



Project Identification Form (PIF) entry – Full Sized Project – GEF - 7

Transboundary cooperation for the conservation, sustainable development and integrated management of the Pantanal - Upper Paraguay River Basin

Part I: Project Information

GEF ID

10554

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI CBIT NGI**Project Title**

Transboundary cooperation for the conservation, sustainable development and integrated management of the Pantanal - Upper Paraguay River Basin

Countries

Regional, Bolivia, Brazil, Paraguay

Agency(ies)

IADB, UNEP

Other Executing Partner(s)**Executing Partner Type**

BOLIVIA: Ministerio de Medio Ambiente y Agua (Ministry of Environment and Water);
BRAZIL: Agencia Nacional de Aguas (National Water Agency); PARAGUAY: Ministerio
del Ambiente y Desarrollo Sostenible (Ministry of Environment and Sustainable
Development) Government

GEF Focal Area

International Waters

Taxonomy

Focal Areas, Land Degradation, Sustainable Land Management, Sustainable Agriculture, Ecosystem Approach, Restoration and Rehabilitation of Degraded Lands, Integrated and Cross-sectoral approach, Sustainable Pasture Management, International Waters, Fisheries, Transboundary Diagnostic Analysis, Freshwater, Aquifer, River Basin, Learning, Strategic Action Plan Implementation, Pollution, Nutrient pollution from Wastewater, Nutrient pollution from all sectors except wastewater, Climate Change Adaptation, Climate Change, Climate resilience, Ecosystem-based Adaptation, Biodiversity, Mainstreaming, Agriculture and agrobiodiversity, Tourism, Protected Areas and Landscapes, Productive Landscapes, Terrestrial Protected Areas, Influencing models, Transform policy and regulatory environments, Convene multi-stakeholder alliances, Demonstrate innovative approaches, Strengthen institutional capacity and decision-making, Deploy innovative financial instruments, Stakeholders, Private Sector, Individuals/Entrepreneurs, SMEs, Financial intermediaries and market facilitators, Capital providers, Local Communities, Communications, Education, Awareness Raising, Behavior change, Type of Engagement, Partnership, Consultation, Participation, Information Dissemination, Civil Society, Academia, Non-Governmental Organization, Community Based Organization, Indigenous Peoples, Gender Equality, Gender results areas, Knowledge Generation and Exchange, Participation and leadership, Capacity Development, Gender Mainstreaming, Beneficiaries, Sex-disaggregated indicators, Capacity, Knowledge and Research, Targeted Research, Adaptive management, Theory of change, Improved Soil and Water Management Techniques, Wetlands, Biomes, Tropical Dry Forests

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 1

Duration

48 In Months

Agency Fee(\$)

778,050

5/7/2020

WbgGefportal

Submission Date

3/23/2020

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
IW-3-6	GET	5,090,000	102,858,000
IW-3-7	GET	3,100,000	25,714,500
	Total Project Cost (\$)	8,190,000	128,572,500

B. Indicative Project description summary

Project Objective

To promote water security through strengthening transboundary water governance, sustainable development, balancing multiple-use and promoting integrated management of the Pantanal-Upper Paraguay River Basin for the social and economic well-being of the population and for the conservation of the freshwater ecosystem, its services, its biodiversity and connectivity.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 1: Strengthening cooperation for integrated river basin management	Technical Assistance	1 Improved understanding of water security and regional cooperation for sustainable use and integrated management.	<p>1.1 A proposal of alternatives for tri-national coordination of the basin (UNEP)</p> <p>1.2 Proposed water management principles and targets (e.g. on water quality and quantity objectives) as input to the SAP (UNEP)</p> <p>1.3 A proposed framework for improved management and protection of the aquatic ecosystem. (UNEP)</p>	GET	550,000	6,444,700

Component 2: Consolidating and sharing knowledge, and developing a common understanding of the Pantanal- Upper Paraguay Basin.	Technical Assistance	2 Improved understanding and consensus between the three countries regarding the key transboundary issues and the drivers of change in the region including enhanced capacity for joint monitoring and information exchange.	<p>2.1 A region wide Transboundary Diagnostic Analysis (TDA) complementing and building upon countries' experience and knowledge, further defining the La Plata basin diagnostic. (UNEP)</p> <p>2.2 Basin wide ecosystem modelling including <i>inter alia</i> environmental flow modeling, water balance, climate change scenarios,. (IADB)</p> <p>2.3 Documented established and functional basin wide information exchange sharing (including agreed & signed data sharing protocols) and an integrated hydro-climatic reporting system including inter-country capacity development (UNEP)</p> <p>2.4 A strategic plan for a basin wide water monitoring network (incl hydromet, water quality, sediment and groundwater relevant networks prioritizing at least 15 sites, (UNEP)</p>	GET	1,900,000	27,927,200
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Component 3: Towards trinational planning for sustainable management of the basin.	Technical Assistance	3 Enhanced countries commitment to sustain joint, equitable cooperation actions and to support priority reforms and investments.	3.1 A region wide Strategic Action Plan (SAP) approved by relevant Ministries. (UNEP) 3.2 A proposal for land management actions to reduce threats (non point source pollution and sediment loads) (UNEP) 3.3 A proposal for achieving environmental flow regimes in at least 2 critical sub-basins. (IADB) 3.4 A sustainable financing strategy (including a Project Preparation Facility, public- private partnerships, an alliance of investors, etc.) to support implementation of the SAP and key priority activities. (IADB) 3.5 Up to 6 integrated municipal water and sanitation plans (IADB)	GET	2,100,000	34,371,900
Component 4: On-the-ground interventions promoting integrated water resources management and sustainable finance.	Technical Assistance	4 Demonstrated on the ground benefits of and stress reduction from environmentally sound and, cost effective approaches and technologies for replication in the SAP.	A series of interventions and targeted actions, including documented results for replication focusing on, inter alia: 4.1 Sustainable land and water management practices implemented in critical sites (e.g. Taquari sub-basin, Tucavaca sub- basin, etc.) to reduce stresses, including	GET	2,950,000	49,409,700

sediment and pollution loads, amongst others in at least 600 Ha. (UNEP)

4.2 Water/food/energy nexus interventions for enhanced water and land security considering competing water uses in at least 1 location. (IADB)

4.3 Best Practices for efficient irrigation tested in 50 Ha with optimization of water demand targets towards an efficient water use allocation system. (IADB)

4.4 Aquifer recharge protection measures tested in at least 1 critical areas relying on groundwater resources including mapping of resource use restriction zones. (IADB)

4.5 Testing innovative approaches for water use permit for sewage discharge. (IADB)

4.6 Novel economic and financial instruments to support water and land management implemented in at least 1 site: such as payment for ecosystem services; efficient water use. (IADB)

Component 5: Awareness building, stakeholder involvement.	Technical Assistance	5 Improved visibility of the Pantanal as a system of global significance, increased awareness and participation among stakeholders for integrated management and, strengthened gender equality and women empowerment to facilitate adoption of the SAP agenda.	A stakeholder engagement and communication plan including awareness building products (such as audiovisuals, education package, etc) 5.2 A training program on sustainable water and land management for utilities, management authorities, water users, civil society, amongst others, tested in 3 locations. (UNEP) 5.3 Gender equity, women empowerment and mainstreaming Plan and implementation. (UNEP) 5.4 Documented IW:LEARN support including knowledge sharing, experience notes, twinning program and dialogues and, IW conferences participation (1% of GEF grant). (UNEP)	GET	300,000	4,296,500	
Sub Total (\$)					7,800,000	122,450,000	
Project Management Cost (PMC)							
					GET	390,000	6,122,500
Sub Total(\$)					390,000	6,122,500	
Total Project Cost(\$)					8,190,000	128,572,500	

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Donor Agency	Inter-American Development Bank (IADB)	Grant	Investment mobilized	1,000,000
Government	Bolivia: Ministry of Environment and Water- donor, bilateral and multilateral funding	In-kind	Recurrent expenditures	29,900,000
Government	Brazil: National Water Agency	In-kind	Recurrent expenditures	69,872,500
Government	Paraguay, Ministry of Environment and Sustainable Development; Ministry of Foreign Affairs, bilateral and multilateral funding	In-kind	Recurrent expenditures	27,800,000
			Total Project Cost(\$)	128,572,500

Describe how any "Investment Mobilized" was identified

The co-financing was identified and calculated by each country based on their anticipated program of work concurrent with the project time frame and considering the GEF Cofinancing guidelines (<https://www.thegef.org/documents/co-financing>). The co-financing correspond to parallel initiatives funded through other donors (European Union, GIZ, WWF, AECID, USAID) who's objectives are well aligned with the project activities. The proposed co-financing by each country for this project was reviewed and revised by IADB and UNEP to ensure compliance with GEF policies and guidelines.

D. Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
IADB	GET	Regional	International Waters	International Waters	4,200,000	399,000	4,599,000
UNEP	GET	Regional	International Waters	International Waters	3,990,000	379,050	4,369,050
Total GEF Resources(\$)					8,190,000	778,050	8,968,050

E. Project Preparation Grant (PPG)

PPG Required



PPG Amount (\$)

200,000

PPG Agency Fee (\$)

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
IADB	GET	Regional	International Waters	International Waters	102,000		102,000
UNEP	GET	Regional	International Waters	International Waters	98,000		98,000
Total Project Costs(\$)					200,000	0	200,000

Core Indicators

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
650.00	0.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
650.00			

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Documents (Please upload document(s) that justifies the HCVF)

Title

Submitted

Indicator 7 Number of shared water ecosystems (fresh or marine) under new or improved cooperative management

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Shared water Ecosystem	Pantanal			
Count	1	0	0	0

Indicator 7.1 Level of Transboundary Diagnostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation (scale of 1 to 4; see Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
Pantanal	1			

Indicator 7.2 Level of Regional Legal Agreements and Regional management institution(s) (RMI) to support its implementation (scale of 1 to 4; see Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
Pantanal	1			

Indicator 7.3 Level of National/Local reforms and active participation of Inter-Ministeral Committees (IMC; scale 1 to 4; See Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
Pantanal	1			

Indicator 7.4 Level of engagement in IWLEARN through participation and delivery of key products(scale 1 to 4; see Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
Pantanal	1			

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	88,672			
Male	83,058			
Total	171730	0	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

This project focuses on the Pantanal-Upper Paraguay Basin which contains four interconnected shared water ecosystems. At the center is the Pantanal wetlands shared by all three countries. The upland savanna cerrado ecosystem drains into the Pantanal from the east and north (shared by Bolivia and Brazil); the dry forest of the Chaco ecosystem drains into the Pantanal from the Southeast and West (shared by Bolivia and Paraguay); and, the dry forest Chiquitano ecosystem drains from the west (within Bolivia). This project emphasises developing management principles for sustainable land management as they relate to water resources and usage in the upland areas (the cerrado, Chaco, dry forest Chiquitano, with an estimated combined area of over 15,000,000 ha), where already about 50% of the cerrado has been converted to pasture and croplands (see Part II-1.1). The project will also have an impact on Core Indicator 4. The specific areas of intervention and thus the specific hectares to be improved are currently estimated at 650 ha. The value has been defined by the technical teams of the ministries of the three countries (Ministry of Environment and Water, Bolivia; National Water Agency, Brazil; and Ministry of Environment and Sustainable Development, Paraguay). This value reflects the resulting efforts of component 4 'On-the-ground interventions promoting integrated water resources management and sustainable finance', which are small-scale pilot projects, with demonstration and replication effects. Within the Pantanal the "Pantanal Boliviano" (Bolivia), "Pantanal Matogrossense" (Brazil), "SESC Pantanal" (Brazil) and "Rio Negro" (Paraguay) have been designated as Ramsar Sites with an area over 34,000 km². This project will help highlight the importance of integrating ecological conservation with multiple water use in watersheds. In this regard it can be said to have an impact on Core Indicator 1. The project will also have an impact on the inhabitants of the basin, but specifically those in the communities and cities on, or near, the Paraguay River in the Pantanal. This includes: San Matias, Puerto Quijarro, and Puerto Suarez in Bolivia; Corumbá in Brazil; and Carmelo Peralta, Bahia Negra, and Fuerte Olimpo in Paraguay whose combined population is 172,180 (88,672 women and 83,508 men). Additionally, there are large urban centers within the Pantanal in Brazil, including Cuiabá (612,547), Cáceres (96,126) and Aquidauana (37,700).

Part II. Project Justification

1a. Project Description

1.a.1. Global environmental and/or adaptation problems, root causes and barriers that need to be addressed

Increasing threats to water security is a challenge to sustainable development across the planet. Finding the balance between food supply, energy production, sustaining livelihoods, and conserving ecosystems for the future generations demands multi-sectoral perspectives, which in an international water basin equates to cooperation and coordination across multiple levels of jurisdiction. Economic development trends and expanding human population growth rates in the Upper Paraguay Basin will undoubtedly result in growing demands on water resources for domestic and municipal uses, industrial processes, agricultural production, navigation, and hydropower energy. This combined with the uncertainty associated with climate change will place increasing importance on sustainably managing wetlands as a key contributor to economic, social, and environmental well being of the region.

In the Upper Paraguay River and specifically the Pantanal (wetland), it is of particular importance to balance the competing demands to ensure sustained growth for the region, but also the conservation of an ecosystem of global significance. Globally, wetlands account for less than 8% of our land area, yet they are of paramount importance to sustainable development as wetland ecosystem services far exceed those of terrestrial ecosystems. They provide critical food supplies, including rice, freshwater and fish, as well as fiber and fuel. They are a source and purifier of water and are connected often to important groundwater resources. They provide regulating services, influence climate and hydrological regimes, and reduce both pollution and disaster risk. They are the most biodiverse land-systems and an efficient sink storing more carbon than any other ecosystem. In summary, their ecosystem services far outweigh those of any other terrestrial ecosystem. However, despite this global importance, globally wetlands are being lost at a rate three times greater than that of forests.

The Upper Paraguay Basin is shared between Bolivia, Brazil and Paraguay, and has a variety of inter-connected and inter-dependent biomes. In the northwest, it contains the Chiquitano Dry Forests bordering the Amazon biome. The majority of the basin consists of wooded and forested savanna (Cerrado) and is one of the richest savannas in the world, containing 11,627 species of catalogued native plants, 199 species of mammals, and 837 of birds. In the southwest, lies the semi-arid Paraguayan Chaco and to the south-southeast enclaves of the Atlantic Forest. The heart of the upper Paraguay Basin is the plain area containing the Pantanal and is shared between the three countries: about 138,000 km² are within Brazil; about 15,000 km² in Bolivia; and 5,000 km² in Paraguay.

The Pantanal is the world's largest tropical wetland covering around 158,000km². The region is characterized by a clear division between the Pantanal floodplain and the highland plateau (meseta) within the cerrado. Despite being two regions with very different characteristics, they are unquestionably interdependent. The ecological processes and environmental balance of the floodplains are influenced by events in the highlands of the basin. The meseta (plateau) is responsible for most of the water runoff that maintains the flood pulse in the Pantanal plain. Additionally, the higher rainfall rate in the meseta, together with the soil types and land use and occupation in the region, set the conditions for high sediment yield in the lower wetland area. The sediments are carried by the waterways to the lowland regions and deposited in the plains, where the low velocity flow favours sedimentation.

The floodplains have a low rate of runoff. Consequently, under the rainfall regime, extensive flooding can occur in as much as 110,000 km² of the plains. Large areas can remain underwater for up to eight months due to the overflow of rivers and floods resulting from local rain and from the increased level of the water table. The plateau supplies water to the plains and its hydrology is characterized by continuous runoff and a high correlation between rainfall and rainwater flow. During the period of low rainfall the floodplains are slowly reduced in size as the waters flow southwards through the multiple tributaries and channels associated with the Paraguay River. This decrease of floodwater is of vital importance to the downstream La Plata Basin for which the Pantanal serves as a hydrological buffer.

Similar to the significant annual wetlands of the Tonle Sap in Cambodia or the Okavongo floodplain in southern Africa, the flood and drought cycles in the Pantanal is also extremely sensitive to variations of rainfall in the uplands and annual variations of a few decimeters may cause considerable changes in the Pantanal's flooded areas. This delicate balance between the flood and drought cycles has given rise to a rich diversity of plant life and commensurate animals and is considered to have the greatest diversity of freshwater aquatic plants in the world. Furthermore, as development in the region has been, until recently, fairly limited it is counted among one of the major wilderness areas on the planet and its location makes it an access point for a diversity of South American mammals. Within the Pantanal, the "Pantanal Boliviano" (Bolivia), "Pantanal Matogrossense" (Brazil), "SESC Pantanal" (Brazil), and "Rio Negro" (Paraguay) have been designated as Ramsar Sites with a collective area of over 34,000 km².

The region is also home to an important aquifer system namely the Pantanal Aquifer System that is a key resource for urban water supply.

The Upper Paraguay River Basin is home to about 8 million people, 2 million of whom reside in the Pantanal. 70% reside in large urban centers (eg Corumbá, Cuiaba, Cáceres, etc.). There is also a significant rural population with agriculture and livestock serving as the region's main economic activities. Other notable activities include forestry, mining, fishing, tourism, river transport, and trade.

A 2009 study by Brazil's Agricultural Research Corporation (EMBRAPA) concluded that the ecosystem services provided by the Pantanal wetland were valued at \$112 billion per year. [1] Million of people living downstream in the Rio Plata basin rely on the Pantanal's services, including groundwater recharge, river flow and carbon sequestration. The wetland's enormous water retention capacity provides natural flood control protecting the population, infrastructure and agricultural areas. It also regulates water providing irrigation and drinking water year-round and assisting navigation.

The biodiversity of the region is of global importance and eco-tourism is an increasingly important economic driver in the region, and is likely to increase as infrastructure and development improves. For example, in 2015 more than 4800 foreign tourists visited the Encontro da Águas State Park, in Matto Grosso, Brazil alone. It is estimated that some 1 million tourists visit the Pantanal each year. However, not all parks have management plans and there is increasing discussion around unregulated tourism fishery and its impacts to local communities.

