168. UN Environment will participate in the development for the next UNDAF period and assess project outputs and progress in relationship with this process when it comes around during project implementation.

169. By implementing SLM, SFM, and native vegetation recovery in private areas at the São João APA (KBA area in the State of Rio de Janeiro; Outcome 1.1), **the project aligns to Proveg, LPVN, Bonn Challenge, Initiative 20x20, NBSAP, and NDC**. Furthermore, **it is consistent with ABC Plan** in the context of pasture recovery, adoption of integrated crops-livestock-forestry and of agroforestry systems, no-till farming, biological nitrogen fixation, reforestation, and waste treatment. Finally, it contributes to achieve the **National Biodiversity Target 7** ("by 2020 the incorporation of sustainable management practices is disseminated and promoted in agriculture, livestock production, aquaculture, silviculture, extractive activities, and forest and fauna management, ensuring conservation of biodiversity"), **Target 8** ("by 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity"), **Target 14** ("by 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, traditional peoples and communities, indigenous peoples and local communities, and the poor and vulnerable"), and **Target 15** ("by 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced through conservation and restoration actions, including restoration of at least 15% of degraded ecosystems, prioritizing the most degraded biomes, hydrographic regions and ecoregions, thereby contributing to climate change mitigation and adaptation and to combatting desertification").

170. The activities focused on the implementation of conservation actions of the Pouso Alto APA's management plan in private areas (Outcome 1.2), such as environmental education, creation of RPPNs, and partnerships with universities and institutions to monitor endangered species, are in line with the National Environment Policy, given its principles (protection of areas under risk of degradation, environmental education), objectives (circulation of environmental information and raise of awareness on the need to preserve environmental quality and ecological balance), and instruments (protected areas, national information system on the environment, and

economic instruments); **the Pro-Species Program; the SiBBr;** and the NBSAP. Further, all of the activities are aligned and complement the Action Plan for Prevention and Control of Deforestation and Fires in the Cerrado (PPCerrado), as this initiative aims at reducing deforestation in this biogeographic region and its consequent GHG emissions through monitoring, landscape planning and development of sustainable management. The project activities also contribute to achieve the **National Biodiversity Target 1** ("by 2020, at the latest, Brazilian people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably"), **Target 11** ("by 2020, at least 30% of the Amazon, 17% of each of the other terrestrial biomes, and 10% of the marine and coastal areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through protected areas foreseen under the SNUC Law and other categories of officially protected areas such as PPAs, LRs, and indigenous reserves with native vegetation, ensuring and respecting the demarcation, regularization, and effective and equitable management, so as to ensure ecological interconnection, integration and representation in broader landscapes and seascapes"), **Target 12** ("by 2020, the risk of extinction of threatened species has been significantly reduced, tending to zero, and their conservation status, particularly of those most in decline, has been improved"), and **Target 19** ("by 2020, the science base and technologies necessary for enhancing knowledge on biodiversity, its values, functioning and trends, and the consequences of its loss, are improved and shared, and the sustainable use of biodiversity, as well as the generation of biodiversity-based technology and innovation are supported, duly transferred and applied; by 2017, the complete compilation of existing records on aquatic and terrestrial fauna, flora and microbiota is finalized and made available through permanent and open access databases, with specificities safeguarded, with a view to identify knowledge gaps related to biogeographic regions and taxonomic groups").

171. The development and improvement of incentives schemes for SLM, SFM, and native vegetation recovery in private areas (Outcome 1.3) is consistent with **NBSAP, NDC, Bonn Challenge, LPVN, National Environment Policy (economic instruments), and Proveg** as it promotes compliance of rural properties with environmental legislation and aims at spatial prioritization of areas with conservation or recovery potential and at identification of a package of economic incentives for the conservation of such areas. Further, it complements and is aligned to the ENREDD+, as it will contribute with incentives for deforestation reduction, improved sustainable management, and forest recovery. Such incentive schemes support the **National Biodiversity Target 3** ("by 2020, at the latest, incentives harmful to biodiversity, including the so called perverse subsidies, are eliminated, phased out or reformed in order to minimize negative impacts; positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the CBD, taking into account national and regional socioeconomic conditions").

172. The incorporation of biodiversity inventory and monitoring data in private areas from the Forestry sector companies into national reports in the scope of CBD (Outcome 2.1) is aligned with SiBBr, the **National Biodiversity Targets 7 and 19**, and the objectives (environmental data circulation) and instruments (national environmental information system) of the **National Environment Policy**.

173. Wide spreading and advocating the Sustainable Native Vegetation Management Regulation proposal to support SLM, SFM, and native vegetation recovery in private areas to key stakeholders (Outcome 3.1) enhance the sustainable management of Legal Reserves and other forests, of public or private domain, foreseen in the **LPVN**, contributing to the **National Biodiversity Target 7**.

174. The consideration of biodiversity value in the governmental management tools related to the application of the **LPVN** and other policies (Outcome 3.2) boosts the compliance with such law by enhancing the implementation of **SiCAR and PRAs.** It also contributes to the achievement of the **National Biodiversity Target 2** ("by 2020, at the latest, biodiversity values, geo-diversity values, and socio-diversity values have been integrated into national and local development and poverty reduction and inequality reduction strategies, and are being incorporated into national accounting, as appropriate, and into planning procedures and reporting systems").

3.7. Incremental cost reasoning

175. The incremental financial support from the GEF is necessary to ensure that efforts at pilot scale and national levels are focused on realizing the biodiversity conservation potential of private lands in Brazil. Current efforts, although substantial, do not have this objective as a focus, and the incremental support that will be channelled through **this project will help to overcome key barriers and help to unlock the substantial potential of private lands (which host 53% of remaining native vegetation in Brazil) to conserve biodiversity** (*refer to Appendix 3*).

176. Ongoing situation in the pilot regions helps to understand the incremental costs reasoning of the project. In the Sao João APA, very limited effort is expected in terms of compliance with the LPVN through restoration efforts. Even these limited efforts are likely to have no spatial intelligence which prevents them from being translated into integrated sustainable land management at property and landscape levels. By creating the enabling conditions for a cost-effective restoration and developing SLM plans (including detailed restoration plans) that are legally binding, the project will achieve substantial additionally in relation to the baseline. In the Pouso Alto APA, the management plan implementation is hampered by key barriers, including a low-level of buy-in from private landowners. By using best practices of stakeholders' engagement to conduct activities of biodiversity conservation in private areas inside this APA, the project will contribute to the improvement, acceptance, and effective implementation of the APA's management plan. Taken together, those pilots-scale efforts, through their lessons learned, will boost the incremental performance at national levels.

177. The forestry sector owns 5 million hectares of areas covered by native vegetation (in addition to 7 million hectares of production areas, mainly exotic eucalyptus). These areas are not actively managed, but neither are they actively conserved. Companies do some biodiversity monitoring in some regions, but there is a lack of coordination among forestry companies that compromises biodiversity data systematization in their lands and integration of such data to public policies and national targets. Crucially, there is no spatial intelligence to their conservation or restoration efforts. The project role in synthesising their current monitoring data, co-developing improved protocols and management guidelines and, in particular, in identifying their areas of highest conservation value will greatly improve the targeting of their efforts and resulting conservation outcomes. It will also allow the national government to incorporate these areas into national reports in the scope of CBD. This incremental contribution will also serve as a blueprint for the integration of conservation efforts from other sectors to the ones from public institutions.

178. National efforts towards developing a system to implement regulations of private land-use have already reached hundreds of millions of USD (*refer to Appendix 12*). Furthermore, restoration efforts are estimated to cost tens of billions of USD (Instituto Escolhas, 2016). But these efforts do not have specific focus on biodiversity conservation. Some of the top-down conservation regulations are hampering sustainable native vegetation management on the ground (refer to sub-section 2.3.2), so the conservation potential of private lands is not appropriately addressed. The incremental efforts provided by this project (e.g. fostering knowledge on SFM techniques and refining regulations related to SFM in LRs), arising from pilots' lessons and experience, will change this baseline into a situation where biodiversity conservation is appropriately integrated into private land-use governance. As private lands cover 53% of the remaining natural vegetation in Brazil, the incremental impact of this transition will be substantial.

3.8. Sustainability

179. Since the project is constructed in a manner that **combines activities of bottom up with top down approaches** that are focused on capacity building it promotes sustainability. The project's activities are focused on improving capabilities to plan and implement conservation and integrated sustainable management policies in private set

aside areas that comprise 88 million hectares in Brazil in the five analysed biogeographical regions. The project will mainstream biodiversity conservation and provision of ecosystems services into national regulatory frameworks to support sustainable management of such areas. These activities will be carried out with the engagement of public institutions with legal competence on the matter.

180. Sustainability of the project is secured by contribution of co-financing partners (the Brazilian Forest Service, the International Institute for Sustainability, the State of Goiás, the Ministry of Environment). These institutions are committed to share their financial and human resources with concerted effort towards the common objective that is to maintain activities strengthening biodiversity conservation in private areas. Regarding financial sustainability of the project, it will also likely trigger complementary resources to assist consolidating results and defining future activities. Through alliances with major stakeholders and a wide range of other relevant institutions including top universities and research institutions in Brazil, NGOs, extension organizations, and private sector the project ensures continuation beyond its duration.

181. Upon project completion, the project's continued success requires follow up of most project activities, which is assured, for instance, through an implicit agreement with the Forestry Sector companies. The sectorial agreement with the Forestry sector companies for sustainable landscape management of private areas is per se an expression of willingness to change of the sector with long-term ramifications and benefits. This agreement will be initiated during the project and will continue beyond the duration of the project. The monitoring protocol will be adopted by the Sector and will be used for improved assessment of biodiversity and prioritization for restoration at the national level.

182. Improvement of the national protected areas system is ensured beyond the project. The overall objective of the project is to scale up sustainable landscape management and contribute to biodiversity conservation and the provision of ecosystem services in private areas in Brazil. To this end, partners involved in the project, mainly national authorities such as MMA, have the mandate to include the results of the project into public policies to maintain the project objective beyond its duration. Furthermore, other project partners such as United Nations Environment Programme (UN Environment) will contribute by promoting the implementation of the environmental aspect of sustainable development within the United Nations system. Also, IUCN, which acts to spread conservation efforts globally, will foster international dissemination of project results and its visibility.

183. As Brazil is a part in major international biodiversity assessments performed by CBD and by the Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services this project will directly contribute to the improvement of guides, assessments, monitoring, and resource mobilization for biodiversity conservation. The spatial databases, prioritization analysis, and protocols developed in the project will help increase biodiversity conservation. Prioritization in the long term will help to define the costs of the strategies identified for incorporating biodiversity considerations into public policies regarding private land use. Lessons learned will be disseminated both nationally and internationally.

184. Project's sustainability will also be possible due to its interdisciplinary bottom-up participatory approach. Conservation in private areas in Brazil can be considered a complex socioeconomic system which requires a careful on-the-ground involvement of a range of stakeholders to build a long-term functional networking. Large-scale restoration is a challenge, not only at national but also at global scale. Brazil has a target to recover native vegetation over 12 million hectares, and successful regional examples are vital to demonstrate the feasibility of expansion of native vegetation recovery. Circulation of successful case studies is also crucial to show how to reconcile native vegetation recovery with increased farming productivity. The project encompasses a range of approaches for mainstreaming biodiversity conservation and ecosystem services provision in private areas. DUs will provide cases of success that are paramount to a participatory bottom up vision of sustainability. Lessons learned from DUs will be systematized and widely disseminated via online platforms as well as other means

depending on target audience. Systematized lessons learned from the pilot will also support national policies, so the project becomes holistic.

185. Finally, this project provides the stepping stones for mid- to long-term activities that support a complete national conservation system in private areas that can serve as a model for international conservation systems.

3.9. Replication

186. The project has been designed from the outset to develop tools, regulations and incentives to mainstream the conservation value in private lands in Brazil, which corresponds to 53% of Brazil's remaining natural vegetation. The potential for replication of the pilots and the forestry sector agreements are, therefore, substantial and can be measured in tens of millions of hectares. This replication potential is catalysed by the development and mainstreaming of these national scale tools, regulation and incentives which will foster systemic enabling conditions for the pilot activities of conservation in private areas to be replicated.

187. The project on one hand is at national scale and on the other hand has a bottom-up approach. Project replicability will be based on systematization of the outcomes of the project, dissemination of the lessons learned of the implementation of DUs as well as of the facilitation of credit access and incentives for native vegetation conservation, and implementation of monitoring protocols with the forestry sector companies. This will provide potential for scaling up ''know-how'' exchange with other countries with rich biodiversity in private areas. The integration of private areas in the national conservation system as performed by the project will serve as a model for countries elsewhere.

188. At national level, this project will contribute to replication of good agricultural practices, improved restoration models, and prioritization models for restoration in key areas for biodiversity while sparing land with best agricultural potential for agriculture. Implementation will be jointly coordinated by Farmers' Associations, NGOs and local authorities. We expect 'snow ball effect' in the area of DUs implementation, as observed previously with similar projects (e.g. Latawiec et al., 2017). As DUs are in the biodiversity hotspot, the likelihood to replicate in area that is for key biodiversity and ecosystem services provision is high.

189. The sectorial agreement, the guidelines for sustainable native vegetation management in LRs, the spatial prioritization model for restoration of native vegetation, the spatial database with conservation value, and the incentives packages developed will serve to base a national system that will manage the 88 million hectares of PPAs and LRs in the five biogeographic regions that focus of this project. Such system can also provide inputs for the management of private areas in the Amazon. The implementation will be fostered by private sector, NGOs and Farmers' Associations in the five respective regions.

190. The project aims at systemic change at many levels which translates to high potential for replication. Through improved regulation, management guidelines, new incentive schemes, large field pilots and sectoral agreements the project will serve a basis for a paradigm shift in accounting for biodiversity and ecosystem services in private lands (88 million hectares in 5 biomes, in addition to the Amazon biome) and a new national system that will create and promote 'third pillar of conservation'.

191. Because the results of the project will be widely disseminated they will be available for replication. Lessons learned from DUs implementation, monitoring assessments, sectorial agreement process, and prioritization modelling will be vital for stakeholders elsewhere that are taking part in similar processes and are yet to develop their third pillar of biodiversity conservation.

192. Because the project is built in a holistic manner wherein participatory approach of DUs is linked to overall national scale policy initiatives where regulatory frameworks and strategic planning play their fundamental and long-term

role, the project can serve as a model not only for projects of similar scope but also for other GEF projects in other parts of the world. On the account of the novel integration systems for biodiversity conservation proposed here, there is a potential for replicability in other regions of the world and for increasing biodiversity conservation globally.