Main stresses on the system

Despite its size, rich biodiversity and economic importance, the Pantanal faces pressures that threaten to destabilize the ecosystem services that sustain the region's environment and social and economic development. The key stresses include:

- (i) **Land-use change and habitat loss:** The erosion associated with increased deforestation and land use changes is resulting in increasing river sedimentation and is altering the drainage patterns of the Pantanal. The rate of deforestation within the Pantanal has quadrupled in recent years. It is estimated that by 2015 more than 50% of the upland areas draining into the Pantanal had been converted to pasture and croplands [2] and that the rate of land conversion exceeds that of the Amazon [3].

Soybean plantations cover over 2,100,000 ha in the region, including 200,000 ha in the Pantanal. Other important crops are cotton, corn (maize), rice, and sorghum. On the Plateau, no-till agriculture techniques are used. There has been a trend to transform native vegetation, especially cerrado, into pastureland for cattle and soybean fields. Farmers traditionally set fire to the land during the dry season to 'clear away' the brush and make way for new growth on which to graze their cattle. These fires often spread, destroying extensive areas of forest and wildlife habitat. Poorly planned land use has resulted in the large-scale conversion of native vegetation into fields with monocultures of grain and pasture-oriented grasslands that often encroach on springs, aquifer recharge areas and riparian forests. Land degradation, upstream erosion, and siltation are among the consequences of ineffective land-use planning and the difficulty of putting laws into effect, especially owing to insufficient enforcement.

Fortunately, the Pantanal is still relatively intact, where an estimated some 20% of the area has been converted^[4].

- (ii) **Pollution and degraded water quality:** pollution in the region stems from several sources. Basic sanitation is lacking in most municipalities where an estimated 85% of wastewater is untreated, there are low rates of waste collection and treatment, and a high percentage of solid waste is being sent to open dumps. There is little or no effective on-farm management of nutrients or sediment loading resulting in large scale non-point source pollution of the water discharged into the Pantanal and Paraguay River. Pollutants from mining and industrial smelting, for example in Corumbá/Ladário, is problematic and has resulted in high mercury levels in fish.^[5] Traces of contaminants, such as mercury stemming from gold mining have been detected in soils and in the food chain. Agriculture contaminants and heavy metals are affecting several sub-basins. Manufacturing industries in the Bolivian portion of the Upper Paraguay Basin may result in increasing pollution loads. A sub-basin of concern is the Apa River shared between Paraguay and Brazil home to the cities of Bella Vista (Brazil) and Bella Vista Norte (Paraguay), as well as agricultural development. The valley is also subject to water use conflicts related to non-consumptive uses, fisheries and irrigated agriculture.
- (iii) **Climate change:** As global temperatures rise, climate extremes, including droughts and floods will become more frequent and intense in the region, with changes in precipitation patterns affecting river flows that support the viability of the entire ecosystem and alter species distribution, habitat viability and resilience. Climate alteration will additionally affect dynamic processes involving evaporation, saturation of the soil, and many others. Water uses are also potentially affected by climate change, whether because of increased consumption due to higher temperatures or because of higher unpredictability of the cycle of rain and, consequently greater need of water storage. The Pantanal acts as a natural storage to attenuate the floodwaters for the Upper Paraguay basin and may be increasingly needed as flood patterns change. Also, it is not sure how climate alteration will affect the vegetation, evaporation, and functioning of the wetland ecosystem and thus its effect on species and habitat. Climate change impacts require further studies to understand the associated impacts.
- (iv) **Wildlife loss:** Large predators and herbivores used to be found in large numbers in the Pantanal. Today, at least 50 species are threatened or endangered in the Brazilian Pantanal alone. The main sources of pressure on biodiversity appear to be anthropogenic effects: habitat destruction, poaching, overfishing and trafficking. Hunting, either through illegal trade or in retaliation for livestock predation, still occurs, habitat loss, population isolation, and mercury poisoning continue to pose risks to iconic animals such as jaguars, as well as others trying to survive in a developing Pantanal.
- (v) **Lack of coordinated management:** The Upper Paraguay River Basin comprises the Upper Paraguay River Basin per se and the Pantanal. It includes transboundary sub-watersheds shared with Bolivia and Paraguay. Water Resources Management within those countries is primarily based on rules of customary law they have accepted or consented to. Brazil shares with Bolivia some sub-basins located west of the Pantanal-Upper Paraguay River Basin and Laguna Caceres, where the Tamengo Canal is located. It is an area of conflicts and intense negotiations due to the navigation in that stretch, where Bolivia has access to the Paraguay River. The construction of transportation infrastructure and manufacturing industries in the Bolivian

portion of the Basin is a reality that may likely increase the pressures on the natural resources into Brazilian territory. With Paraguay, Brazil shares the Apa river sub-basin also subject to water use conflicts related to non-consumptive uses, fisheries and irrigated agriculture. The Apa river basin is home to several Brazilian and Paraguayan towns, including Bella Vista (Brazil) and Bella Vista Norte (Paraguay).

- (vi) **Hydroelectric Development:** More than 40 hydroelectric dams already exist in the Upper Paraguay River Basin tributaries and over 101 more planned for the next few years, primarily in the uplands. These dams would likely result in significant changes in the hydrological regime, with eventual loss of the typical flood pulse in the Pantanal plain and changes in the flow of nutrients and water quality impacting multiple use and aquatic ecosystems in all three countries, including sustainable fisheries and tourism, amongst others. Dams can also have direct impact on local communities, for example as the construction of the Manso hydropower plant, in the Guimaraes Plateau (Chapada dos Guimarães, Mato Grosso), which flooded areas inhabited by traditional communities. However, when conducted with consideration for communities and ecosystems, energy production can be sustainable in certain locations in the Upper Paraguay Basin.
- (vii) **Potential infrastructure development:** Structural changes in the river system could cause irreparable damage by altering the floodwater retention capacity of the wetland, shifting the flood pulse of the river downstream, severely altering natural habitats, impact the regional tourism industry and the livelihoods of fishermen. For example, one area of concern is the Tamengo Canal in Bolivia between the Laguna Caceres and the Paraguay River, which serves as a transportation route but is limited to smaller vessels due to water depth.

Root causes and main barriers to be addressed

Sustainable management within transboundary waters includes activities like, technical and financial capacity, planning, decision-making, monitoring, awareness building, and governance framework, for an efficient and adequate Integrated Water Resources Management (IWRM). In the absence of formal regulation of water resources or of an established institutional framework, there may be adequate practical management of the resource, so that countries address the problems established in the section above, such as land use, pollution, climate change, wildlife lose, hydroelectric development and infrastructure.

The main barriers to sustainable management are:

- (i) **Weak transboundary governance coordination for dialogue and planning:** Although the region falls under the mandate of the Inter-governmental Coordination Committee of the La Plata Basin, the region lacks a focused tri-lateral coordination set of actions across the Pantanal-Upper Paraguay Basin. As a result, increased water conflicts of a transboundary nature are to be expected, as development proceeds in the region. If development is not planned with focus on sustainability, these effects will not limit to the Pantanal-Upper Paraguay Basin, but will spill over into downstream basins of the La Plata basin.
- (ii) **Limited technical, financial, institutional and administrative capacity:** There is limited capacity to adopt and implement integrated actions, even in areas where they may exist, for example, within National Basin Plans. Without capacity building to support coordinated actions for sustainable national and regional integrated water resource management (IWRM) there is a high probability that water development in the Pantanal-Upper Paraguay will not be harmonized nor coordinated between countries, and degradation of vulnerable resources will continue. This will create tensions over the quantity, quality (including sedimentation) and use of water resources within the basin, leading to inefficient water use and poor land management by the productive sectors, resulting in further water quality and availability problems. Lack of regulations and protocols for the productive sectors, in terms of water use and land management practices, are also a source of water quality and quantity problems. This is particularly relevant as the region is also home to several RAMSAR sites— hence the importance of adequate integrated water resources planning and management.

- (iii) **Lack of coordinated economic development planning:** There is a lack of experience in investment planning and mobilisation of resources for implementing the actions needed to address many of the priority issues. To implement key activities within the Basin, a combination of innovative and novel financing mechanisms will be needed at local levels, along with collaborative development of larger, regional-level investments through funding alliances, amongst others.
- (iv) **Lack of a basin wide monitoring system:** While there is a significant monitoring network in Brazil, this is not the case in Bolivia and Paraguay due to limited economic resources. Consequently, the availability and quality of scientific information is uneven across countries, is not standardized, and often lacks consistency.
- (v) **Weak understanding/awareness of the importance of the Pantanal system:** There is a limited appreciation for the multiple ecosystem services that the Pantanal provides at all levels. This includes not only the countries of the Upper Paraguay Basin, but also those downstream in the La Plata system. A greater understanding of the importance of the Pantanal will help enhance political will at a regional, national and state level to address the current threats.

1.a.2. Baseline scenario and any associated baseline projects

The project will build on a "baseline" represented by a number of water related projects and research activities carried out in the region with the support of multilateral and bilateral assistance, as well as national level activities, state level, and local levels.

Transboundary water management principles

The proposed project meets international water law principles with respect to equitable and reasonable use, equitable participation, obligation not to cause significant damage, cooperation and regular exchange of information and supports good practices set forth in the Treaty of the Plata Basin (1969).