3.10. Public awareness, communications and mainstreaming strategy

193. One of the strategies of this Project is to increase society awareness on the importance of conservation value of private areas. Therefore, every strategy in the project was thought and developed focusing on the different stakeholders identified in sub-section Stakeholder mapping and analysis, such as landowners, extension agents, decision-makers at federal, state, and municipal level, civil society, community leaders, research institutions. Since the engagement of these stakeholders are paramount to achieve the project outcomes it will be encouraged through collaborative socioenvironmental educational practices - a social learning process for mutual benefits - where the guiding principles will be active involvement, consultation, and unrestricted access to participation.

194. The implementation of strategies will start with the creation of networks with similar GEF projects, as well as with other institutions and projects around the world that address the same topic. This will last for the first half of the project, when workshops and meetings to share experiences will take place.

195. The activities aimed at raising awareness are expected to address the specific needs of each target-audience and encourage associative practices. In this context, stakeholders have been previously identified in the workshops and meetings that took place during the preparation of the project. These events also enabled the collection of the main expectations of key-stakeholders which based some outcomes of the project and the approach that should be adopted for each one of them. The strategies to raise awareness will be implemented through workshops, meetings, interviews, and focus groups with key-stakeholders and specific groups, focusing on behaviour change with respect to the acknowledgement of the contribution of private areas for biodiversity conservation and ecosystem services provision.

196. The second step to ensure effectiveness of the activities proposed in the project is mobilization (mainstreaming) of key-stakeholders so they actively participate in the planning to achieve the goals of each Component (in detail in sub-section Project components and expected results), for example:

(1) **Component 1** – implementation of DUs, training of extension agents and landowners, implementation of the Environmental Education Program, and creation of conservation networks. *Approach and communication strategies*: Several media items (brochures, publications, scientific papers) will be made available to raise awareness and guide environmental agents, rural landowners, and general community about the ongoing actions and outcomes achieved in the pilot areas (Atlantic Forest and Cerrado). The extension agents training course will be divided in modules with textbooks for theoretical classes and constant visits to the DUs for practical classes. To scale up the training, the project will produce manuals and video-lessons that will assist trained technicians to spread learned knowledge to other technicians in the region. The Environmental Education Program will use integrated dynamics and a participatory planning so that stakeholders recognize the value of local biodiversity and ecosystem services.

(2) **Component 2** – establishment of the agreement with the Forestry sector companies, improvement of a protocol to monitor biodiversity, identification of priority areas for restoration, and systematization of biodiversity data. *Approach and communication strategies*: There will be workshops and meetings involving forestry companies and governmental environmental bodies to improve and standardize biodiversity monitoring protocols aligning expectations regarding the features of monitored data and of companies monitoring capacity.

(3) **Component 3** – creation of regulation to improve native vegetation management in LRs, development of spatial databases on conservation value of private areas to be added in the SiCAR, training of federal and state agents to use the spatial databases, and replication of project actions in other biogeographic regions. *Approach and communication strategies*: Communication media, such as brochures and publications, focused on the community, environmental agents, and rural landowners, will be produced to disseminate actions and outcomes achieved in the project. The large-scale replication of pilot actions (Component 1) will happen through the visit of state public agents and landowners to pilot areas. The lessons learned in the pilots, disseminated through publications and brochures, will help states and municipalities in each biogeographic region to improve ongoing plans and programs by reconciling biodiversity conservation and farming. Specific publications (scientific papers) will also be produced on such topic.

197. Throughout the project, there will be events with several key-stakeholders to maintain the alignment of actions with outcomes and stakeholder's expectations. At the end of the project, every achieved outcome will be presented in a closing event where key-stakeholders involved in the different stages and fronts of the project will be invited to participate and contribute with their impressions and evaluations.

198. Communication and dissemination material will be produced according to the need of each target-audience considering gender issues, as well as any approach with key-stakeholders of this project.

199. Seeking to validate the project and boost replicability of actions, the project will also have a press office, which will be in constant contact with other professionals of mass media. This office will have a key-role in spreading the outcomes to the community and reinforcing the importance to value biodiversity conservation in private areas. This initiative complements the effort of the MMA to ensure transparency of programs under development on the subject and contributes to compliance of the country with CBD and UNFCCC commitments.

3.11. Environmental and social safeguards

200. In accordance with the GEF Policy on Environmental and Social Safeguards, safeguard measures will be built into national project design and implementation. Under this project, Strategic Environmental and Socio-economic Assessments (SEAs) using UNEnvironment Environmental, Social and Economic Sustainability Framework (ESES) framework standards including guidelines and templates will help to streamline and focus the incorporation of environmental and social concerns into the decision-making process, often making project-level EIA a more effective process. Strategic Environmental Assessments are currently not mandatory in Brazil.

201. For the purposes of the Private Lands Project, an SEA Scoping Exercise will be undertaken at the commencement of the project to ensure that particular attention is paid to environmental and social concerns with regard to the project interventions, and also to create a platform for integrating the concept of Strategic Environmental Assessments in projects that are undertaken in Brazil.

202. The Scoping of the SEAs will consider the implications of the Project for biodiversity and ecosystem conservation and on the creation of sustainable livelihoods. It will also ensure that the interventions identified in the Project components give due consideration to the comments and recommendations of stakeholders and how these comments and recommendations are incorporated into the Project delivery. The Scoping exercise will also evaluate opportunities to consolidate and implement other environmental and social initiatives pursued by local stakeholders, NGOs and other partnerships.

203. Paramount in the SEA scoping is the determination of the extent to which the Project will change prospects for biodiversity conservation and its sustainable use in Brazil. Key general questions, to be asked during the scoping exercise will include inter alia:

- What are the Project's objectives and how do these relate to safeguarding environment and social integrity?
- How important is biodiversity and ecosystems services to persons in the pilot areas and their livelihoods?
- What are the likely impacts of the Project on people who need and use biodiversity and ecosystem services?
- Does the Project provide for interventions which are 'biodiversity friendly' and socially beneficial?
- Does the Project provide for interventions which enhance positive benefits for conservation and sustainable use?
- Will current or traditional biodiversity uses and values be sustained/sustainable following implementation of the Project?
- Does the Project provide opportunities for protected areas and for species protection?
- Does the Project provide opportunities for stakeholder consultation?

204. The SEA scoping will assure that the Project is consistent with policies and priority actions for good environmental and social stewardship. This includes various multilateral environmental agreements that Brazil is party to, as well as any national policies for biodiversity or environmental protection; various other resource management policies and plans in Brazil etc.

205. The SEAs will be undertaken through a process of extensive consultation, taking into account the already extensive consultation throughout the pilot areas and among relevant stakeholders undertaken during project planning and PPG stage.

206. The Project seeks to promote the "No Net Loss" principle through interventions that seek to maintain or enhance environmental and social safeguards in Brazil.

207. Challenges to be overcome in the conduct of the scoping exercise:

- Availability of baseline data on the various biodiversity resources and ecosystems and socio-economic status that will be impacted by the Project;
- The large volume of plans, policies and programmes that will have an influence on the Project make it difficult to categorically illustrate the effect of specific plans, policies and programmes.

208. However, for the activities being promoted in pilot areas, socio-economic indicators will be developed to measure the impact of improved management of forests.

209. The engagement of stakeholders along the project components will foster women's groups and cooperativism, as well as recognize and strengthen women's leaders and form women-led project teams. Also, the project will ensure that women have voice on the delineation of project workplans, such as the environmental education program based on the conservation actions of Pouso Alto APA's Management Plan (Component 1, Outcome 1.2).

210. Restoration efforts also offer gender neutral opportunities by involving women in operations on the ground related to pilots, such as nursery operations. Improving public capabilities to plan and implement conservation policies in private areas also offer gender consideration by involving women that work at public agencies. The project will generate gender data and input gender dimensions into the elaboration of Component 1 (Pilot Implementation) and Component 3 (Improvement of public capabilities to plan and implement conservation policies in private areas) and in the development of results frameworks, budgets, implementation plans and work plans. The PPG process has, however, determined that gender considerations are not solely a women's issue but rather looks at yielding advantage to whole communities and benefitting both genders and vulnerable groups.

SECTION 4: INSTITUTIONAL FRAMEWORK AND IMPLEMENTATION ARRANGEMENTS

211. Project internal and external structures are shown in Appendix 10. The proponents have chosen UN Environment as Implementation Agency for this project. The International Institute for Sustainability - IIS was appointed as one of the Executing Agencies for its broad experience and recognition in the scientific community on development of policies related to biodiversity conservation, ecosystem services and sustainable management practices, and because it has helped decision-making of governmental and non-governmental organizations on the sustainable use of landscapes.

212. The MMA – through Secretariat of Biodiversity, Department of Conservation of Ecosystems (DECO) -, the other Executing Agency, will be in charge of ensuring the proper execution, coordination, monitoring, and assessment of the project goals. Therefore, it will constitute the Project Coordination Unit (PCU) which will consist of a Project Supervisor and staff, established at the municipality of Brasília. PCU will oversee the Project Management Unit (PMU).

213. As Executing Agency, the IIS will be responsible for the execution of every activity in the project, under supervision of the MMA, and will provide administrative, logistical and financial support to the project (details in Appendix 10). In addition, it will prepare the meetings with different partners and with the Project Steering Committee – PSC (detailed below), as well as execute the regular Project plans, evaluation and follow-up reports etc.

214. The Project Management Unit (PMU) will consist of the Senior Project Director (SPD), the three Senior Directors for Components (SDC), the Project Manager (PM), the Communication Manager (CM), the support professional staff, and the administrative, logistical, and financial staff. Under the supervision of the PS, the SPD will be in charge of the technical and administrative aspect of the Project and will manage the operational planning and execution with the IIS. In addition, SPD will provide technical guidance for the different project components and will provide guidelines for executive personnel selection, as well as every necessary consultancy to achieve the Project goals.

215. In the project preparation stage, governmental and non-governmental institutions were consulted about perceptions and experiences of the main stakeholders about biodiversity conservation in private areas, both in the pilots and at state and federal levels.

216. In the execution stage, a Project Steering Committee (PSC) will be created, whose chairperson will be from MMA, having seats for two representatives of MMA, a representative of IIS, a representative of the UN Environment, and two representatives of civil society - one of the São João and Pouso Alto APAs. The PSC can invite representatives of some relevant institutions (Section 5) to participate in the meetings. The PSC will meet at least once a year. The main roles of the PSC are: to ensure the achievement of the Project goals and targets, to monitor activities, to provide strategic guidance, to supervise compliance with the annual work plan, to support interinstitutional coordination, and to ensure active participation of stakeholders and compliance with commitments made along the project. It is also responsible for the review of evaluation reports and for the project follow-up and monitoring in the medium term and at the end of the process.

217. As Implementing Agency, the UN Environment will be responsible for the Project supervision, follow-up and evaluation, including the supervision of intermediate and final evaluations, as well as the review and approval of regular reports (financial and technical). It will also provide guidance regarding the Global Environmental Benefits (GEB), analysis and technical support in relevant areas, and other liaison and coordination actions necessary to the correct implementation of the Project.

218. The PMU will be established in the IIS headquarters (municipality of Rio de Janeiro), as well as the majority of the project staff. The Task Manager (UN Environment) for this project will be based at the Regional Office in Panamá and will remain in constant communication with the SPD and the PM throughout the execution stage.

219. A technical coordinator (Senior Director for Component-SDC) will be hired to deal with the implementation of each of the Project Components. They will be responsible for the coordination, execution, and follow-up of every activity of each Component, coordinate the respective teams as well as external consultants, offer technical assistance, supervise the achievement of targets of each Component, and stay in touch with the SPD and the PM. Each Component will have a Support Team, under the supervision of the SDC, who shall execute the activities relevant for each Outcome and Component. Consultancy needs will be identified during the project implementation.

220. The Project Administrative Supporter (PAS) and the Pilots Logistic Supporter (PLS) will provide support to the SPD, the SDCs, and the PM in every administrative and logistical matter associated with the project execution. The PAS will be responsible for organizing internal meetings and other activities, hiring services, managing the SPD agenda, keeping the minutes, coordinating the PMU activities, calling meetings and confirmations, receiving and distributing mails etc. The PLS will be responsible for organizing activities related to pilots, such as workshops/events, implementation of DUs, training, etc.

221. Local Focal Points (LFP) will be hired to lead the implementation of pilots in the São João (Atlantic Forest) and Pouso Alto (Cerrado) APAs. LFP will plan actions with the Senior Director for Component 1 and with the PM and supervise the implementation of work plans in the field. Each LFP will need to establish direct communication with municipal agents from the pilot region, as well as other relevant local stakeholders.

222. The Communication Manager (CM) will support the SDCs and the SPD with respect to communication activities and dissemination strategy.

223. The project partners (refer to Section 5) will contribute to the execution of different activities and of counterpart initiatives in the three components. Furthermore, they will provide information, technical and institutional support, and assistance to the pilots. The involvement of each partner will be formalized through agreements that will last for the five years of the Project execution.

224. The Terms of Reference of the main project partners are presented in Appendix 11.

SECTION 5: STAKEHOLDER PARTICIPATION

225. As described in section 2 (Stakeholder mapping and analysis), throughout the development of the PRODOC there were a series of technical meetings involving a broad group of stakeholders related to biodiversity conservation, sustainable forest management and environmental degradation in private areas. Each component of this project was discussed with stakeholders in the federal, state, and municipal spheres, in addition to other stakeholders from the civil society and farming sector. In the PPG, two workshops were developed in the pilot areas, one meeting with members of federal Government was held in Brasília, and another meeting with the Forestry Sector was conducted in São Paulo.

The workshops in the pilot areas lasted two days each. Several local and regional initiatives were presented in each pilot region, and the main threats, its causes, and barriers for biodiversity conservation were raised. Finally, possible strategies to reduce such threats according to the context of each place were discussed. Additionally, meetings with public agencies and with the Brazilian Tree Industry (Forestry sector) helped to improve communication amid institutions and align interventions with regulations and initiatives in course. This process contributes to the appropriation of the project by local stakeholders, increasing the efficiency of its impact and lowering its risks, in addition to ensuring its sustainability in the long-term. At the meetings abovementioned potential partners and contributors to the project were identified. Afterwards, new meetings to consolidate partnerships/collaborations were conducted. Based on that process, the roles of the stakeholders engaged in the project were assessed as described in Sub-Section 2.5 above (Table 2). This was used for the final project design and to determine how stakeholders will participate in relevant aspects during the implementation phase. Finally, this consultation process also allowed collaboration with other ongoing initiatives at the MMA and other important partner institutions, as well as the coordination with other projects as described in section 2.7 of this document (including the alignment of investments and the resulting co-finance commitment letters). Throughout the project, these stakeholders will be informed about the project strategies development. Meetings, workshops and publications are some of the activities that will enable the project managers to coordinate with the ongoing initiatives, assuring information exchange and complementarity, and therefore greater outcome achievement

SECTION 6: MONITORING AND EVALUATION PLAN

226. The project will follow UN Environment standard monitoring, reporting and evaluation processes and procedures. Substantive and financial project reporting requirements are summarized in Appendix 8. Reporting requirements and templates are an integral part of the UN Environment legal instrument to be signed by the executing agency and UN Environment.