Regional Level

In March 2018, at the 8th World Water Forum in Brasilia, spearheaded by WWF, the Environment Ministers from the three countries signed the Declaration for the Conservation, Integrated and Sustainable Development of the Pantanal. This initiative provides Bolivia, Brazil and Paraguay with a conservation mandate to ensure that development in the Pantanal is sustainable and economically viable for the long term while improving the well-being of its more than 2 million and preserving the ecological processes that sustain this globally unique ecosystem and the wildlife that resides in it. The declaration also commits to meeting the Sustainable Development Goals (SDG) of Agenda 2030 for Sustainable Development, in particular emphasizing Goal 6 - to ensure the availability and sustainable management of water and sanitation for all. The tri-national Pantanal Declaration of 2018 also confirmed the Pantanal Boliviano, the Pantanal Matogrossense, the SESC Pantanal and Rio Negro as designated Ramsar Sites with an area over 34,000 km². This project helps to operationalize the Declaration to focus on enhancing cooperative management of the Pantanal and associated upland areas in the Upper Pantanal Basin. The project is further designed to advance regional mechanisms such as the La Plata Treaty (1969) and address key issues identified in both the La Plata SAP (2018) and the Brazil Pantanal SAP (2006).

On 23 April 1969, Argentina, Bolivia, Brazil, Paraguay and Uruguay signed the La Plata Basin Treaty in Brasilia to promote areas of mutual interest and enhance development. The Treaty noted as key objectives, amongst others the rational utilization of water resources, in particular regulation of watercourses and their multipurpose and equitable development; the conservation and development of animal and plant life; and, a comprehensive knowledge sharing across the basin. To help implement the Treaty, they established the Intergovernmental Co-ordinating Committee (CIC). The La Plata basin has spawned a series of subsidiary agreements, principally concerned with bi-lateral joint development of hydro-power generation, but also including the 1994 agreement between

Brazil and Paraguay on the Conservation of Aquatic Fauna in Frontier Rivers. The CIC's scope is very broad and over a large geographic area some 3,182,000 km². While the CIC has identified wetlands and the Pantanal, as a critical area for management there is no concerted technical committee that focuses on coordinating management neither in the Upper Paraguay river basin nor the Pantanal.

There are however several protected areas in the basin. Part of the Pantanal were declared National Heritage by the 1988 Brazilian Constitution. It was also appointed as an area of international importance in 1993 by the RAMSAR Convention on Wetlands, and as a Biosphere Reserve in 2000 by UNESCO. In 2015, at the Ramsar COP 12 in Uruguay, the governments of Bolivia, Brazil and Paraguay agreed to discuss a sustainable development path for the Pantanal. This agreement (Resolution XII.8/RAMSAR COP 12, 2015) was followed by three more tri-national technical meetings in Santa Cruz (July 2016), Brasilia (February 2018), and Asunción (April 2019).

GEF supported actions in the La Plata: In 2001, the CIC began to address challenges associated with water resources management in the La Plata basin and develop an Action Plan to guide management. For almost two decades, with the support of the GEF, UNEP and OAS, the Plata countries and the CIC have been advancing the transboundary management of the basin resulting with the formulation of a basin wide TDA/SAP agreed by all countries in 2016. Given its relative importance in the Plata Basin, the Plata SAP provides the overall strategic management framework for the Pantanal-Upper Paraguay Basin.

National Initiatives

More specifically, in Brasil, the Conservation Plan for the Upper Paraguay River Basin (PCBAP) was developed in the 1990s and aimed at identifying and proposing solutions to socio-environmental issues that had intensified in the Pantanal-Upper Paraguay River Basin. In the late 1990s, the Brazilian government requested technical and financial assistance from the GEF, United Nations Environment Programme (UNEP) and Organization of American States (OAS) to implement the priority actions of the PCBAP and develop an integrated management program for the Brazilian portion of the basin, which resulted in the GEF Pantanal/Upper Paraguay Project.

The GEF Brazil Pantanal Project was coordinated by the Brazilian Water Agency and the Ministry of Environment and in 2006, a SAP for the Integrated Management in the Pantanal and Upper Paraguay River Basin was approved, providing a broad-based policy framework for the sustainable development in the Brazilian portion of the basin. The Brazil Pantanal SAP was built on three components that sought to analyze the problems in the Basin and proposed solutions of institutional, political, preventive and corrective nature. The components are:

1. Institutional Strengthening for Integrated Water Resources Management;
2. Sustainable Development and Protection of biodiversity; and
3. Soil Conservation and Rational land Use.

Between 2014 and 2017, the Brazilian National Water Agency (ANA) prepared the Water Resources Plan of the Paraguay Basin (PRH-Paraguay) based on the recommendations of the 2006 Brazil Pantanal SAP. The PRH-Paraguay was approved in 2018 by the Brazilian Water Resources Council and provided for updated and continuous water resources management. Part of this plan includes promoting the establishment of an agreement between Brazil, Bolivia and Paraguay for the sustainable management of the basin (Guideline 10.1.4 Shared Management of Transboundary Rivers p. 272).

Paraguay and Bolivia have legal and planning instruments that protect the environment and natural resources (see Section 7 Consistent with national priorities). In Paraguay, the Law for Water Resources in 2007 (Ley 3239) promotes the sustainable and integrated use of water resources and recognizes the watershed as a management and planning unit (Ley 376/12). It also promotes the establishment of basin management units and, the inclusion of

stakeholders and the private sector in advancing the objectives of water management. Paraguay also has a law to re-establish forests protecting watercourses (Ley 4.241/10) that acknowledges the role of forest cover in helping to attenuate floods, reduce sediment loading and dissipate non-point source pollution.

In terms of project-related activities, the WWF led the Pantanal-Chaco (PaCha) project, which started in 2016 and focuses on enhanced land management practices in the area. The project has helped strengthen institutions, promoting participatory approaches to developing policy, advanced best practices and incentives to reduce stress. It will end in 2020, and lessons from its implementation will be integrated into elements of this project (see output 4.1).

The development of water supply for a large portion of the Chaco through the Acueducto Chaco is being undertaken as part of the country's effort to enhance water security to rural populations. It will supply water to 70,000 people, 40,000 of whom are indigenous and is set to be completed in 2021.

Other complimentary projects, such as the USAID-funded "Forest Conservation and Agricultural Project" will also be integrated into the GEF project (see section 6)

Bolivia has a Basins National Plan (Plan Nacional de Cuencas) which has spawned a series of basin level plans. However, there are currently no specific basin plans for the Pantanal. Bolivia has a series of laws, such as the Rights of the Earth (Ley N° 300 de Derechos de la Madre Tierra) which address environmental concerns. Additionally, there are ongoing and planned projects directly supporting the objectives of this project (see section 6).

In addition to the GEF-Pantanal TDA (2006) in Brasil, there are a number of studies associated with understanding the Upper Paraguay system. Several studies have been conducted for this watershed, such as the Hydrological Study of the Upper Paraguay River Basin (Pantanal) carried out by UNESCO/UNDP in 1973.

Acknowledging that Brazil has conducted the TDA/SAP process and has approved the Upper Paraguay Basin Plan (PRH-Paraguay), the IDB has committed separate funds, between 2018 to 2020, to provide technical cooperation to Bolivia and Paraguay to carry out a series of studies that would help feed into a Transboundary Diagnostic Analysis for the Wider Pantanal. The studies and technical assistance would mainly focus on the use of hydrological modeling methodologies, but also include environmental, governance, legal, socioeconomic and investment information. Bolivia and Paraguay have requested the implementation of models that include socioeconomic, ecological and hydrological variables that help understand the hydrological regime of the basin and its contributions or impacts on the ecosystem, society and economy of the region. These assessments will be key to the preparation of the basin wide TDA/SAP that will be coordinated and compatible with the Brazilian PRH-Paraguay TDA.

Agriculture in the Plateau has been identified as a key source of sedimentation and pollution to the wetland area, in order to address this issue effectively, targeted platforms and tools such as the Global Partnership on Nutrient Management (GPNM)^[6] have been used over the years to minimize the impacts faced by the mismanagement of nutrients and nutrient over-enrichment. The GPNM supported a case study on nutrient management valuation in the municipality of Rondonópolis (Brazil) as to promote Nutrient Use Efficiency (NUE) to increase the overall performance of cropping systems.

Specifically through the formulation of its TDA and basin wide monitoring activities, the proposed project will help countries in meeting their SDG targets, especially, SDG 6. UNEP, as the custodian for SDG 6.3.2, 6.5.1, 6.6.1 and 2, has been providing countries with a new Earth Observation wetland mapping tool (SDG 6.6.1), and is actively gathering and uploading IWRM SDG 6.5.1 data on an online portal in order to support the second round of national monitoring and reporting which includes transboundary elements in partnership with UNECE (SDG 6.5.2) and the Water Convention.

To support delivery of SDG 6.3.2, UNEP has been strengthening the UN-Wide Global Environment Monitoring System/Water where ANA has served as the Latin America node, and created the World Water Quality Alliance with over 50 members including experts, practitioners, public and private sector organizations, IFIs (e.g. World Bank), CSOs (e.g. World Economic Forum), philanthropies, bilateral donors, etc. With funding from Switzerland, the alliance is

inter alia undertaking hotspots assessments to support remedial activities. The alliance supports the UN-Water report, its global water quality assessment and Snapshot of the World Water Quality which stresses the importance of the water quality, quantity, health, biodiversity and food nexus.