227. The project M&E plan is consistent with the GEF Monitoring and Evaluation policy. The Project Results Framework presented in Appendix 4 includes SMART indicators for each expected outcome. These indicators along with the key deliverables and benchmarks included in Appendix 6, will be the main tools for assessing project implementation progress and whether project expected results are being achieved. The means of verification of these elements are summarized in the Project Result Framework, Appendix 4.

228. A costed first draft of project M&E Plan is presented in Appendix 7. Costs mentioned in this tool are fully integrated in the project budget, presented in Appendix 1.

229. An inception workshop will be held at the onset of project implementation to ensure all actors understand their roles and responsibilities vis-à-vis project monitoring and evaluation. Project coordination and supervision will be the responsibility of the Project Coordination Unit (PCU) and day-to-day project execution will be the responsibility of the Project Management Unit (PMU). It is the responsibility of the Project Manager (PM) to inform UN Environment of any delays or difficulties faced during project implementation so that the appropriate support or corrective measures can be adopted in a timely fashion.

230. The Project Steering Committee (PSC) will issue reports every year on progress by the project and make recommendations concerning the need to revise any aspects of the Project Results Framework, or the M&E plan. Supervision to ensure that the project meets UN Environment and GEF policies and procedures is the responsibility to the UNEP-GEF Task Manager. The Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of project outputs in close collaboration with the PM.

231. The Task Manager will develop an initial supervision plan that will be communicated to the project partners during the inception workshop for comments. The emphasis of the Task Manager supervision will be on outcome monitoring but without neglecting project financial management and implementation monitoring. Progress vis-à-vis delivering the agreed project global environmental benefits will be assessed by the PSC. Project risks and assumptions will be regularly monitored both by project partners and UN Environment. Risk assessment and rating is an integral part of the Project Implementation Review (PIR). The quality of project monitoring and evaluation will also be reviewed and rated as part of the PIR. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.

232. UN Environment will be responsible for managing the mid-term review/evaluation and the terminal evaluation. The Project Supervisor, the Senior Project Director, and partners will participate actively in the process. The project will be reviewed or evaluated at mid-term. The purpose of the Mid-Term Review (MTR) or Mid-Term Evaluation (MTE) is to provide an independent assessment of project performance at mid-term, to analyse whether the project is on track, what problems and challenges the project is encountering, and which corrective actions are required so that the project can achieve its intended outcomes by project completion in the most efficient and sustainable way.

233. The PSC will participate in the MTR or MTE and develop a management response to the evaluation recommendations along with an implementation plan. It is the responsibility of the UN Environment Task Manager to monitor whether the agreed recommendations are being implemented. A MTR is managed by the UN

Environment Task Manager. An MTE is managed by the Evaluation Office (EO) of UN Environment. The EO will determine whether an MTE is required or an MTR is sufficient.

234. An independent terminal evaluation (TE) will be initiated no earlier than six months prior to the operational completion of project activities and, if a follow-on phase of the project is envisaged, should be completed prior to completion of the project and the submission of the follow-on proposal. The EO will be responsible for the TE and liaise with the UN Environment Task Manager throughout the process. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes:

(i) to provide evidence of results to meet accountability requirements, and

(ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UN Environment and executing partners.

235. While a TE should review use of project funds against budget, it would be the role of a financial audit to assess probity (i.e. correctness, integrity etc.) of expenditure and transactions.

236. The TE report will be sent to project stakeholders for comments. Formal comments on the report will be shared by the EO in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six point rating scale. The final determination of project ratings will be made by the EO when the report is finalized. The evaluation report will be publicly disclosed and will be followed by a recommendation compliance process. The direct costs of reviews and evaluations will be charged against the project evaluation budget.

SECTION 7: PROJECT FINANCING AND BUDGET

7.1 Overall Project Budget

237. The overall Project budget is presented in Table 5 and in detail in Appendix 1 and 2 (budget by Project component, by year, and by UN Environment budget category and co-financing by origin and by UN Environment budget category). The additional cost necessary for fulfilling the Project objective and the corresponding global benefits are US$ 42,846,342 of which US$ 8,953,425 (20.8%) constitutes the amount requested from the GEF. Co-financing amounts to US $ 33,892,917, equivalent to 79.2% of the total amount required.

Table 5. A summary of the GEF budget by result.

Financing Plan Summary for the project (US $)			
	Project Preparation (PPG)	**Project Grant**	**Total**
GEF	US $ 182,648	US $ 8,953,425	US $ 9,136,073
Co-financing	-	US $ 33,892,917	US $ 33,892,917
Total	**US $182,648**	**US $ 42,846,342**	**US $ 43,028,990**

Project Framework Summary (US $)					
Components	**GEF-financing**		**Co-financing**		**Total**
	$ (a)	**%**	**$ (b)**	**%**	**c=a+b**
1. Pilots implementation	4,669,845	52%	22,522,810	66%	26,906,304
2. Agreement with Forestry sector companies	1,239,696	14%	4,599,577	14%	5,762,880
3. Improvement of public capabilities to plan and implement conservation policies in private areas	2,617,531	29%	6,689,606	20%	9,669,881
Project Management Cost	426,353	5%	80,924	0	507,277
Total project cost	**8,953,425**	**100%**	**33,892,917**	**100%**	**42,846,342**

7.2 Project Co-financing

238. Co-financing by budget line is presented in Appendix 1 and 2. Co-financing by expected outcome is presented in the following table 6a and Co-financing by year in table 6b:

Table 6a. Co-financing by Project Component and Outcome.

OUTCOMES	Co-finance				
	MMA-SFB	MMA-SBio	SECIMA/GO	IIS	Total (US $)
COMPONENT 1					
Outcome 1.1	3,702,632	306,574	0	301,078	4,310,284
Outcome 1.2	1,792,168	304,324	13,214,289	0	15,310,781
Outcome 1.3	1,747,574	305,075	687,150	161,946	2,901,745
TOTAL COMPONENT 1	**7,242,374**	**915,973**	**13,901,439**	**463,024**	**22,522,810**
Outcome 2.1	4,016,370	305,074	0	278,133	4,599,577
TOTAL COMPONENT 2	**4,016,370**	**305,074**	**0**	**278,133**	**4,599,577**
Outcome 3.1	2,885,505	307,855	0	204,914	3,398,274
Outcome 3.2	2,755,751	307,855	0	227,726	3,291,332
TOTAL COMPONENT 3	**5,641,256**	**615,711**	**0**	**432,640**	**6,689,606**
PMC	**0**	**0**	**0**	**80,924**	**80,924**
TOTAL	**16,900,000**	**1,836,758**	**13,901,439**	**1,254,720**	**33,892,917**

Table 6b. Co-financing by year of the project

	US $					
Co-finance	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Total**
Brazilian Environment Ministry - Brazilian Forest Service	3,380,000	3,380,000	3,380,000	3,380,000	3,380,000	**16,900,000**
SECIMA/Goiás	2,991,077	2,963,162	2,605,225	2,605,225	2,736,750	**13,901,439**
International Institute for Sustainability	534,135	440,520	271,802	4,131	4,131	**1,254,720**
Brazilian Environment Ministry - Secretariat of Biodiversity	367351.6	367351.6	367351.6	367351.6	367351.6	**1,836,758**
						33,892,917

a. **Project cost-effectiveness**

239. The project cost-effectiveness rationale is based on three key arguments: i) the pilot-level initiatives, ii) the agreement with the Forestry sector companies, and iii) the macro/national level initiatives and their systemic impact.

240. At the pilot scale, the project will use participatory methods to ensure that project activities and goals are aligned with realities on the ground and to maximize local multistakeholders buy-in. Implemented in this participatory way, the pilots will be a cost-effective way to learn, adapt and test the tools and higher-level regulations before their replication at macro level. Also, by ensuring multistakeholders support, it will also allow the project to influence complementary initiatives, including but not limited to the ones listed as co-financing by the state of Goiás. Finally, the activities developed by the project will contribute to the mainstreaming of biodiversity

concerns into wider production landscapes in over 1 million hectares in the pilot areas, a very cost-effective relation at a per hectare basis.

241. The agreement with the forestry companies is particularly cost-effective, as the key companies in this sector control 5 million hectares of native vegetation in private areas. Through the improved biodiversity and restoration monitoring and management protocols, the project will properly insert these areas into several biodiversity conservation initiatives and national and international biodiversity conservation targets. The conservative estimate that these protocols will be applied in 20% of the sector's area already adds an additional 1 million hectares of areas under improved biodiversity management. Finally, by working closely with the forestry sector companies, the project hopes to demonstrate to other private sectors with important land-use responsibilities that mainstreaming biodiversity in their operations is not only possible but cost-effective.

242. The activities targeting national level outcomes aim to magnify the biodiversity conservation potential of a baseline investment that has already reached hundreds of' millions of dollars (the development of the SiCAR system, refer to Appendix 12) and is projected to mobilize tens of billions of dollars (Instituto Escolhas, 2016). These investments will transform Brazil´s land-use sector and policies which now lack a biodiversity focus. By producing knowledge, practical tools, and improved regulations, the project will increment the mainstreaming of biodiversity conservation in private lands, which so far cover over 88 million hectares of properties included in the SiCAR system. The fact that this knowledge, tools and regulations will be informed by the experience and lessons from the pilot initiatives will further facilitate that these top-level regulations are aligned with local realities.

SECTION 8: REFERENCES

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APPENDICES

Appendices 1 and 2: Budget by project components, co-financing by source and UN Environment budget lines

Refer to separate excel file for budget details.

Appendix 3: Incremental cost analysis

	BASELINE	ALTERNATIVE	INCREMENT
	(A)	(B)	(B) - (A)
OUTCOME	COMPONENT 1: PILOTS IMPLEMENTATION		
1.1. Increased vegetative cover, reduced degree of fragmentation in production landscapes and increased habitat availability for 'Golden Lion Tamarin' in the Atlantic Forest pilot area of the São João APA (KBA area in the State of Rio de Janeiro)	Landowners manage their properties without considering conservation value and landscape context. No increase in biodiversity conservation and ecosystem services provision in private areas is detected. Ongoing forest recovery initiatives have high costs and provide a small increase of forest cover and "Golden Lion Tamarin" population, if any.	Landowners will implement integrated property and landscape management, and extension agents will disseminate such practice. Low-cost forest recovery techniques will be tested (through DUs), and extension agents will be trained on such techniques. Areas under natural regeneration and areas that enhance connectivity for endangered species will be identified. Landowners will consider these areas when signing legally binding restoration agreements.	Properties will be managed in an integrated way, considering the landscape scale. Integrated property and landscape management will be disseminated, facilitating and ensuring the increase of biodiversity conservation, ecosystem services provision, SLM, and SFM by landowners in private areas. Forest recovery in areas that favour the habitat availability for "Golden Lion Tamarin" population and other endangered species will be scaled up and fragmentation in production landscapes will be reduced.
1.2. Reduced conversion rates and degree of fragmentation of current area of native vegetation cover in production landscapes and improved conservation actions for key endangered species populations in the Cerrado pilot area of the Pouso Alto APA (KBA are in the State of Goiás)	APA's Management plan has been partially and slowly implemented. APA's residents have scarce information on the Management plan. Landowners resist to implement activities foreseen in the Management plan.	More APA's residents will be conscious of the importance of the refinement and implementation of the Management plan. Relation among landowners, community, and local government regarding implementation of the Management plan will be strengthened. Creation of RPPNs (one of the activities demanded in the management plan) will be supported.	Implementation of the APA's Management plan will be enhanced reducing conversion rates of current area of vegetation cover and degree of fragmentation, and improving conservation actions for key endangered species populations in production landscapes.
1.3. Biodiversity conservation, ecosystem services provision, SLM, SFM and recovery of native vegetation in private areas in the two pilot areas enhanced by the development of direct and indirect	Direct and indirect biodiversity incentives are developed slowly and on a small scale. They do not consider the value of private areas to biodiversity conservation. Current initiatives focused on biodiversity conservation are not so efficient.	Landowners in the pilot areas and banks will be consulted about how to boost the performance of the incentive schemes aimed at biodiversity conservation, ecosystem services provision, SLM, and SFM in private areas. Incentive schemes for restoration and sustainable	Biodiversity conservation, ecosystem services provision, SLM, and SFM in private areas will be enhanced by the improvement of direct and indirect incentive schemes.

incentives schemes		activities, in particular ecotourism, will be improved. Extension agents will be trained on credit access.	
	COMPONENT 2: AGREEMENT WITH FORESTRY SECTOR COMPANIES		
2.1. Biodiversity conservation, ecosystem services provision, SLM and SFM in areas of highest conservation value managed by Forestry sector companies enhanced through an agreement for the implementation of improved conservation and restoration guidelines	Forestry companies monitor biodiversity in their lands through inefficient and poorly standardized protocols. These data are not incorporated into national reports regarding CBD commitments. Private areas are not prioritised based on conservation values.	Areas with high value for conservation will be identified and protocols for biodiversity monitoring, SLM and SFM will be developed and implemented in these areas. Biodiversity data from forestry companies' lands will be incorporated into national reports in the scope of CBD commitments.	Biodiversity conservation in areas of high value for conservation in Forestry companies' lands will be incremented through their identification, and implementation of improved conservation and sustainable management practices; the role of these areas for biodiversity conservation will be recognised, incorporated into public policies and national reports regarding CBD commitments. Standardized protocols for biodiversity monitoring will be produced.
	Areas for forest recovery are not prioritized based on conservation criteria.	Spatial prioritisation for restoration aiming at biodiversity conservation will be developed and disseminated to forest companies.	Forestry companies' restoration efforts will consider prioritisation based on cost-effective conservation outcomes.
	COMPONENT 3: IMPROVEMENT OF PUBLIC CAPABILITIES TO PLAN AND IMPLEMENT CONSERVATION POLICIES IN PRIVATE AREAS		
3.1. Biodiversity conservation and ecosystems services provision mainstreamed into national regulatory framework to support SLM, SFM and restoration in private areas	Federal regulation on sustainable native vegetation management in LRs is not clear and state regulations on such subject are either too permissive or too complex.	Bottlenecks of regulations on native vegetation management in LRs will be identified, and solutions for them will be proposed through a new piece of regulation.	Sustainable native vegetation management (including SFM) in private areas will be supported by a new proposal of legislation mainstreaming biodiversity conservation and ecosystem services provision.
3.2. Conservation value of private areas mainstreamed into public policies and tools	Planning and incentive mechanisms that support decision-making on biodiversity conservation do not consider private areas	Spatial database on the conservation value of private areas for each of the 5 biomes will be generated, inserted at	Conservation value of private areas is incorporated into SiCAR and mainstreamed into other policies, one of the main instruments for native vegetation

	role for biodiversity conservation. Information on the conservation value of private areas remains limited, as well as its use in public policies that support biodiversity conservation.	SiCAR, and disseminated to stakeholders so that the latter apply the database into public policies.	regulation in private areas, and mainstreamed into conservation policy planning and implementation.
	COST BASELINE TOTAL: $ 246.816.232,53	**COST ALTERNATIVE TOTAL: $ 225,946,342**	GEF: $ 8,953,425 Co-financing: $ 33,892,917 **TOTAL: $ 42,846,342**

Appendix 4: Results Framework

Objectives, Outcomes and Outputs	Indicators	Baseline conditions	Mid Term Target	EOP Target	Means of Verifications	Assumptions
Project Goal: Increase ecological connectivity and native vegetation cover and reduce its degradation to boost biodiversity conservation and provision of ecosystem services in private areas in Brazil						
Project Objective: Scale up sustainable landscape management and contribute to biodiversity conservation and ecosystem services provision in private areas in Brazil						
Component 1. 1. Pilots implementation						
Outcome 1.1. Increased vegetative cover, reduced degree of fragmentation in production landscapes and increased habitat availability for 'Golden Lion Tamarin' in the Atlantic Forest pilot area of the São João APA (KBA area in the State of Rio de Janeiro)	a) Area under restoration as per legally binding forest recovery plans b) Habitat availability for key endangered species population of Golden Lion Tamarin c) Assessment of Golden Lion Tamarin population	a) No legally binding forest recovery plans yet implemented b) Habitat Availability Index: 0.042 c) Work on Baseline information with local partners to start at inception	a) N/A b) N/A c) Population data confirmed with local partners	a) 4,000 hectares under restoration as per legally binding forest recovery plans (PRA) b) 81% increase in habitat availability for the endangered species population of Golden Lion Tamarin c) Assessment shows population stable or not declined from baseline	a) Individual landowner commitment term to PRA signed b) Report containing habitat availability values c) Report containing population data and future population modelling in relation to indicator b)	a) LPVN remains without changes that could negatively impact the Project b) Local and regional financial situation do not impact significantly the development of the Project c) Collaboration with key partners continues under present terms
Outcome 1.2. Reduced conversion rates and degree of fragmentation of current area of native vegetation cover in production landscapes and improved conservation actions for key endangered species populations in the Cerrado pilot area of the Pouso Alto APA (KBA are in the State of Goiás)	a) Number of stakeholders (e.g. landowners, community associations), both women and men, trained regarding implementation of conservation actions in private areas b) Area under refined and implemented management plan that supports SLM c) Number of endangered species with improved monitoring	a) NA b) Pouso Alto APA management plan not yet implemented and has little receptivity by local actors c) Zero. Improved monitoring not yet in place	a) At least 200 stakeholders b) NA c) None	a) At least 600 stakeholders (300 women + 300 men) b) 872,000 hectares under refined and implemented Pouso Alto APA Management plan [Total area of the APA] c) At least 10	a) Report, photos, and presence list regarding the implementation of the management plan activities b) Implementation reports of management plan activities; Report of public consultations c) Monitoring results	a) Low socio-environmental structure of the municipalities does not interfere with the development of Project activities b) Geographic limits of the APA are not altered c) Turn-over of government officials do not impact significantly the development of the Project

	d) Endangered species monitoring incorporated into endangered species national Action Plans e) Selection of key indicator species that reflect conservation status	d) Zero. Improved monitoring not yet in place e) Zero. Improved monitoring not yet in place	d) None e) Key indicator species selected	d) At least 1 e) Assessment shows population stable or not declined from baseline	d) Action Plan Document e) Monitoring results	d) Turn-over of government officials do not impact significantly the development of the Project e) Collaboration with key partners continues under present terms
Outcome 1.3. Biodiversity conservation, ecosystem services provision, SLM, SFM and recovery of native vegetation in private areas in the two pilot areas enhanced by the development of direct and indirect incentives schemes	a) Number of stakeholders (e.g. landowners, extension agents, private sector, community associations), both women and men, trained regarding incentive schemes for SLM, SFM, and native vegetation recovery in private areas b) Number of incentive schemes for SLM, SFM, and native vegetation recovery in private areas developed/improved	a) None b) None	a) At least 200 b) None	a) At least 800 stakeholders (400 women + 400 men) b) At least three incentive schemes	a) Report, photos and presence list regarding the incentive schemes b) Reports of the incentive schemes developed/improved	a) Local and regional financial situation do not impact significantly the development of the Project b) LPVN remains without changes that could negatively impact the Project
OUTPUTS:						
Output 1.1.1 Programme for implementation of SLM, SFM, and native vegetation recovery i.n private areas at the São João APA (KBA area in the State of Rio de Janeiro)						
Output 1.2.1 Programme for implementation of conservation actions of the Pouso Alto APA's management plan in private areas						
Output 1.3.1 Incentive package for SLM, SFM, and native vegetation recovery in private areas in the two pilot areas						
Component 2. Agreement with Forestry sector companies						
Outcome 2.1. Biodiversity conservation, ecosystem services provision, SLM and SFM in areas of highest conservation value managed by Forestry sector companies enhanced through an agreement for the implementation of improved	a) Area occupied by the companies that signed the agreement for improving and implementing protocols for biodiversity monitoring, SLM and SFM b) Percentage area of high value for conservation where biodiversity monitoring, SLM and SFM protocol are implemented c) Percentage of partner	a) None (There are no current agreements with the forestry sector companies) b) Zero – areas of high value for conservation managed by forestry sector companies are not identified c) None (Spatial prioritisation not yet developed)	a) 150,000 hectares b) Zero c) Zero	a) 500,000 hectares b) At least 40% of the high value areas for conservation] c) At least 40%	a) Reports, policies and targets contemplating biodiversity data; Signed document b) Report of monitoring, SLM and SFM protocols implementation c) Restoration reports	a) Turn-over of government officials do not impact significantly the development of the Project b) Local, regional, and national financial situation do not impact significantly the development of the Project c) Local, regional, and national financial situation

conservation and restoration guidelines	forestry companies' areas under restoration that consider the spatial prioritisation developed by the project					do not impact significantly the development of the Project
OUTPUTS:						
Output 2.1.1. Programme for the identification of high value for conservation identified and protocols for biodiversity monitoring, SLM, and SFM						
Output 2.1.2. Spatial database related to the prioritization for restoration in forestry sector companies' areas						
Component 3. Improvement of public capabilities to plan and implement conservation policies in private areas						
3.1. Biodiversity conservation and ecosystems services provision mainstreamed into national regulatory framework to support SLM, SFM and restoration in private areas	a) Number of engaged stakeholders (both women and men) to point bottlenecks and solutions regarding sustainable native vegetation management in LRs	a) There are no studies that identify the bottlenecks related to native vegetation management in LRs, their regulation and possible solutions.	a) At least 30	a) At least 50 (25 women + 25 men)	a) Technical report	a) LPVN remains without changes that could negatively impact the Project
Outcome 3.2. Conservation value of private areas mainstreamed into public policies and tools	a) Number of spatial databases on conservation value of private areas for biogeographical regions integrated into the SiCAR b) Number of public policies incorporating spatial databases on conservation value of private areas c) Number of federal and state public sector and third sector key stakeholders (both women and men) trained and engaged to apply the conservation value of private areas database	a) None b) There are no spatial databases on conservation value of private areas c) There are no spatial databases on conservation value of private areas	a) 2 b) None c) At least 25	a) 5 developed spatial databases (5 biogeographic regions) b) At least 3 public policies c) At least 75 (35 women + 40 men)	a) Report with spatial databases detail and integration b) Policy documents referring to the incorporation of the spatial databases c) Report of training events	a) Turn-over of government officials does not impact significantly the development of the Project b) Turn-over of government officials does not impact significantly the development of the Project c) Turn-over of government officials does not impact significantly the development of the Project
OUTPUTS:						
Output 3.1.1 Sustainable Native Vegetation Management Regulation proposal to support SLM, SFM, and native vegetation recovery in private areas						
Output 3.2.1 Public policies incorporating spatial databases with conservation value of private areas						

Output 3.2.2 Capacity building and dissemination programme for mainstreaming conservation value

Appendix 5: Workplan and timetable

See Excel file included.

Appendix 6: Key deliverables and benchmarks

See Excel file included.

Appendix 7: Costed M&E plan

M&E activity	Responsible Parties	Approx. Budget from GEF (US $)	Budget co-finance	Time Frame
Inception Workshop	Project Management Unit (PMU) Project Coordination Unit (PCU) UN Environment	11,000	1,500	Within 2 months of project start-up
Inception Report (translation cost)	PMU PCU	1,000	500	1 month after project inception meeting
Measurement of project indicators (outcome, progress and performance indicators, GEF tracking tools) including baseline data collection	Senior Project Director (SPD) Project Management, Monitoring and Evaluation Officer (PM) PMU/ Project team Consultants	8,000	15,000	Outcome indicators: Start, mid and end of project Progress/performance indicators: Within 1 month of the end of reporting period i.e. on or before 31 January and 31 July (through progress reports) Baseline data collection: within the 1st year
Project Steering Committee (PSC) meetings	SPD PM PMU PCU UN Environment	18,750	7,000	Once a year minimum
Reports of PSC meetings	SPD and PM with inputs from partners	2,000	3,000	
Project Implementation Review (translation cost)	SPD PM PMU PCU UN Environment	3,000	2,000	Annually
Monitoring visits to field sites and areas where project is active	SPD PM PMU PCU UN Environment	7,000	5,000	
Mid Term Review/Evaluation	UN Environment TM/ UN Environment Evaluation Office PMU PCU	48,437.5	8,000	At mid-point of project
Terminal Evaluation	UN Environment TM/ UN Environment Evaluation Office PMU PCU	48,437.5	10,000	At project end
Financial audits	CONAP/CATIE	30,000	2,000	Every year
Total M&E Plan Budget		**180,500**	**54,000**	

Appendix 8: Summary of reporting requirements and responsibilities

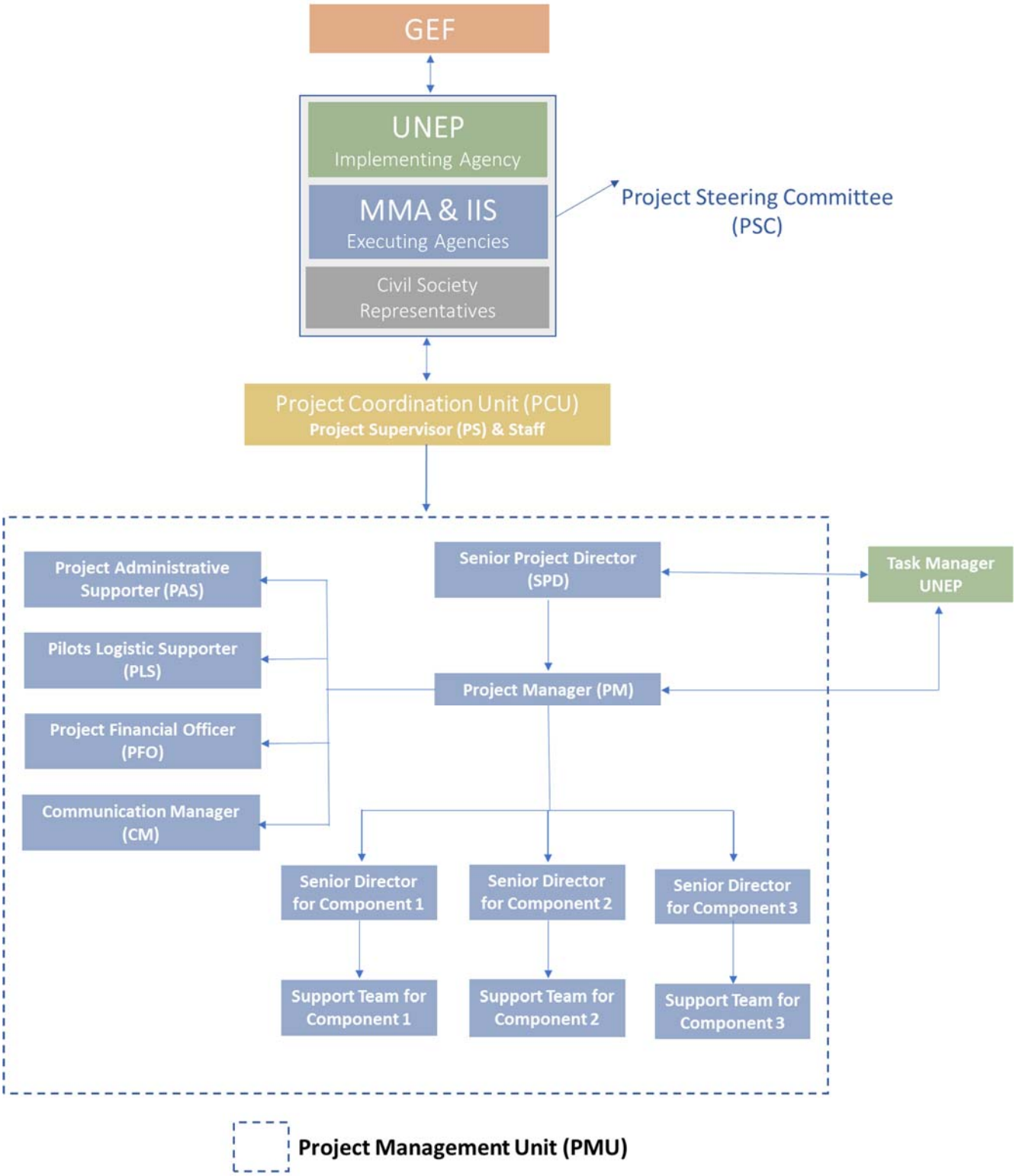
Reporting requirements	Due date	Format appended to legal instrument as	Responsibility of
Procurement plan (goods and services)	2 weeks before project inception meeting	N/A	PMU, PCU
Inception Report	1 month after project inception meeting	N/A	PMU, PCU
Expenditure report accompanied by explanatory notes	Quarterly on or before 30 April, 31 July, 31 October, 31 January	**Annex 11**	PMU, PCU
Cash Advance request and details of anticipated disbursements	Quarterly or when required	**Annex 7B or in Anubis**	PMU
Progress report	Half-yearly on or before 31 January	**Annex 8**	PMU, PCU
Audited report for expenditures for year ending 31 December	Yearly on or before 30 June	N/A	Executing partner to contract firm
Inventory of non-expendable equipment	Yearly on or before 31 January	**Annex 6 or in Anubis**	PMU, PCU
Co-financing report	Yearly on or before 31 July	**Annex 12 or in Anubis**	PMU, PCU
Project implementation review (PIR) report	Yearly on or before 31 August	**Annex 9**	PMU, TM, PCU
Minutes of steering committee meetings	Yearly (or as relevant)	N/A	PMU, PCU
Final report	2 months from project completion date	**Annex 10**	PMU, PCU
Final inventory of non-expendable equipment		**Annex 9**	PMU, PCU
Equipment transfer letter		**Annex 10**	PMU, PCU
Final expenditure statement	3 months from project completion date	**Annex 11**	PMU, PCU
Mid-term review or Mid-term evaluation	Midway through project	N/A	TM/ UN Environment
Final audited report for expenditures of project	6 months from project completion date	N/A	Executing partner to contract firm
Independent terminal evaluation report	6 months from project completion date	**Appendix 9 to Annex 1**	UN Environment

Appendix 9: Standard Terminal Evaluation TOR

At the time of the Terminal Evaluation the **Standard Terminal Evaluation ToR template** will be obtained from the Evaluation Office to make sure the latest version is used.