Environmental modelling with no or limited monitoring stations can be a challenge. UNEP has been developing a series of emerging modeling tools that handle the lack of data including modeling tools for floods and droughts. It has also been the custodian of the Transboundary Waters Assessment Programme (TWAP)[\[7\]](#) with a specific transboundary river basin assessment methodology which has proved to be a useful tool to formulate science based TDAs.

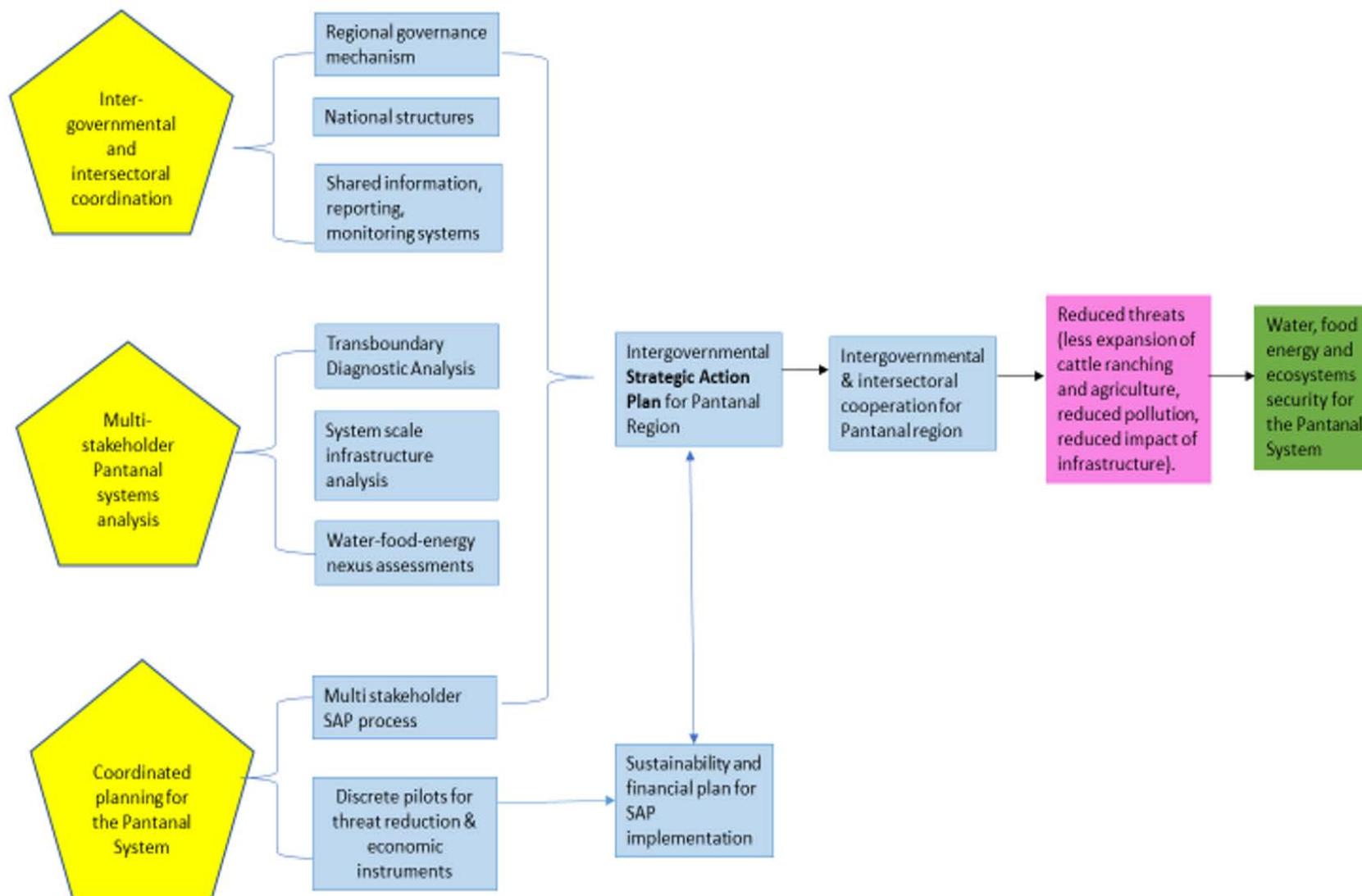
The above-mentioned tools will contribute towards developing a robust basin wide TDA and ensure consistency with global processes.

A significant part of the proposed project will focus on on-the-ground activities (Component 4) to address stress reduction. Several of these actions have been identified in the Brazilian PRH-Paraguay SAP and Basin Plan and will provide examples for replication throughout the basin. It also reflects on-the-ground activities that have been identified by Bolivia and Paraguay as being of importance.

1.a.3 Proposed alternative scenario with a brief description of expected outcomes and components of the project

Improved understanding of the ecological functioning of the tri-national Pantanal – Upper Paraguay Basin, and strengthened transboundary coordination are paramount given that the current problems associated with land-based sources of pollution, increased sedimentation, hydrological regime variations and change of system morphology will become more acute. These effects will be compounded by the negative impacts of accelerated development and climate change. There is, therefore a pressing need to strengthen regional cooperation and build capacity for the integrated management of water resources to sustainably develop the region while preserving its unique ecosystem services and functions. Additionally, aspects related to M&E of the project will be further addressed during the PPG phase, and included in the project activities.

Theory of Change. IF the three countries can establish governmental coordination mechanisms (from regional to national levels) and harmonized monitoring and reporting systems, AND IF those coordination mechanisms support a diagnosis of the most relevant transboundary water issues and a strategic action plan, informed by a series of pilots, THEN governance and decision making will be strengthened and result in improved integrated water resource management for water, food, energy and ecosystem security of the Pantanal. This theory of change is summarized in the graphic below:



Consequently, the **principal objective of the project** is:

To promote water security through strengthening transboundary water governance and sustainable development, balancing multiple use and promoting integrated management in the Pantanal-Upper Paraguay River Basin for the social and economic well-being of the population and for the conservation of the freshwater ecosystem, its services, its biodiversity and connectivity.

Component 1: Strengthening cooperation for integrated river basin management

Currently, the three countries have been coordinating matters in an ad-hoc manner through meetings essentially. However, there is a need to enhance the coordinated management of this sensitive area in particular the designated Ramsar sites. By addressing one of the key threats associated with water management in the wetlands (and thus loss of habitat), this component will aim at enhancing water management in a coordinated fashion. Currently, there is 34,000 km² of protected wetland areas in the region and the 2018 Pantanal Declaration calls for stronger commitment to conserve ecosystems and resources in the basin.

This component will thus support countries to achieve a coherent approach to coordinated integrated river basin management resulting in improved ecosystem health, water security and regional cooperation. It will be advanced by i) developing agreement on key transboundary water management principles to be applied in the basin and ii) proposing/recommending tri-national coordination arrangement to support the sustainable management of the region and biodiversity conservation. The key outputs associated with this component are:

1.1 A proposal of alternatives for tri-national coordination of the basin. The countries have a mandate to sustainably develop the Pantanal, however, there is no current tri-national coordination. The project will examine various options with stakeholders, national agencies and line ministries to identify opportunities for improved coordination and for coordinating regional SAP actions overtime while national Action Programs (NAPs) will be implemented nationally.

Under this component, the project will also conduct a rapid water and land governance diagnostic including an assessment of gaps and opportunities as input to the TDA in Component 2 (Output 2.1). To support the formulation of necessary priority actions in the SAP, it will be necessary to understand the legislative and regulatory mechanisms in each of the countries and identify gaps and needs across the three countries.

1.2 Proposal on key water management principles and targets (e.g. on water quality and quantity objectives) as input to the TDA and SAP. Water management principles and targets will be developed, based on international principles, the La Plata Treaty (1969), amongst others (e.g. Brazil's Progestao initiative model). They will be tested to guide the TDA SAP development in component 2 & 3.

1.3 An agreed framework for improved management and protection of aquatic ecosystems. Currently, the three countries have been coordinating matters in an ad-hoc manner through meetings essentially. However, there is a need to enhance management coordination of sensitive areas, in particular the designated Ramsar sites. By addressing one of the key threats associated with water management in the wetlands (and thus loss of habitat) this output will be aimed at enhancing water management in a coordinated fashion. Currently, there is 34,000 km² of protected wetland areas in the region and the 2018 Pantanal Declaration calls for stronger commitment to conserve ecosystems and resources in the basin.

Component 2: Consolidating and sharing knowledge, and developing a common understanding of the Pantanal/Upper Paraguay Basin.

Joint fact-finding and exchange of information between the participating countries (Bolivia, Brazil and Paraguay) in the project will facilitate improved understanding and consensus between the three countries regarding the key transboundary issues and the drivers of change in the region (Outcome 2). Additionally, the component will emphasize greater understanding of the potential impacts associated with development scenarios and implications of climate change, and ensuring that the understanding of the impacts are available to stakeholders and decision-makers (Output 5.1). This will be achieved through enhanced instruments and capacity within the region for reporting monitoring, modelling, and exchanging information.

Major outputs of the Component 41 will be the following

2.1 A region wide Transboundary Diagnostic Analysis (TDA) complementing and building upon countries' assessments and knowledge and further defining the La Plata basin TDA. The La Plata TDA (2016) identified various issues that affected wetlands in the La Plata basin; however, it stopped short of going into detail on specific issues affecting the Pantanal. The Diagnostic Analysis which supported the formulation of the GEF-Brazil Pantanal SAP (2006) elaborated the issues affecting the Pantanal and Upper Paraguay. It however remained strictly a national diagnostic and did not address tranboundary matters.

Capitalising on the GEF TWAP methodology and other nationally available assessment methods, formulating a robust indicator-based scientific TDA for the

entire region is critical to commensurate sound actions for the SAP but also as input to the demonstration activities in Component 4 and the pre-feasibility studies support of the investment portfolio in Component 3. The formulation of a transboundary focused TDA will be challenging and resource intense given not only the lack of transboundary information but most certainly the complexity of the ecohydrological dynamics of the Pantanal Wetland and its upstream/downstream relationship both from a socio-economic and environmental perspective (flooding, provision of ecosystem services, productivity, nutrient-sediment-pollutants loading...). Therefore, science needs to fill the gaps in the current knowledge base will be reviewed during PPG and the required targeted studies developed accordingly.

National information and data bases have been developed, such as the informatics system at Brazil's ANA, to monitor much of the area. However, what remains lacking is a system-wide transboundary diagnostic analysis for the basin. This product will build upon existing information to complete the picture.

2.2 Transboundary Ecosystem modelling will include environmental flow modeling, water balance, climate change scenarios, amongst others. Improved trinational ecosystem modelling including water-climate development scenarios is needed to facilitate coordinated management and decision-making. The product will be a model with tests run on different key parameters to be determined during the PPG phase. The modeling results will support the TDA formulation. The activity will also involve knowledge exchange and capacity development between the countries to enhance national sustainability of the outputs. In this regard, targeted workshops will be conducted to help develop capacity within the region to provide information for coordinated management as well as implement priority actions identified in the basin wide SAP (Output 3.1). These workshops may be individually designed or designed in conjunction with interventions associated with Components 3 & 4.

2.3 Documented established and functional basin wide information exchange sharing and an integrated hydro-climatic reporting system. Currently, there is limited exchange of hydrological and climatic data between the countries. To support the TDA and SAP formulation and subsequent implementation, a comprehensive basin wide environmental monitoring and reporting system will be developed including data sharing and transfer protocols. This will support the establishment of the basin wide monitoring network contemplated under Output 2.4. The data sharing mechanism will be elaborated on in the PPG phase. Its design including the nature of its portal to be inter-operable equally accessible by the three countries will be fully participatory and based on consensus amongst the three countries.

2.4 A proposal for a basin wide water monitoring network (incl hydromet, water quality, sediment and groundwater relevant networks): There is a current paucity of monitoring stations at the basin level to monitor both water quantity and quality at the basin level. A robust basin wide water monitoring system is however needed to provide the necessary data critical for understanding and modelling the complex ecosystem of the Pantanal-Upper Paraguay Basin. It is anticipated that 15 pilot hydromet monitoring sites will be tested as well as 6 groundwater pilot-monitoring sites to guide the choice and prioritization of a complete series of monitoring stations needed for a basin wide hydrometric network.

Component 3: Towards tri-national planning for sustainable management of the basin.

This component will result in enhanced countries commitment to sustain equitable cooperation mechanisms and to support priority reforms and investments (Outcome 3.1) through the formulation of jointly agreed priority actions, proposals for (i) land management actions and (ii) for environmental flows, a strategy for sustainable financing of the priority actions and proposals, and a series of water and sanitation plans.

Key outputs for this component will be:

3.1 A region wide Strategic Action Plan (SAP) approved by ministries or same level government authorities including water agencies

The SAP will build upon and compliment with national planning initiatives, including Brazil's PRH-Paraguai and align with the approved La Plata SAP. This includes overall basin levels goals, and agreement on identified priorities for systematic coordination in relation to land and water management between the three countries (Outcome 3). The SAP will strengthen regional coordination and guide policy and institutional reforms to implement priority actions at the national and regional level. The SAP will contain amongst others, environmental quality objectives for both land and water; a coordinated ecotourism plan (which was identified in the La Plata SAP action II.2.3); protected area management actions (La Plata SAP action III 1.1 and Pantanal Declaration 2018); targets for water allocation objective (applying results from intervention 4.3); and permitting targets (from intervention 4.5).

3.2 A proposal for basin wide land management actions to reduce threats (non-point source pollution and sediment loads). Specific attention is needed at a regional level to adequately address the threats associated with land management practices and the effects of non-point source pollution and sediment loading. While some national level initiatives exist, such as *Programa Productor de Agua*, a coherent approach across the countries is needed. This output would prioritize agreed actions for land management practices across the basin (La Plata SAP action III 2.1). This will be informed by output 4.1, 4.2 and 4.3

3.3 A proposal for environmental/ecological flows in at least 1 critical sub-basins. Ultimately, to preserve the ecosystem function of the wetlands certain minimum flows are required at key periods for the major sub-basins in the region. As a step towards this, studies will be conducted to determine environmental/ecological flows in sub-basins and a methodology for their establishment including the matching regulatory process will be formulated for broader application within the basin. Ecological flow studies will provide guidelines for preserving aquatic ecosystems and coordinating sustainability with respect to hydropower development. This will be informed from the TDA Output 2.2.

3.4 A sustainable financing strategy (including a project preparation facility, public-private partnerships, an alliance of investors, amongst others) to support implementation of the basin wide SAP. The financial strategy include a portfolio of potential blended financing options and prioritised bankable multisector investments tentatively estimated at USD 500 million based on priorities outlined in the SAP. The strategic finance plan will be initiated in tandem with the TDA and engage prospective donors and the private sector in aligning investment plans with objectives and goals of the SAP. The financial strategy will outline robust prioritised investment programme and support governments in aligning the forthcoming needed investments within national investment plans. The financial strategy will also incorporate existing financing instruments, such as IDB Invest and the IDB Capital Lab for smaller scale investments. Aligning investors into SAP development will help ensure SAP financing.

3.5 A series of integrated municipal water and sanitation plans (6 plans): Surface water contamination from municipal discharges has large ranging (transboundary) impacts when considering the cumulative effect across the basin. This has particularly large effects in wetlands where nutrient loading can upset assimilation, particularly with nitrogen. To showcase opportunities and develop capacity to address this, integrated municipal water and sanitation plans will be developed in 3 municipalities across the three countries (which will be determined in the PPG) and provide the opportunity for technology and knowledge exchange between the countries.

Component 4: On-the-ground interventions promoting integrated water resources management and sustainable finance.

Sustained cooperation on integrated management of the water resources in the Pantanal-Upper Paraguay Basin will be strengthened by show-casing new technologies and sound approaches that fit the local socio-ecological systems for the basin. This will include piloting localized innovative approaches including financial mechanisms for replication. A series of interventions will be further refined during PPG based on, *inter alia*, existing and proposed linked projects (as identified in section 6), transboundary implications, logistical considerations and their scalability as input to the SAP. It is anticipated that the interventions will result in demonstrated on the ground benefits in stress reduction and provide the needed elements for replication and sustaining SAP delivery (Outcome 4.1). Baseline setting for the sites will be informed by the TDA in output 2.1

Key outputs for this component at this time are proposed to be a series of interventions and targeted actions, including documented results for replication focusing on, *inter alia*:

4.1 Sustainable land and water management practices implemented in 3 critical sites in at least 600 Ha (e.g. Taquari sub-basin, Tucavaca sub-basin, TBD in Paraguay) to reduce stresses, including sediment and pollution loads, amongst others. As currently identified, sedimentation and non-point source pollution from unsustainable agricultural practices are key threats. On the ground activities will occur in at least three sub-basins, including the Taquari sub-basin in Brazil, and Tucavaca sub-basin in Bolivia, and Carmelo Peralta in Paraguay. The results of these interventions will inform a basin wide proposal for land management in the basin (Output 3.2).

4.2 Water/food/energy nexus interventions for enhanced water and land security considering competing water uses. This activity will respond to addressing the management of multiple uses of water in specific sub-basins. Balancing different water uses is critical at the international level to avoid water use conflicts and ensure sustainable use of water. This “nexus approach” to integrated water use and sanitation planning will be applied at at least 1 site to be determined during PPG.

4.3 Best Practices for efficient irrigation tested in 50 Ha with optimization of water demand targets towards an efficient water use allocation system. Innovative administrative methods will also be used to assess water allocation in several key sites to be determined in the PPG phase.

4.4 Aquifer recharge protection measures tested in at least 1 critical areas relying on groundwater resources including mapping of resource use restriction zones: Most of the potable water consumed in the basin comes from groundwater sources, however, there is little to no knowledge of groundwater systems. Key to protecting groundwater sources is understanding threats and vulnerability, identifying areas through mapping, and identifying protection measures in related to those local threats. Vulnerability mapping and protection measures will be conducted in three areas to be chosen during the PPG phase.