Appendix 10: Decision-making flowchart and organizational chart

This project will be operated under the supervision of Brazil's Environment Ministry (MMA), one of the Executing Agencies (EA), through the Project Coordination Unit (PCU). The UN Environment is the Implementing Agency (IA), and the International Institute for Sustainability (IIS) will act as EA with guidance and inputs from PCU and the Project Steering Committee (PSC), as depicted in the project's governance structure below.



Roles and responsibilities of each institution:

MMA (Brazil's Environment Ministry):

The Project Coordination Unit (PCU) will be located at MMA (SBio) and will be responsible for:

- Overseeing Project execution in accordance with the project results framework and budget, the agreed work plan and reporting tasks.
- Supporting the Project Management Unit (PMU) in coordinating project activities at national and local levels.
- Providing technical expertise through its personnel and networks.
- Ensuring technical quality of products, outputs and deliverables, including reports to UN Environment
- Providing guidance to the PMU.
- Facilitating access to sites and locations.
- Supervising the PMU in regular Project reporting, incl. progress, financial and audit reporting to UN Environment.
- Chairing the project steering committee.

IIS (International Institute for Sustainability):

The Project Management Unit (PMU) will be located at IIS and will consist of:

- The Senior Project Director (SPD)
- The Senior Directors for Components (SDCs)
- The Project Manager (PM)
- The Communication Manager (CM)
- The Support Professional Staff
- The Project Administrative Supporter (PAS)
- The Pilots Logistic Supporter (PLS)
- The Project Financial Officer (PFO)

PMU roles comprise:

- Ensuring Project execution, including all technical aspects.
- Ensuring Project governance.
- Providing staff time and expertise in guiding and advancing the project.
- Providing Project reporting according to the supervision plan.
- Sharing all achievements and products of the project with all relevant stakeholders.
- Ensuring that consultants and project partner organizations deliver against their contracts and in time.
- Organizing the Steering Committee meetings and serve as its secretariat.
- Managing and implementing the Project M&E framework to evaluate project performance.
- Managing the flow of information from the field to the Project collaborators and producing periodic monitoring reports.

The IIS also will be responsible for managing the project fund by:

- Preparing and managing ToRs, contracts, and MoU with consultants and project partners using appropriate legal instruments (ToR and selection process will be done in consultation with the PMU - clearance - and according with the project´s work plan and budget; ToRs will be cleared by UN Environment as well).
- Doing all payments related to the project as per request according to the project work plan and approved budget.
- Providing data for the project expenditure reports as per UN Environment templates, and providing support to the project coordinator in the elaboration of periodic expenditure reports.

- Undertaking procurement of goods and services for the project and keeping an updated inventory according to UN Environment templates.
- Ensuring that consultants and project partner organizations deliver against their contracts and in time (in collaboration with PMU).
- Providing support to the Project M&E activities.

UN Environment

- Providing consistent and regular Project oversight to ensure the achievement of Project objectives
- Liaising between the Project and the GEF Secretariat.
- Ensuring that both GEF and UN Environment policy requirements and standards are applied to and are met (reporting obligations, technical, fiduciary, M&E).
- Ensuring timely disbursement/sub-allotment of funds to the Fund Management Agency (FMA) – IIS (EA), based on the agreed legal documents.
- Approving budget revision, certifying fund availability, and transferring funds.
- Organizing mid- and end-term evaluations and audit.
- Providing technical support and assessment of the execution of the Project.
- Providing guidance if requested to main TORs/MOUs and subcontracts issued by the Project.
- Following-up with EA for progress, equipment, financial and audit reports.
- Certifying project operational completion.
-

Project Steering Committee (PSC)

- Its mission is to assess compliance with the objectives and results of the project, orienting toward sustainability thereof.
- In practical terms, the IIS is responsible for ensuring that the project meets the goals announced in the Project Result Framework by helping to balance conflicting priorities and resources. Conclusions and recommendations produced by the PSC will be taken into consideration by UN Environment, the PCU, and the PMU to improve implementation strategies, regular work plans and budget allocation and, when necessary, to adjust the project's Result Framework. This committee will meet physically every year (a second "virtual" meeting can occur if needed).
- The chairperson of the PSC will be from MMA, but overall operation of the PSC will be shared between MMA and IIS. During the PPG stage, relevant institutions within the Project area were contacted, and they showed interest in contributing to and participating in Project activities (Section 5). Some of these institutions will be invited to participate to the PSC.
- On the first meeting the PSC will define the specific details of the rules of procedure of the Committee.
- This will be reflected in a regulation or guideline that establishes criteria and procedures related to the internal functioning of the committee, including the definition of the rules under which group decision-making and actions to be carried out will be governed. This could include the following:
- Formal designation of the main and alternate representatives of each Institution;
- Approval of the functions and duties that the members of the Committee may have regarding the work to be done;
- The number of sessions to be held per year, with IIS as the responsible institution to take the lead in calling for and establishing the time/dates of such meetings; and
- The quorum needed for considering active any session.
- The decision will be made by voting. In case of a tie, the President will have the deciding vote.
- The detailed rules and procedures will be established in coordination with UN Environment at project start.

Appendix 11: Terms of Reference

PROJECT STAFF

POSITION: PROJECT MANAGER (PM)

Objective: The Project Manager (PM) will assist the Senior Project Director in the planning and implementation of the project`s monitoring and evaluation system related to project activities. In close collaboration with the Senior Project Director, the PM will promote adaptive management within the project with partners needed to adjust project implementation strategies, and produce annual work plans and budgets. The Officer will support the Senior Project Director with the elaboration, supervision and implementation of the Annual Work Plans and budgets, as well as project progress and final reports.

A preliminary explanation of the project monitoring and evaluation systems is presented in Appendix 7. Costed M&E Work Plan of the Project Document (PRODOC).

Description of Functions:

- Supporting the preparation, implementation and, monitoring of the Project Work Plan;
- Supporting an efficient and coordinated implementation of the activities in the three Project components promoting the articulation of outcomes at local, national, and international levels;
- Informing regularly to all project staff members, committees, and partner institutions of the progress of the Project and taking care of requests and information demands;
- Acknowledging lessons learned, ensuring learning through monitoring tools, and adapting strategies accordingly;
- Supporting the preparation and implementation of the M&E Plan;
- Coordinating the preparation and submission of technical and financial progress and final reports with the Senior Project Director;
- Overseeing the development, implementation, and monitoring of the Project activities, under de supervision of the Senior Project Director. The monitoring should integrate reporting, analysis, and synthesis into a comprehensive platform that provide up-to-date snapshots of the project´s technical and financial status;
- Assisting the organization and reporting of the Inception, Project Steering, and Technical Committee meetings;
- Visiting pilots to evaluate and improve site work plans;
- Assisting the elaboration of component implementation strategies, annual work plans, and budgets;
- Assisting the systematization outreach and disseminating lessons learned by the project;
- Assisting the preparation and submission of technical and financial progress and final reports;
- Assisting the Project Staff and Administrative Staff in the implementation of activities;
- Maintaining an ongoing communication with appointed UN Environment and GEF officers to ensure adequate and timely reporting and feedback.

Contract Type and Duration: The contract, with fee-type remuneration, will extend for 60 months, full-time, starting at the beginning of the Project implementation stage.

Profile: Candidate must be a professional with at least 5 years of experience managing project activities related to biodiversity conservation. Leadership and empathy, solid skills in communications and interpersonal relations, a high level of flexibility, and capacity for team work are requisites. A good level of English and Portuguese

languages (written and spoken) is needed.

Administrative and Employment Dependency: the professional will answer administratively to the IIS (Executing Agency).

POSITION: COMMUNICATION MANAGER (CM)

Objective: This professional will support the Senior Directors for Components in all activities related to Project extension, education, and communications initiatives, included in any of the Project components. In addition, CM will answer directly to the Senior Project Director and will take part in the Project Management Unit (PMU).

Description of Functions:

- Providing leadership in activities related to Outputs 1.1.6, 1.2.6, 1.3.6, 2.2.3 and 3.2.4 under the Senior Project Director, as well as drawing up all materials necessary for the Project's extension activities as such, and any other similar activities to be promoted as part of any other of the Project components.
- Coordinating the Project extension activities.
- Working with relevant stakeholders for implementing the campaigns defined in the education and awareness strategy.
- Coordinating the actions necessary for setting up and maintaining the Project's web page and any social communications media which are established.
- Organizing, cataloguing and publishing on the web page and any other media requested, all the products obtained from the Project, as well as progress made and other news.
- Coordinating and implementing merchandizing actions and working with a designer and webmaster in activities of all components.
- Coordinating and implementing the actions necessary, including editing, for Project publishing requirements (reports and other materials).
- Drawing up ToR's proposals for support consultancies related to communication activities.
- Participating in the Project Management Unit.
- Supporting Project tracking, evaluation and monitoring.
- Delivering progress reports to the Senior Project Director and cataloguing results.
- Supporting revision of annual plans and performance and management control.

Contract Type and Duration: The contract, with fee-type remuneration, will extend for 60 months, full-time, starting at the beginning of the Project implementation stage.

Profile: Candidate must be a professional with at least 5 years of experience in the fields of education, awareness and/or communication, preferably with specialized training in similar fields on the graduate level. Leadership and empathy, solid skills in communications and interpersonal relations, a high level of flexibility, and capacity for team work are requisites. A good level English and Portuguese languages (written and spoken) is also needed.

Administrative and Employment Dependency: the professional will answer administratively to the IIS (Executing Agency).

POSITION: PROJECT ADMINISTRATIVE SUPPORTER (PAS)

Objective: This professional will support the Senior Project Director, the Project Manager and the Senior

Directors for Components in all areas related to Project operation, meeting the Project's administrative and activities coordination needs. In addition, PAS will take part in the Project Management Unit (PMU).

Description of Functions:

- Supporting the Senior Project Director, the Project Manager and the Senior Directors for Components in administrative areas.
- Assisting routine activities, file organization, information management, document review and maintaining office supply and equipment inventories.
- Preparing agendas for meetings and keeping an updated schedule for the Senior Project Director.
- Receiving documents, messages, mail and phone calls.
- Scheduling and coordinating internal meetings (such as PMU and PSC meetings), appointments and travels for the project staff, keeping attendance records and preparing and distributing meeting minutes.
- Making budget and quotation requests.
- Hiring catering services, renting meeting rooms, vehicles or other services needed for internal events (at IIS) during the Project implementation.
- Sending invitations and receiving attendance confirmations for internal events/meetings.
- Keeping a detailed record of Project expenditures, requesting fund advancements from the Executing Agency, making petty cash acquisitions and keeping an accounting of implementation staff expenditures.
- Keeping a record of non-consumable goods, writing equipment transfer documents, and lending support for annual and final expenditure reporting to the Executing Agency.
- Writing up contracts and validating them with the Executing Agency.

Contract Duration: This contract, with fee-type remuneration, will extend for 60 months, full-time, starting at the beginning of the Project implementation stage.

Profile: Candidate must be a technician or professional with experience in the field of project administration, management, and/or coordination. A good level of English and Portuguese languages (written and spoken) is needed.

Administrative and Employment Dependency: The professional will answer administratively to the Executing Agency and will be guided in his/her functions by the Senior Project Director and the Project Manager.

POSITION: PILOTS LOGISTIC SUPPORTER (PLS)

Objective: This professional will support the Senior Project Director, the Project Manager, and the Senior Director for Component 1 in all areas related to Project operation, meeting the pilots logistic and activities coordination needs.

Description of Functions:

- Supporting the project staff in organizing activities related to pilots (São João APA and Pouso Alto APA), such as workshops/events, implementations of Demonstrative Units, training, etc.
- Coordinating events (workshops and meetings) in pilots areas, keeping attendance records and preparing meeting minutes and reports.
- Making quotation requests for services, equipment and consumables needed to the pilots activities.
- Hiring catering services, renting meeting rooms, vehicles or other services needed for pilots implementation.

- Lending support for organizing workshops or other events (training sessions, meetings, etc.).
- Sending invitations and receiving attendance confirmations in events related to the pilots.
- Keeping a detailed record of pilots expenditures.
- Supporting annual and final expenditure reporting to the Executing Agency related to pilots.
- Writing up contracts and validating them with the Executing Agency.

Contract Duration: This contract, with fee-type remuneration, will extend for 60 months, full-time, starting at the beginning of the Project implementation stage.

Profile: Candidate must be a technician or professional with experience in the field of project administration, logistic and/or coordination.

Administrative and Employment Dependency: The professional will answer administratively to the Executing Agency and will be guided in his/her functions by the Project Manager.

POSITION: PROJECT FINANCIAL OFFICER (PFO)

Objective: This professional will provide support and guidance to the Project by working with the Senior Project Director and the Project Manager with tasks related to accounting, banking, budgeting, procurements, and financial management to ensure full compliance with rules and regulations of financial processes, financial records, and audit reports.