4.5. Testing innovative approaches for water use permits for sewage discharge. One of the barriers to sustainable integrated water management is the lack of capacity and effective tools for management. This intervention will involve the identification and testing of innovative approaches for water use permits to sewage/wastewater discharge e.g. testing the use of bio-indicators as a cost-effective way to monitor pollution discharge levels and set permit levels. The number of sites and their location chosen to test novel discharge permits will be determined during the PPG. Complimentary to discharge permits are water use restrictions. Innovative management methods will also be used to assess water use restrictions in several key sites and will be determined in the PPG phase.

4.6 Novel economic and financial instruments to support water and land management. One of the key barriers to sustainable resource use that has been identified is the lack of financial means and investments to implement actions. This intervention will test novel financing approaches implemented at the local level and adapted to the local situation in at least 1 sites. These could include amongst others, payment for ecosystem services (ecosystem functions); or efficient water use incentives.

Component 5: Awareness building, stakeholder involvement

This component aims at building the support for project implementation, raising awareness, and exchanging knowledge for GEF IW portfolio learning. It will result in improved visibility of the Pantanal-Upper Paraguay Basin as a system of global significance, increased awareness and participation among stakeholders of integrated management, strengthened gender equality and women empowerment. This component will facilitate adoption of the SAP priorities actions at the ministerial level.

Key outputs and activities under this component are:

5.1 A stakeholder engagement and communication plan developed and implemented. The entire project will be participatory and communication oriented. Based on a Stakeholder Engagement and Communication Plan, a range of related activities will be implemented to foster (a) understanding of the issues involved by the general public and the stakeholders, including water users and the private sector, thus enabling their contribution in the development and implementation of solutions; and (b) enhancement of awareness at the political level and among decision-makers thus creating the enabling environment for action to be taken. The project will also facilitate selective media events to involve and inform key legislative national stakeholders on project deliverables and envisioned benefits. To enhance communication several key awareness building products will be developed such as audio visual tools, education package, amongst others.

5.2 Training programs for utilities, management authorities, water users, civil society, amongst others. Specially designed training events will be undertaken to develop capacity in key target groups such as management authorities, utilities, and water users with a view to (a) build ownership and responsibility of the resources; (b) long term sustainability of project outcomes; and (c) better-informed implementation (with knowledge at the national and local levels) of the project activities.

5.3 A Gender Equity and Mainstreaming Plan developed and implemented. This process will be initiated during the PPG phase. Building on GEFs gender policies, IDB and UNEP Operational Policy on Gender Equity in Development and gender mainstreaming policy as well as on ANA's internal gender policy, the project will develop a project level Gender Equity and Mainstreaming Plan to be adopted at the onset of the project. The results will not only assist advancement of women's empowerment within the context of the project, but also serve to promote a gender policy in the water sector of those countries currently lacking one.

5.4 Documented IW:LEARN support including knowledge sharing, experience notes, twinning program and dialogues and, IW conferences participation. Engaging in IW:LEARN activities will be 1% of GEF grant. Project knowledge captured will be disseminated through internet-based platform and project website, sharing experiences through IW:LEARN, IWCs and COPs. Participation in IW:LEARN activities will be systematic in terms of contributing to the freshwater IW COPs, sharing lessons learnt (at least 3 Experience Notes), attendance to, and organization of webinars, participation to the IWCs. A project website, according to IW:LEARN standards, will be established. Apart from being used as an information provision hub, the website will be an instrument supporting the implementation of the project activities. It will support and incorporate a range of tools such as project management team working space, information database, interactive maps, forum discussions etc. Part of the IW:LEARN activities will be related to twinning with similar projects in other regions. It is foreseen that a 1% of the project budget (GEF requirement) will be destined to IW:LEARN related activities. Additionally, project monitoring will be conducted to inform adaptive management. This includes establishment of a Project Steering Committee and annual PSC meetings, reports (PIR), and Mid-term review and final evaluations.

1.a.4 Alignment with GEF focal area and/or Impact Program strategies

This project will be considered as "freshwater foundational", directly contributing to the Objective 3 of the GEF7 Strategy "Enhance regional and national cooperation on shared freshwater surface and groundwater basins" (IW 3-6) (refer to para 202 of the GEF Strategic directions. <http://www.thegef.org/events/gef-7-replenishment>). It will additionally address "investments in water, food, energy and environmental security" (IW 3-7), particularly through identifying and testing innovative financial instruments.

1.a.5 Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

In order to achieve the global benefits from the project, the incremental GEF funding and the expected co-financing from countries will expand the ongoing baseline work (see section 1.2.) of GEF, UNEP, IDB, CIC and national agencies in promoting international cooperation on water issues. This will allow the authorities in the basin to move to the next and higher level of implementation and testing on-the-ground integrated water resources management and

conservation activities in the Pantanal-Upper Paraguay Basin of the La Plata Basin. These benefits, as established in the “International Waters” Focal Area Strategy, will be achieved by promoting a broader and more effective multi-country management scheme for the Pantanal-Upper Paraguay basin.

The overall incremental reasoning is two-fold. Firstly, the GEF investment will focus on the Pantanal-Upper Paraguay Basin and enhance the work conducted by GEF in the La Plata Basin and the Brazil Pantanal SAP. The project will develop a region wide SAP to address transboundary water issues at a detailed level and will help improve capacity for coordinated management, extend basin wide monitoring and improve the ability to make decisions and promote sustained financing.

The 128 million dollars in co-financing mainly from national sources both as recurring resources but mostly investments mobilized from on-going parallel activities, will support project execution and together with the GEF increment will enhance transboundary management of this ecosystem of global significance which would have continued to be managed nationally in the absence of the GEF grant. The GEF funding will focus on developing greater coordination at international level.

For the 3 countries the Pantanal is a region of high importance and the joint management of its valued resources and assets is of a top priority for all 3 as witnessed by their high level of co-financing. The GEF increment is therefore paramount to unlock the impact of the proposed activities, especially to catalyze trinational coordination, and deliver on global environment benefits.

Approximately, half of the co-financing corresponds to national activities related to water supply and sanitation which will assist the design of integrated municipal and sanitation plans in Output 3.5. Those parallel activities will also inform the novel approaches for aquifer protection (Output 4.4) and water use permitting (Output 4.5). Other co-financing associated with conservation, land use management, climate resilient sustainable development (including forest and water use, tourism and protected areas, amongst others) will support the TDA formulation. The incremental GEF funding will provide an opportunity for the nationally focused projects to learn and engage with projects in the other countries as well as provide information in addition to the demonstration projects to inform SAP development. Likewise, the GEF funded demonstration projects and TDA will help enhance the effectiveness and impact of the national level projects.

Secondly, the GEF investment will help to build coordinated management and sustainable development in the Pantanal-Upper Paraguay Basin to value and preserve the unique ecosystem functions of the region. As one of the major ecosystem services the Pantanal provides is a buffer for the floodwaters of the cerrado (plateau), it provides significant flood control benefits to cities and riparian rural areas in the downstream La Plata Basin.

Finally, the GEF incremental value for the proposed project will support the joint efforts of both UNEP and IADB to advance cooperation and coordinate management in the Pantanal and Upper Paraguay Basin. UNEP as a technical and normative agency has the capacity to strengthen regional governance (component 1) and a track record in translating scientific recommendations from the TDA (component 2) in to required policy actions (SAP – component 3). On the other hand, IADB’s comparative advantage as a bank will be largely focused on providing national support through technical cooperation, facilitating discussions around investments plans including a Project Preparation Facility to support a strategic investment portfolio (component 3) and using existing financing tools to design effective demonstration projects (component 4). The two agencies together will be able to oversee the formulation of a robust SAP anchored in sound science that includes a portfolio of prioritised bankable multisector investments for the region in alignment with national investment plans and priorities. Both agencies will leverage their respective national and regional networks to successfully carry out all component activities and will bring forward their respective comparative advantages and technical competencies that are complimentary.

This blended approach of intimately involving an IFI from the initial planning stages is novel and will help elevate the traditional TDA/SAP process. Generally, the SAP is a classic strategic document with lines of intervention and general budgets. This project will deliver a robust multisectoral master plan with a prioritised bankable portfolio thereby offering countries a fast track process to secure investments.

1.a.6 Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

Not only will this project yield environmental benefits for the 2 million inhabitants of the area, including many local and indigenous communities, sustainable integrated management of the Pantanal-Upper Paraguay basin will also have benefits for globally important biodiversity in the river basin (the Pantanal and cerrado savanna), as well as improved water quality and quantity (including flood control) downstream into the La Plata Basin. The Pantanal is the largest tropical wetlands in the world with the most aquatic plant species on the planet. Meanwhile, the upland "cerrado" is the most bio-diverse savanna system in the world. The basin borders to the north on the Amazon which is the largest and most diverse rainforest in the world, and to the south with the Bajo Chaco, San Pedro and other wetlands of the La Plata system. Therefore, beyond the extensive species of flora, the Pantanal serves as an axis and centre for mammal diversity in Latin America.