Description of Functions:

- Ensuring updated, clear, and concise written accounting and procurement procedures manuals.
- Facilitating timely, accurate month-end closing, cash requests, and cash reconciliations.
- Maintaining control over the project filing systems to ensure complete and organized accounting files, especially regarding original procurement documents and personnel salary files.
- Employing financial oversight and control mechanisms and procedures to ensure that all program expenses are in accordance with UN Environment and GEF financial policies, procedures, rules, and regulations.
- Reviewing and providing support for the financial aspects of contract execution of sub-implementing partners.
- Ensuring the smooth implementation of project accounting activities, including (but not limited to): timely and accurate bank reconciliations, invoicing, monitoring of expenditure levels against budget and funding obligations, financial projections, and submission of annually financial reports to UN Environment and GEF.
- Providing the UN Environment and GEF with information and guidance on project financial performance whenever requested.
- Verifying accuracy and compliance of expenses and reporting expenses.
- Providing assistance with audit requirements.
- Reviewing all procurement actions, including procurements under grants, to ensure full and open competition to the greatest extent possible, strong internal controls with appropriate segregation of duties, adequate documentation to support solicitation, selection, and best-value decisions, and full compliance with UN Environment regulations.
- Reviewing all procurement actions to ensure full and open competition to the greatest extent possible, strong internal controls with appropriate segregation of duties, adequate documentation to support solicitation, selection, and best-value decisions, and full compliance with UN Environment and GEF regulations.

Contract Duration: This contract, with fee-type remuneration, will extend for 60 months, part-time, starting at the beginning of the Project implementation stage.

Profile: Candidate must be a professional with 5 years of experience with projects funded by international institutions/funds. A good level of English and Portuguese languages (written and spoken) is needed.

Administrative and Employment Dependency: The professional will answer administratively to the Executing Agency and will be guided in his/her functions by the Senior Project Director and the Project Manager.

POSITION: FOCAL POINT FOR PILOT IMPLEMENTATION IN THE SÃO JOÃO APA

Objective: This professional will ensure technical support on the ground implementation of activities in São João APA pilot. The Focal Point will be based in the region of São João APA and will work under the Senior Director for Component 1 at IIS (in city of Rio de Janeiro).

Description of Functions:

- Elaborating the workplan of the pilot activities together with the Senior Director for Component 1;
- Executing the activities of the workplan;
- Supporting the project staff in organizing activities related to the implementation of São João APA pilot;
- Implementing the activities in pilot area, such as workshops/meetings, Demonstrative Units, training, etc.;
- Creating list with information of local stakeholders relevant to the achievement of project objectives and keeping it updated;
- Maintaining direct contact and good relationships with the local stakeholders, providing information about the project updates whenever requested;
- Supporting the Pilots Logistic Supporter (PLS) in making quotation requests for services, equipment and consumables needed to the pilot activities, such as Demonstrative Units implementation;
- Supporting the PLS in hiring catering services, renting meeting rooms, vehicles or other services needed for pilot implementation;
- Supporting the PLS in lending support for organizing workshops or other events (training sessions, meetings, etc.);
- Inviting and mobilizing the local stakeholders to ensure their attendance in the events (workshop, meeting, training) promoted by the project;
- Elaborating monthly reports with the activities carried out in the period, mainly reporting detailed records of the implementation process of DUs;
- Collecting and systematizing information and contributions from local stakeholders on the implementation of project activities;
- Supporting annual and final reporting to the Executing Agency related to pilot.

Contract Duration: The contract, with fee-type remuneration, will extend for 56 months, full-time, starting at the month four of the Project implementation stage.

Profile: Candidate must be a technician or professional with experience in implementation of pilot, and must have social and environmental knowledge of São João APA and good relationships with the local community.

Administrative and Employment Dependency: The professional will answer administratively to the Executing

Agency and will be guided in his/her functions by the Senior Director for Component 1.

POSITION: FOCAL POINT FOR PILOT IMPLEMENTATION IN THE APA OF POUSO ALTO

Objective: This professional will ensure technical support on the ground implementation of activities in Pouso Alto APA pilot. The Focal Point will be based in the region of Pouso Alto APA and will work under the Senior Director for Component 1 at IIS (in city of Rio de Janeiro).

Description of Functions:

- Elaborating the workplan of the pilot activities together with the Senior Director for Component 1;
- Executing the activities of the workplan;
- Supporting the project staff in organizing activities related to the implementation of Pouso Alto APA pilot;
- Implementing the activities in pilot area, such as workshops/meetings, training, environmental education actions, etc.;
- Creating list with information of local stakeholders relevant to the achievement of project objectives and keeping it updated;
- Maintaining direct contact and good relationships with the local stakeholders, providing information about the project updates whenever requested;
- Supporting the Pilots Logistic Supporter (PLS) in making quotation requests for services, equipment and consumables needed to the pilot activities, such as activities to promote environmental education;
- Supporting the PLS in hiring catering services, renting meeting rooms, vehicles or other services needed for pilot implementation;
- Supporting the PLS in lending support for organizing workshops or other events (training sessions, meetings, etc.);
- Inviting and mobilizing the local stakeholders and community representatives to ensure their attendance in the events (workshop, meeting, training) promoted by the project;
- Elaborating monthly reports with the activities carried out in the period, mainly reporting detailed records of the environmental education actions;
- Collecting and systematizing information and contributions from local stakeholders on the implementation of project activities;
- Supporting annual and final reporting to the Executing Agency related to pilot.

Contract Duration: The contract, with fee-type remuneration, will extend for 53 months, full-time, starting at the month seven of the Project implementation stage.

Profile: Candidate must be a technician or professional with experience in implementation of environmental education programmes, and must have social and environmental knowledge of Pouso Alto APA and good relationships with the local community.

Administrative and Employment Dependency: The professional will answer administratively to the Executing Agency and will be guided in his/her functions by the Senior Director for Component 1.

SUB CONTRACTS FOR SUPPORTING INSTITUTIONS

SUB CONTRACT: SENIOR PROJECT DIRECTOR (SPD)

Objective: The Senior Project Director (SPD) must be an Executing Agency staff member and representative and will be responsible for technical direction, management aspects, coordination, and operational planning. The SPD will also preside the PMU and will work with both the execution and implementation agencies. Furthermore, SPD will provide technical assistance for the different Project components and its Directors and interact with the strategic partners. Further, the SPD will be responsible for the selection of the implementation staff and all consultancies necessary for fulfilling the Project goals. Finally, he/she will be in charge of monitoring. All of these tasks will be carried out with the support of the PMU and in conformity with the criteria and guidelines established by the PCU and PSC.

Description of Functions:

- Presiding over the Project Management Unit (PMU), establishing internal working procedures, annual management plans, and mechanisms for coordinating the activities between the three components;
- Coordinating the preparation, implementation, and monitoring of the Project Work Plan;
- Guaranteeing an efficient and coordinated implementation of the activities in the three Project components promoting the articulation of outcomes at local, national, and international levels;
- Coordinating and facilitating an effective implementation of compromised co-financing;
- Promoting the articulation of the Project with on-going local, national, and regional initiatives, by identifying opportunities for synergies and establishing collaborative for the execution of the project;
- Acknowledging lessons learned, ensuring learning through monitoring tools, and adapting strategies accordingly;
- Coordinating the preparation and implementation of the M&E Plan;
- Interacting with the MMA and Project Steering Committee to ensure timely reporting and feedback about the progress of the project (with respect to its technical aspects as well as its administrative-financial aspects);
- Directing the organization of the Project´s Inception and Steering Committee Meetings;
- Approving and supervising the consulting agreements and service orders generated during implementation of the project;
- Maintaining an on-going communication and coordination with appointed UN Environment and GEF officers to ensure adequate and timely reporting and feedback;
- Maintaining an on-going communication and coordination with national and local authorities and their delegates;
- Directing the preparation and submission of technical and financial progress and final reports with assistance of Project Manager;
- Selecting, appointing, and supervising all project staff members;
- Representing the Project in relevant forums and international institutional networks;
- Responding to other duties that may arise from the nature of the position and his/her professional qualifications as Project Director.

Deliveries:

- Technical lead of project activities for all components, including guidance to finalized and approved Outputs under Components 1, 2 and 3 of the project – in coordination with consultants and other project participants.
- Detailed work plan and time table for the project;
- Meetings held and minutes developed;

- Procurement plan;
- Inception Workshop Report;
- Quarterly expenditure report accompanied by explanatory notes;
- Quarterly cash advance request and details of anticipated disbursements;
- Half yearly progress report;
- Yearly audited report for expenditures;
- Yearly inventory of non-expendable equipment;
- Yearly co-financing report;
- Yearly project implementation review (PIR) report;
- Quarterly minutes of steering committee meetings;
- Final report;
- Final inventory of non- expendable equipment;
- Equipment transfer letters;
- Final expenditure statement;
- Mid-term review or Mid-term evaluation;
- Final audited report for expenditures of project;
- Independent terminal evaluation.
- Technical products under Components 1, 2 and 3.

Contract Type and Duration: The contract, with fee-type remuneration, will extend for 60 months, part-time (73% of the time during the project), starting at the beginning of the Project implementation stage.

Profile: Candidate must be a PhD in Project-related fields with vast experience in staff coordination and projects in similar fields. Experience in managing projects in biodiversity conservation, land degradation, and sustainable landscape management. Leadership and empathy, solid skills in communications and interpersonal relations, a high level of flexibility, and capacity for team work are requisites. A good level of English and Portuguese languages (written and spoken) is also needed.

Administrative and Employment Dependency: the SPD will answer administratively to the IIS (Executing Agency) and will receive technical guidance and orientation in implementing his/her functions from the Project Supervisor (PS).

SUB CONTRACT: PILOT IMPLEMENTATION (SENIOR DIRECTOR FOR COMPONENT 1)

Objective: This professional will coordinate the Component 1 of the project and all the support team involved. Also, the Senior Director will assure fulfilment of all activities related to the pilot implementation, including: a) implementation of capacity building and training activities for landowners and local extension agents for the development of SLM, SFM, and native vegetation recovery; b) enable conditions for credit access and incentives for native vegetation recovery; c) environmental education; d) subsidies for the creation of RPPNs; e) conservation networks and; f) creation of an economic incentive package for conservation. In addition, he/she will support all activities which require coordination between relevant stakeholders for the products of Components 2 and 3. Furthermore, he/she will take part in the Project Management Unit (PMU).

Description of Functions:

- Coordinating staff for fulfilling the Component 1 targets and for implementation of the activities included in Outcomes, 1.1, 1.2 and 1.3 (pilots implementation in the São João and Pouso Alto APAs).
- Coordinating activities regarding the previously mentioned Outcomes, in partnership with municipalities, local stakeholders, and Project partners.
- Analyzing baseline data obtained regarding the Project area.
- Drawing up ToR proposals for support consultancies.
- Drawing up annual work plans and budget revisions for Component 1 activities.
- Identifying and implementing actions in pilots.
- Participating in the Project Management Unit.
- Supporting Project tracking, monitoring, and evaluation.
- Supporting the Senior Project Director and participating in the PSC meetings.
- Managing activities in common with other division teams.
- Delivering progress reports to the Senior Project Director and recording results.
- Supporting revising annual plans and performance.
- Supporting management control.

Deliveries:

- Detailed work plan and time table for Component 1;
- Biannual reports with experiences reported in international workshops (Outcomes 1.1, 1.2, 1.3);
- Reports and activity registries of the workshops held with stakeholders (landowners and extension agents) in pilots;
- Half yearly progress reports regarding activities of Component 1.

<u>For the São João APA pilot:</u>
- Document to systematize the creation and integrated management in the DUs;
- Document to systematize restoration methods implemented in the DUs;
- Manual/video-lessons on practices of integrated property and landscape management;
- Document with signature of landowners interested in implementing DUs in their property;
- Business plan for landowners selected for supporting credit access to forest recovery;
- Material and program of extension agents training;
- Report and activity registry of extension agents training on integrated property management and the importance of forest recovery methods in DUs;
- Quarterly reports of best practices and forest recovery implementation in DUs (monitoring and adaptive management).

<u>For the Pouso Alto APA pilot:</u>
- Material end activity plan for environmental education actions in pilot;
- Quarterly reports of environmental education activities implementation in pilot;
- Conservation network created with key stakeholders;
- Management plan developed to support the creation of RPPNs (action foreseen in the Management plan of the Pouso Alto APA);
- Partnerships established with universities and institutions to monitor endangered species in pilot area.
- Spatial prioritization databases for potential conservation areas in pilot;
- Report with incentive scheme for conservation initiatives proposed by stakeholders;
- Incentive scheme for conservation created;

Contract Type and Duration: The contract, with fee-type remuneration, will extend for 60 months, part-time (73% of the time during the project), starting at the beginning of the Project implementation stage.

Profile: Candidate must be a professional who combines experience in: local environment management; strategy design, and implementation of pilots for the development of integrated landscapes and property management practices. He/She must have demonstrable skill in the English and Portuguese languages (written and spoken) and be a PhD in Project-related fields.

Administrative and Employment Dependency: The Senior Director for Component 1 will answer administratively to the Executing Agency and will receive technical guidance and orientation in implementing his/her functions from the Senior Project Director.

SUB CONTRACT: AGREEMENT WITH FORESTRY SECTOR (SENIOR DIRECTOR FOR COMPONENT 2)

Objective: This professional will coordinate the Component 2 of the Project and its support team. The Senior Director will assure fulfilment of all activities related to development and implementation of the agreement with forestry sector companies, including: a) incorporation of data on biodiversity collected by sector companies monitoring into international and national targets; b) develop a user-friendly information system that facilitates the incorporation of biodiversity data collected in private areas from selected forestry companies; c) development of spatial database on multicriteria restoration prioritization for private areas; and d) development and dissemination of economic recovery protocols based on native species. In addition, he/she will support all activities which require coordination among relevant stakeholders for the products of Components 1 and 3. Furthermore, he/she will take part in the Project Management Unit (PMU).

Description of Functions:

- Coordinating staff for fulfilling the Component 2 targets and for implementation of the activities included in Outcomes 2.1 and 2.2.
- Coordinating activities regarding the previously mentioned Outcomes, with companies, key stakeholders, and Project partners.
- Analysing baseline data obtained regarding the Project area.
- Drawing up ToR proposals for support consultancies.
- Drawing up annual work plans and budget revisions for Component 2 activities.
- Identifying and implementing the action plan.
- Participating in the Project Management Unit.
- Supporting Project tracking, monitoring, and evaluation.
- Supporting the Senior Project Director and participating in the PSC meetings.
- Articulating and managing activities in common with other division teams.
- Delivering progress reports to the Senior Project Director and recording results.
- Supporting revising annual plans and performance.
- Supporting management control.

Deliveries:

- Detailed work plan and time table for Component 2;

- Reports and activity registries of the workshops/meetings held with stakeholders (companies representatives);
- Half yearly progress reports regarding activities of Component 2;
- Sectorial agreement with forestry sector companies signed;
- Synthesis report with biodiversity data collected in the conserved areas of all forestry companies;
- Biodiversity monitoring protocols co-developed with forestry companies;
- Annual reports of biodiversity monitoring protocols implementation in the forestry company areas;
- Spatial prioritization database for forest recovery in the landscape context and considering the properties inserted in the forestry company areas.

Contract Type and Duration: The contract, with fee-type remuneration, will extend for 60 months, part-time (77% of the time during the project), starting at the beginning of the Project implementation stage.

Profile: Candidate must be a professional who combines experience in: Forestry management, biodiversity conservation, Private sector, and NGOs relations. He/She must have demonstrable skill in the English and Portuguese languages (written and spoken) and be a PhD in Project-related fields.

Administrative and Employment Dependency: the Senior Director for Component 2 will answer administratively to the Executing Agency and will receive technical guidance and orientation in implementing his/her functions from the Senior Project Director.

SUB CONTRACT: IMPROVEMENT OF PUBLIC CAPABILITIES TO PLAN AND IMPLEMENT CONSERVATION POLICIES IN PRIVATE AREAS (SENIOR DIRECTOR FOR COMPONENT 3)

Objective: This professional will coordinate the Component 3 of the project and its support team. Further, the Senior Director will assure fulfilment of all activities related to native vegetation management regulation, sustainable native vegetation management, including: a) proposal of an improved native vegetation regulation; b) creation of a spatial database on the conservation value for the five biogeographic regions contemplated in the project; and c) insertion of this information in the Federal System (SiCAR). In addition, he/she will support all activities which require coordination among relevant stakeholders for the products of Components 1 and 2. Coordinating staff for fulfilling the Component 3 targets and for implementation of the activities included in Outcomes 3.1 and 3.2.

Description of functions:

- Coordinating activities regarding the previously mentioned Outcomes, with government sector, key stakeholders, and Project partners.
- Analysing baseline data obtained regarding the Project area.
- Drawing up ToR proposals for support consultancies.
- Drawing up annual work plans and budget revisions for Component 3 activities.
- Identifying and implementing the action plan.
- Participating in the Project Management Unit.
- Supporting Project tracking, monitoring, and evaluation.
- Supporting the Senior Project Director and participating in the PSC meetings.
- Managing activities in common with other division teams.
- Delivering progress reports to the Senior Project Director and cataloguing management results.
- Supporting revising annual plans and performance.

- Supporting in management control.

Deliveries:

- Detailed work plan and time table for Component 3 (Outcome 3.1 and 3.2);
- Reports and activity registries of the workshops/meetings held with stakeholders;
- Half yearly progress reports regarding activities of Component 3 (Outcome 3.1 and 3.2);
- Report on bottlenecks for obtaining forest management authorization;
- Report of possible solutions for obtaining forest management authorization;
- Regulation proposal for forest management authorization;
- Synthesis/collaborative network created on biodiversity value in private areas;
- Spatial database on the conservation value of private areas for five biogeographical regions;
- Guidelines to incorporate the spatial information on the conservation value of private areas into public policies;
- Documentary evidence of the insertion of the five spatial databases in the SiCAR system;
- Material and program of capacity building course for stakeholders to use the spatial databases training;
- Report and activity registry of capacity building course.

Contract Type and Duration: The contract, with fee-type remuneration, will extend for 54 months, part-time (70% of the time during the project), starting at the month six of the Project implementation stage.

Profile: Candidate must be a professional who combines experience in: Policy development and implementation (preferably at senior level at the Ministry of the Environment or a State Environmental Agency), senior level NGO experience, and experience in bridging scientific information and policy development. He/She must have demonstrable skill in the English and Portuguese languages (written and spoken) and be a PhD in Project-related fields.

Administrative and Employment Dependency: The Senior Director for Component 3 will answer administratively to the Executing Agency and will receive technical guidance and orientation in implementing his/her functions from the Senior Project Director.

Appendix 12: Co-financing commitment letters from project partners

The original letters are attached in pdf format.

Translation 1

International Institute for Sustainability
Bernardo Baeta Neves Strassburg
Executive Director

Rio de Janeiro, 30th August, 2017

With this letter and as a representative of the International Institute for Sustainability-IIS, we affirm our interest in participating in the project "Realising the biodiversity conservation potential of private lands in Brazil", led by Ministry of the Environment of Brazil and financed by the Global Environment Facility (GEF). This project is particularly relevant and represents a significant contribution to ongoing IIS strategies, such as: i) support for the planning and implementation of restoration projects and policies in the Atlantic Forest and Amazon biogeographic regions through the construction of guidelines on restoration and mitigation of climate change, biodiversity conservation, water services and socioeconomic aspects for policymakers and restoration professionals; ii) the development of spatial prioritization maps using integrated and multicriteria spatial modelling for these biogeographic regions; and iii) identification of restoration opportunities, as well as analysis of the best techniques to be implemented, and cost and revenue analysis of forest landscape restoration for three priority areas.

In this context, I reaffirm our commitment to support the project, contributing to the development of **Component 1 - Pilot implementation in the São João APA, Component 2 - Agreement with Forestry Sector companies** and **Component 3 – Improvement of public capabilities to plan and implement conservation policies**, and report that the institution undertakes to make a co-financing contribution in the total amount of US $ 1,254,720 (One million, two hundred and fifty-four thousand, seven hundred and twenty dollars), as follows:

General description of expenditure	**Co-financing "grant" Estimated value in US $**
Staff fees for technical support of activities	1,114,166
Synthesis workshops for data collection and validation of results together with stakeholders	91,251
Team travel to support MMA and other partners in the development of national restoration strategies	28,647
Computer equipment	20,656
TOTAL	**1,254,720**

Translation 2

SECIMA - Executive Superintendence of the Environment and Water Resources
Jacqueline Vieira da Silva
Executive Superintendent

Rio de Janeiro, 10th May, 2017

In consideration of Letter number 88/2017/SBio/MMA, dated April 7th, 2017, I indicate the actions of SECIMA that contribute to the implementation and achievement of the objectives of the project in question and their respective expenses that could make up the Brazilian counterpart, in kind.

General description of expenditure	**Co-financing "in cash"** **Estimated value in US $**	**Co-financing "in kind"** **Estimated value in US $**
Personnel fees for survey of rural properties and construction of ecological corridors	-	206,812
Soil restoration actions aimed at use of rainwater, planting of seedlings, and environmental education	-	687,148
Payments for environmental services to landowners and infrastructure related to soil restoration actions aimed at use of rainwater	-	687,148
Management strategies of Conservation Units (protected areas)		12,320,336
TOTAL	**-**	**13,901,439**

Translation 3

SFB/MMA – Brazilian Forest Service – Ministry of the Environment
Raimundo Deusdará Filho
General Director

Brasília, 13rd April, 2017

I offer my compliments to the time when I reaffirm the interest of the Brazilian Forestry Service - SFB, in participating in the Project.

This project, whose executing agencies are the Ministry of the Environment, the International Institute for Sustainability (IIS), the Pontifical Catholic University of Rio de Janeiro (PUC-Rio) and the Brazilian Foundation for Sustainable Development (FBDS), aims to scale up the sustainable management of the landscape and contribute to the conservation of biodiversity and the provision of ecosystem services in private areas in Brazil.

The evaluation of the project reveals that the implementation of the Rural Environmental Registry (CAR) contributes greatly to the achievement of the project objectives. In this sense, I reaffirm the commitment of SFB to the project in question, clarifying that the resources offered as a counterpart are related to the purchase of georeferenced satellite images for the execution of the Environmental Registry System (SiCAR) in the order of US $ 16,900,000 (Sixteen million and nine hundred thousand dollars).

General description of expenditure	**Co-financing "in cash"** **Estimated value in US $**	**Co-financing "in kind"** **Estimated value in US $**
Purchase of georeferenced satellite images for the execution of SiCAR	16,900,000	-
TOTAL	**16,900,000**	-

Translation 4

SBio/MMA – Secretariat of Biodiversity – Ministry of the Environment
José Pedro de Oliveira Costa
Secretary of Biodiversity

Brasília, 29rd June, 2017

In order to contribute to the implementation and achievement of the objectives of the project "Realising the biodiversity conservation potential of private lands in Brazil", this Secretariat commits itself to the following "in-kind" counterpart (per component and expected result):

Component		Expected Outcome		Value (US$)
1	Pilot implementation	1.1	Increased vegetative cover, reduced degree of fragmentation in production landscapes and increased habitat availability for 'Golden Lion Tamarin' in the Atlantic Forest pilot area of the São João APA (KBA area in the State of Rio de Janeiro)	306,574.17
		1.2	Reduced conversion rates and degree of fragmentation of current area of native vegetation cover in production landscapes and improved conservation actions for key endangered species populations in the Cerrado pilot area of the Pouso Alto APA (KBA are in the State of Goiás)	304,324.17
		1.3	Biodiversity conservation, ecosystem services provision, SLM, SFM and recovery of native vegetation in private areas in the two pilot areas enhanced by the development of direct and indirect incentives schemes	305,074.17
2	Agreement with Forestry sector companies	2.1	Biodiversity conservation, ecosystem services provision, SLM and SFM in areas of highest conservation value managed by Forestry sector companies enhanced through an agreement for the implementation of improved conservation and restoration guidelines	305,074.17
3	Improvement of public capabilities to plan and implement conservation policies in private areas	3.1	Biodiversity conservation and Ecosystems Services mainstreamed into national regulatory framework to support SLM, SFM and restoration in private areas	305,074.17
		3.2	Conservation value of private areas mainstreamed into public policies and tools	307,855.42
			Total	1,836,758

The counterpart offered reflects the estimated expenditures of this Secretariat in support of the project in question, with the following items:

Item		Value (US$)
Project Personnel	Project Supervisor	17,665.84
	Project staff	102,347.63
	Administrative staff	13,855.50
Travel	Staff Travel & Transport	7,500
Meetings/Conference	Meetings/workshops	7,812.50
Expendable equipment	Office supplies and consumables	22.25
Premises	Office premises	1,589,092.47
Operation and maintenance of equipment	Equipment maintenance	91,226.06
Sundry	Communications	7,235.25
Total		1,836,758

Appendix 13: Endorsement letters of GEF National Focal Points

See annex.

Appendix 14: Draft procurement plan

Project title and number: Realising the biodiversity conservation potential of private lands in Brazil					
UNEP Budget Line		**List of Goods and Services required**	**Budget (USD)**	**Year {Note 1}**	**Brief description of anticipated procurement process {Note 2}**
1100	**Personnel Component**				
1102	Project Staff				
	Project Manager	1 full time support professional for general project management activities (including monitoring and evaluation)	358,019	Y 1-5	CVs of 2-3 candidates will be reviewed by the Senior Project Director. Depending upon qualification, experience, etc., the candidate will be selected.
	Support professional – landscape conservation	1 full time professional to support activities developed at the Demonstration Units and RPPN creation in the APA Pouso Alto	219,880	Y 1-5	CVs of 2-3 candidates will be reviewed by the Senior Project Director and Senior Directors for Components 1 and 2. Depending upon qualification, experience, etc., the candidate will be selected.
	Support professional – landscape restoration and conservation	1 full time support professional for developing restoration and conservation activities in the pilot areas. This professional will also contribute with the development of the spatial database on biodiversity value	350,978	Y 1-5	CVs of 2-3 candidates will be reviewed by the Senior Project Director and Senior Directors for Components 1, 2 and 3. Depending upon qualification, experience, etc., the candidate will be selected.
	Support professional – Focal point for the São João APA pilot	1 full time professional to support the implementation on the ground of activities in the São João APA pilot	106,555	Y 1-5	CVs of 2-3 candidates will be reviewed by the Senior Project Director and Senior Director for Component 1. Depending upon qualification, experience, etc., the candidate will be selected.
	Support professional – Focal point for the Pouso Alto APA pilot	1 full time professional to support the implementation on the ground of activities in the Pouso Alto APA pilot	101,399	Y 1-5	CVs of 2-3 candidates will be reviewed by the Senior Project Director and Senior Director for Component 1. Depending upon qualification, experience, etc., the candidate will be selected.
	Support professional – communication manager	1 full time professional of extension, education and communications	81,370	Y 1-5	CVs of 2-3 candidates will be reviewed by the Senior Project Director and Senior Director for Component 3. Depending upon qualification, experience, etc., the candidate will be selected.
	Support professional – spatial modelling	1 full time support professional in mathematical modelling, numerical simulations and data analysis	297,562	Y 1-5	CVs of 2-3 candidates will be reviewed by the Senior Project Director. Depending upon qualification, experience, etc., the candidate will be selected.
	Support technical - General Field Support	1 full time support for general activities in the field	73,014	Y 1-5	CVs of 2-3 candidates will be reviewed by the Senior Project Director and Senior Directors for

					Components 1, 2 and 3. Depending upon qualification, experience, etc., the candidate will be selected.
1120	**Administrative staff**				
	Project Administrative Supporter	1 full time support to assist routine activities, administration, file organization, information management, document review and other project-related activities.	115,887	Y 1-5	CVs of 2-3 candidates will be reviewed by the Senior Project Director. Depending upon qualification, experience, etc., the candidate will be selected.
	Pilots Logistic Supporter	1 full time assistant to provide support in the organization of trips and events related to the pilots (São João APA and Pouso Alto APA).	158,427	Y 1-5	CVs of 2-3 candidates will be reviewed by the Senior Project Director. Depending upon qualification, experience, etc., the candidate will be selected.
	Project Financial Officer	1 part-time professional to review financial reports, monitor accounts, and prepare activity reports and financial forecasts.	256,335	Y 1-5	CVs of 2-3 candidates will be reviewed by the Senior Project Director. Depending upon qualification, experience, etc., the candidate will be selected.
1200	**Consultants**				
	Consultancy N° 1	Georeferencing for RPPNs creation (activity 63)	31,250	Y 3-4	CVs of 2 or 3 to experts or team will be reviewed by a PMU. Depending upon qualification, experience, geographical distribution, etc., the consultant will be selected.
	Consultancy N° 2	Elaboration of regulation proposal (Sub-output 3.1.1.2)	96,718	Y 2-3	CVs of 2 or 3 to experts or team will be reviewed by a PMU. Depending upon qualification, experience, geographical distribution, etc., the consultant will be selected.
	Consultancy N° 3	Moderator for workshops/events	22,813	Y 1-5	CVs of 2 or 3 to experts or team will be reviewed by a PMU. Depending upon qualification, experience, geographical distribution, etc., the consultant will be selected.
	Consultancy N° 4	Development of incentive schemes for biodiversity conservation (Output 1.3.1)	207,886	Y 1-5	CVs of 2 or 3 to experts or team will be reviewed by a PMU. Depending upon qualification, experience, geographical distribution, etc., the consultant will be selected.
	Consultancy N° 5	Development of business plan – São João APA pilot (Sub-output 1.3.1.1)	50,000	Y 2-4	CVs of 2 or 3 to experts or team will be reviewed by a PMU. Depending upon qualification, experience, geographical distribution, etc., the consultant will be selected.
1600	**Travel**				
1601	Staff Travel & Transport	Expenses for transportation, accommodation and meals of project staff at several meetings, visits to pilot sites and partners, plus	481,317	Y 1-5	Expenses for transportation, accommodation, booking, and meals will be done by the project staff looking for the best prices and quality

		accompaniment in national and international internships of stakeholders.			options.
2200	**Sub Contract for supporting organizations**				
2202	Sub contracts for support consultants				
	Sub contract Nº 1	Pontifical Catholic University of Rio de Janeiro - Administration of scholarships to support the project.	1,926,615	Y 1-5	Project partner.
	Sub contract Nº 2	Senior Project Director that will be responsible for technical direction and management aspects, coordination and Project operational planning.	586,848	Y 1-5	It will be based on terms of reference. These costs will be controlled by the PMU, choosing the best options between price and quality, or the best proposal will be selected by the panel.
	Sub contract Nº 3	Pilots implementation (Senior Director for Component 1)	557,506	Y 1-5	It will be based on terms of reference. These costs will be controlled by the PMU, choosing the best options between price and quality, or the best proposal will be selected by the panel.
	Sub contract Nº 4	Development and implementation of sectorial agreement with forestry sector companies (Senior Director for Component 2)	376,592	Y 1-5	It will be based on terms of reference. These costs will be controlled by the PMU, choosing the best options between price and quality, or the best proposal will be selected by the panel.
	Sub contract Nº 5	Development and implementation of actions to improve public capabilities (Senior Director for Component 3)	352,859	Y 1-5	It will be based on terms of reference. These costs will be controlled by the PMU, choosing the best options between price and quality, or the best proposal will be selected by the panel.
	Sub contract Nº 6	Technical implementation of Demonstration Units – São João APA (activities 13 and 14)	187,500	Y 3-4	It will be based on terms of reference. These costs will be controlled by the PMU, choosing the best options between price and quality, or the best proposal will be selected by the panel.
	Sub contract Nº 7	Development of management plan for RPPN creation – Pouso Alto APA (activity 65)	31,250	Y 4	It will be based on terms of reference. These costs will be controlled by the PMU, choosing the best options between price and quality, or the best proposal will be selected by the panel.
	Sub contract Nº 8	Application of questionnaires with stakeholders – São João APA pilot (activity 5)	6,250	Y 1	It will be based on terms of reference. These costs will be controlled by the PMU, choosing the best options between price and quality, or the best proposal will be selected by the panel.
	Sub contract Nº 9	Application of questionnaires with stakeholders - Pouso Alto APA pilot (activity 44)	6,250	Y 2	It will be based on terms of reference. These costs will be controlled by the PMU, choosing the best options between price and quality, or the best proposal will be selected by the panel.
	Sub contract Nº 10	Application of questionnaires with stakeholders - Forest sector companies (activity 106)	6,250	Y 1	It will be based on terms of reference. These costs will be controlled by the PMU, choosing the best

					options between price and quality, or the best proposal will be selected by the panel.
2300	**Sub Contract for commercial purposes**				
	Sub contract Nº 11	Technical support for CAR validation in the São João APA (activity 23)	88,741	Y 1-3	It will be based on terms of reference. These costs will be controlled by the PMU, choosing the best options between price and quality, or the best proposal will be selected by the panel.
	Sub contract Nº 12	Development of online platform for eco/agro-tourism in private areas in the Pouso Alto APA (activity 99)	31,250	Y 4	It will be based on terms of reference. These costs will be controlled by the PMU, choosing the best options between price and quality, or the best proposal will be selected by the panel.
3200	**Group Training**				
3201	Training				
	Group Training Nº 1	Events of programme for extension agents training on implementation of SLM, SFM, and native vegetation recovery (Sub-outputs 1.1.1.3 and 1.3.1.3)	135,352	Y 1-5	Several trainings will be held, which includes meals, materials, conference rooms rental and others for participants.
	Group Training Nº 2	Programme for capacity building of actors to use spatial databases (activity 145)	6,875	Y 4	Several trainings will be held, which includes meals, materials, conference rooms rental and others for participants.
	Group Training Nº 3	Elaboration of video lessons for capacity building (activities 17 and 89)	10,000	Y 3	Several trainings will be held, which includes meals, materials, conference rooms rental and others for participants.
	Group Training Nº 4	Elaboration of content for environmental education material - Implementation of environmental education activities in the Pouso Alto APA (activity 49)	12,000	Y 3	Several trainings will be held, which includes meals, materials, conference rooms rental and others for participants.
3300	**Meetings/Conference**				
3301	Meetings/conferences				
	Meetings	5 Project Steering Committee (PSC) meetings (under activities 0.4 and 0.5)	18,750	Y 1-5	Several meetings will be held, which includes meals, materials, conference rooms rental and others for participants.
	Workshop 1	1 project initiation workshop with PMU, UNEP and other relevant partners (under activity 0.2)	11,000	Y 1	Several meetings will be held. Each of them include meals, materials, conference rooms rental and others for participants.
	Workshop 2	20 synthesis workshops of international experiences on biodiversity conservation in private areas (under activity 149)	225,000	Y 1-5	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
	Workshop 3	1workshop in São João APA with landowners to collect data about their perceptions,	1,563	Y 1-2	Several meetings will be held, which includes meals, materials, conference rooms rental, and

	motivations and suggestions on best practices and financial aspects for SLM, SFM, and native vegetation recovery (under activities 5 and 78)			others for participants.
Workshop 4	1 workshop in APA of São João River Basin for awareness regarding best practices for SLM, SFM, and native vegetation recovery (under activity 8)	1,563	Y 2	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
Workshop 5	1 workshop with landowners in the São João APA to validate the spatial database (under activity 27)	1,563	Y 3	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
Workshop 6	Economic games with landowners for socioeconomic data collection (under activity 11)	43,125	Y 2-4	Several meetings will be held which includes meals, materials, conference rooms rental, and others for participants.
Workshop 7	1 workshop with stakeholders in the Pouso Alto APA for the assessment of themes and activities to promote environmental education (under activity 46)	9,375	Y 2	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
Workshop 8	1 workshop with stakeholders in the Pouso Alto APA for awareness regarding the creation of a conservation network (under activity 52)	4,688	Y 2	Several meetings will be held which includes meals, materials, rent conference rooms and others for participants.
Workshop 9	1 workshop with stakeholders in the Pouso Alto APA for creating RPPNs (under activity 61)	4,688	Y 3	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
Workshop 10	3 meetings with forestry sector companies to formalize an agreement for sharing data of biodiversity inventory and monitoring and conservation strategies in private areas (under activities 106, 107 and 108)	3,125	Y 1-2	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
Workshop 11	1 workshop with forestry sector companies to identify barriers to implement biodiversity monitoring protocols in forestry sector companies' areas (under activity 112)	3,125	Y 2-3	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
Workshop 12	1 workshop with forestry sector companies to validate biodiversity monitoring in forestry sector companies' areas (under activity 114)	3,125	Y 3-4	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
Workshop 13	1 workshop with forestry sector companies to validate the spatial database priority for multicriteria restoration prioritization created (under activity 121)	3,125	Y 4	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.

	Workshop 14	2 workshops with stakeholders in order to identify bottlenecks and possible solutions regarding native vegetation management authorization (under activities 128, 129 and 130)	6,875	Y 1-2	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
	Workshop 15	2 workshops with stakeholders to validate the proposal federal regulation created (under activity 132)	6,875	Y 3	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
	Workshop 16	5 workshops with stakeholders in 5 biogeographical regions to align the synthesis/colaborative networks on biodiversity data in private areas (under activities 134 and 135)	34,375	Y 1-2	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
	Workshop 17	1 workshop with the synthesis networks to discuss and validate the spatial databases on conservation value of private areas created (under activity 141)	6,875	Y 3-4	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
	Workshop 18	2 workshops for disseminating lessons of managing and improving the conservation value on private areas (under activity 147)	9,375	Y 1-5	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
	Meeting	1 Project closure event with partners	10,000	Y 5	Several meetings will be held, which includes meals, materials, conference rooms rental, and others for participants.
4100	**Expendable equipment**				
4101	**Office supplies and consumables**				
	Expendable equipment	Office running cost	17,018	Y 1-5	Costs of office articles for staff project
4200	**Non-Expendable equipment**				
4201	**Non laboratory purchase**				
	Non-expendable equipment	10 laptop computers (Project and administrative Staff - IIS)	12,500	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	7 laptop computers for robust analysis (Project Staff - IIS)	19,688	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	30 computer monitors (Project Staff - IIS)	5,625	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	25 computer mouse (Project Staff - IIS)	1,563	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	30 computer keyboards (Project Staff - IIS)	1,406	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	2 printer-scanner (multifunctional, toner) (Project Staff - IIS)	625	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	1 photographic camera (pilots implementation)	1,107	Y 1	2 quotations from vendors must be obtained in order to select the best one

	Non-expendable equipment	24 Office software (licenses) (Project Staff - IIS)	14,363	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	5 External HD (Project Staff - IIS)	1,250	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	1 GPS (pilots implementation)	938	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	1 central cluster server (Project Staff - IIS)	35,625	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	1 videoconference equipment (Project Staff - MMA)	12,500	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	2 ultrabooks 13 inches (Project Staff - MMA)	3,750	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	15 headphones with microfones (Project Staff - MMA)	164	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	15 webcams (Project Staff - MMA)	469	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	1 video projector (Project Staff - MMA)	625	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	1 retractable projection screen (Project Staff - MMA)	156	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	9 Adobe Acrobat Pro software licences (Project Staff - MMA)	8,095	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Non-expendable equipment	3 Prezi software licenses (Project Staff - MMA)	9,000	Y 1	2 quotations from vendors must be obtained in order to select the best one
4202	**Laboratory equipment and analysis**				
	Laboratory equipment	1 Preliminary soil screening equipment	7,000	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Laboratory equipment	1 Rapid soil equipment field	10,000	Y 1	2 quotations from vendors must be obtained in order to select the best one
	Analysis	Soil analysis of the demonstration units	100,188	Y 1-5	2 quotations from vendors must be obtained in order to select the best one
4300	**Premises**				
4301	**Office premises**				
	Office premises	Offices rent	375,386	Y 1-5	-
	Office premises	Offices infrastructure work	200,000	Y 1-5	-
5100	**Operation and maintenance of equipment**				
5101	Equipment maintenance				
	Equipment maintenance	Maintenance computers, printer + scanner	9,865	Y 1-5	2 quotations from vendors must be obtained in order to select the best one
5200	**Reporting costs**				
5201	**Publications, translation, dissemination and reporting costs**				

	Reporting costs	Dissemination costs of the project information	63,000	Y 4-5	2 quotations from vendors must be obtained in order to select the best one
	Reporting costs	Development, translation and printing of project reports	18,437	Y 2-5	2 quotations from vendors must be obtained in order to select the best one
	Reporting costs	Development and printing of SiCAR manual (under activity 143)	4,563	Y 4-5	2 quotations from vendors must be obtained in order to select the best one
5202	**Audit reports**				
	Audit reports	Annual Reports	29,947	Y 1-5	2-3 Proposals will be reviewed by a project coordinator. Depending upon qualification, experience, etc., the candidate will be selected.
5300	**Sundry**				
5301	**Communications (phone, fax, email, etc.)**				
	Communications	Telephones, emails, internet, etc. (project staff)	88,306	Y 1-5	-
5302	**Others**				
	Others	Utilities (energy, etc.)	63,418	Y 1-5	-
5303	**Technical support (Midterm evaluation & Terminal evaluation)**				
	Evaluation	Mid-term Review/Evaluation (MTR/MTE)	48,437.5	Y 3	The selection and contracting of the evaluation consultant will be done by the Evaluation Office.
	Evaluation	Terminal Evaluation (TE)	48,437.5	Y 5	The selection and contracting of the evaluation consultant will be done by the Evaluation Office
	GRAND TOTAL		**8,953,425**		

Appendix 15: Tracking Tools
See annex in excel format.

Appendix 16: Scientific methodology for GHG emissions mitigation potential estimate

This appendix presents the rationale for the GHG mitigation potential of the proposed project. These estimates followed the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

- The estimates include only the mitigation expected in the two pilot areas of the project (Pouso Alto APA/Cerrado KBA and São João APA /Atlantic Rainforest KBA);
- Further mitigation is to be expected due to the sectoral agreement with forestry companies and due to the broader impact of the national management system, regulations and incentives mechanisms to be developed by the project.

Table 1 – Avoided Emissions in the Pouso Alto Cerrado Pilot Area

Current Native Vegetation outside Protected Areas (hectares)	738,858
Projected BAU Deforestation 2016-2050 (hectares)*	533,951
Projected BAU Deforestation for a 20-year period	314,089
Projected BAU Deforestation (Forest vegetation) (hectares)	38,193
Projected BAU Deforestation (Savana vegetation) (hectares)	275,896
Carbon content Cerrado forests(tC/ha)	140
Carbon content Cerrado Savanas (tC/ha)	33
Projected BAU Emissions from Deforestation (Forests)(tCO2Eq)	19,618,166
Projected BAU Emissions from Deforestation (Savana)(tCO2Eq)	32,894,491
Avoided Emissions from Deforestation due to project (Pessimistic Scenario; 50% reduction)(tCO2Eq)	26,256,328
Avoided Emissions from Deforestation due to project (Optimistic Scenario)(75%)(tCO2Eq)	39,384,492
Avoided Emissions from Deforestation due to project (Intermediate)(62.5%)(tCO2Eq)	32,820,411

* Based on Soares-Filho et al. (2016) projections for Cerrado deforestation until 2050

Table 2 – GHG Sequestration in Rio São João/Atlantic Rainforest Pilot Area

Forest Code Deficit (hectares)	9500
Project's Restoration Target	4000
Carbon Content Mature Atlantic Rainforest (tC/ha)	127.2
Carbon sequestered in the first 20 years (% of mature)	75%
Mitigation due to Restoration (CO2Eq)	**1,399,200**

Total: PIF Table F indicator #4 (tons of CO_{2e} mitigated)	27,655,528 i.e. 28 million