The project will play a critical role in promoting coordinated management of the Pantanal-Upper Paraguay River Basin between Bolivia, Brazil and Paraguay contributing to data generation and sharing of data at national and tri-national levels, filling knowledge gaps, and providing a better understanding of the significance of the system globally and its critical role at the regional level. The project will also test a range of interventions and investments contributing to sustainable use and maintenance of freshwater ecosystem services. The implementation of those on-the-ground interventions will reduce ecosystem stresses resulting in improved ecosystem status and food production, economic development and regional stability. The integrated approach is expected to strengthen the region's resilience to extreme climatic events. Improved integrated management will help the region be more resilient to global climate change. The region's globally significant and important biodiversity will also benefit from improved sustainable integrated natural resources management and ecosystem protection, while ensuring economic development for the Basin population. Improved or alternative means of sustainable livelihood will be promoted. Improved coordination and planning is critical for the sustainable development of the region, and the project will significantly advance capacity and collaboration between the three countries in integrated land and water resources management. Finally, the focus on evidence based replicable interventions and testing of novel financial instruments the project will help inform a global audience, through IW:LEARN, about potential economic sustainability for local level engagement in integrated water and land management.

1.a.7 Innovation, sustainability and potential for scaling up

Innovation

The proposed project is innovative for the region insofar as it will give an impetus to integrated transboundary water resources management and address a lack of incentive mechanisms for implementation of good water and land management practices. The project fills a gap in the current basin plans by advancing coordination in integrated water resource management between the three basin countries. Habitat in the wetlands is inextricably linked to promoting sustainable land management in the uplands through water use. By focusing on this connecting thread of water, the project will develop a coherent approach to water management based on nexus principles. The project is further innovative as it will test and monitor locally appropriate approaches for both stress reduction as well as sustaining activities through financial mechanisms at local and regional levels. The project will improve the governance model of the Basin and include innovative incentive-based financing mechanisms. It will also promote water use efficiency and alternative water supply solutions also innovative approaches for the basin.

Sustainability

Strengthening the capacity of key Basin stakeholders and institutions, the capacity to monitor and exchange data and information as well as the development of a basin management strategy (SAP) including sustainable financing mechanisms will contribute to enhanced cooperation in the region and sustainable management of the basin which are key to ensuring the sustainability of the project and implementation of the SAP in the long term. Capacity building will occur through the process of TDA development (in particular with monitoring, analysis, and modelling), as well as SAP development (in particular with strategic planning and bankable investment scoping). Key outputs of the project are 3.4 a Sustainable Financial Strategy for encouraging implementation of the basin wide SAP and outputs of component 3. The importance of developing an alliance of investors and an investment portfolio are key as line agencies in the region have funds for administration but rarely for project or program implementation and are thus constantly seeking additional sources of funding. As IDB is one of the implementing agencies, it will help in creating a financial alliance for continued program support. Output 4.2 will be tested novel economic and financial mechanisms reflecting local situations for sustaining interventions that will help to identify local on-the-ground mechanisms for sustained activities..

Potential for scaling up

The project is based on a scaling up approach. The interventions identified in component 4 will be designed to be replicated in the basin and hence inform basin level planning priorities determined in component 3. Moreover, proven methods experienced in some locations will be shared between the countries to enhance uptake by other areas to promote fast-tracking of actions. These will be further prioritized during the PPG phase. Moreover, by improving national and regional institutional and technical capacity for IWRM, developing a SAP from a programmatic perspective which will identify a multisector investment portfolio to be delivered through national sectorial master plans in the three countries and, through the inclusion of new innovative financing mechanisms such as a project preparation facilitation facility, fiscal incentives for sustainable projects, or green-resilience bonds, the project will increase the appeal for private funding and blended finance for the Pantanal. The area has a great potential for investments and there is a high appetite to invest from both public and private sectors (agri-business, tourism, energy, amongst others), but currently there is not enough information nor a well-defined investment portfolio in the Pantanal to support such investment potentials. The project will improve this baseline and will facilitate the enabling conditions to catalyse sustainable investments in the system.

In addition, the IDB will engage with its private branch, IBD Invest, IDB Lab (a specific unit within the Bank dedicated to identify and promote innovative financing instruments with a focus on microbusiness and medium size entrepreneurship) and its PPT Operational Unit for the design of innovative financing mechanisms within the SAP development, mobilizing IDB resources for technical assistance that could be utilized for the design and development of specific and suited instruments for the Pantanal including the design of a Private-Public investment portfolio. Resources from the Biodiversity Lab of the IDB can be also mobilized for the identification and design of specific instruments for green finance and the promotion of ecosystem services based investments and green infrastructure.

Finally, as part of its Water Funds Program under the LAWFP, the IDB is supporting currently a UNEP GEF funded project in the Trifinio system for the design of the first transboundary Water Fund. This can also be explored within the project for the Pantanal along with other financial related mechanisms as Water Markets.

[1] Embrapa (2009) Quanto Vale o Pantanal? A Valoração Ambiental Aplicada ao Bioma Pantanal, Doc 105, Dec 2009.

[2] Roque et al. (2016) Upland habitat loss as a threat to Pantanal Wetlands, Conservation Biology, vol 30. No 5, 1131-1134.

[3] Overbeck et al. (2015) Conservation in Brazil needs to include non-forest ecosystems, Diversity of Distributions, vol 21, 12, 1455-1460.

[4] Roque et al. (2016) Upland habitat loss as a threat to Pantanal Wetlands, Conservation Biology, vol 30. No 5, 1131-1134.

[5] Vieira *et al* (2004) Níveis de mercúrio total na carne de peixes como indicadores de contaminação em sistemas aquáticos do Pantanal, IV Simpósio sobre Recursos naturais e Sócio-econômicos do Pantanal Corumbá MS, 23-26 Nov 2004.

[6] <https://www.unenvironment.org/explore-topics/oceans-seas/what-we-do/addressing-land-based-pollution/global-partnership-nutrient>

[7] <http://www.geftwap.org/>

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

The project will take place in the Pantanal-Upper Paraguay Basin. As defined by the La Plata SAP, it includes the Paraguay River and all its tributaries upstream of, and including, the confluence of the Apa River with the Paraguay River. The geographic boundaries of the project area are between longitudes 53°W and 65°W and latitudes 13°S and 22°S.



MAP IS EXCERPT FROM LA PLATA TDA (2016)

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities Yes

Civil Society Organizations Yes

Private Sector Entities

If none of the above, please explain why:

In Paraguay, preliminary development of this project has involved local municipalities, non-governmental organizations, such as WWF, Pro Indigenous Communities (PCI), Guyra Paraguay, specialist consultants in water and conservation, among others.

Moreover, this PIF has been informed by the GEF project “Integrated Management in the Pantanal and Upper Paraguay River Basin” for Brazil that was approved in 2004, as well as Brazil’s “Water Resources Plan of the Paraguay Water Resources Region” approved in March 2018. During both these processes a significant number of public, private (including farmers, fishers and industry representatives) and other social/non-governmental organizations and institutions were consulted. Stakeholders listed in the below section are expected to be consulted with during the project.

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

The project will develop a **stakeholder engagement and communication plan** to be implemented during the course of the project. It will identify the key stakeholders and how they will be involved in the project. It is intended that stakeholders in all three countries will be consulted during the PPG phase to ensure adequate input into the project design which will be led by the national authorities.

In addition to national level and state level authorities, it is intended that many of the stakeholders involved with the development of the GEF project “Integrated Management in the Pantanal and Upper Paraguay River Basin” for Brazil approved in 2004, and Brazil’s “Water Resources Plan of the Paraguay Water Resources Region” approved in March 2018 as well as additional stakeholders in Bolivia and Paraguay will be consulted during the PPG phase as well as included in the implementation of the project. This would include the private sector, in particular the agricultural sector, as well as tourism and possibly the energy sector. The project is not directly targeting indigenous peoples, the educational and cultural activities included in Component 5 will however, benefit indigenous and traditional communities in the Pantanal region. Specific locations for the project interventions will be defined during the PPG phase and will help better identify stakeholders at the local level.

In **Bolivia**, the key stakeholders include, amongst others:

- Ministry of Environment. Ministerio de Medio Ambiente y Agua –MMAyA: (Viceministerio de Recursos Hídricos y Riego, Viceministerio de Agua Potable y Saneamiento Básico; Viceministerio de Medio Ambiente, Biodiversidad, Cambios Climáticos y de Gestión y Desarrollo Forestal)

- Ministry of Planning and Development. Ministerio de Planificación del Desarrollo – MPD (Viceministerio de Planificación y Coordinación; Viceministerio de Inversión Pública y Financiamiento Externo);
- National Protection Areas Service. Servicio Nacional de Áreas Protegidas
- Ministry of Foreign Affairs. Ministerio de Relaciones Exteriores –MRE(Dirección de Límites, Fronteras y Aguas Internacionales Transfronterizas)
- Ministry of Rural Development and Lands. Ministerio de Desarrollo Rural y Tierras (Viceministerio de Desarrollo Rural y Agropecuario; Instituto Nacional de Innovación Agropecuaria y Forestal (INIAF))
- Autoridad de Fiscalización y Control Social de Bosques y Tierras (ABT)
- State level Government of Santa Cruz. Gobierno Autónomo Departamental de Santa Cruz (State level Government)
- Municipal governments (Municipios San Matías; Roboré; Puerto Suarez; Puerto Quijarro; y Carmen Rivero Torrez)
- Universidad Autónoma Gabriel Rene Moreno
- Private sector: EPSAS / Cooperativas del agua (Water Cooperatives)
- NGOs : Probioma, WWF, Sociedad Boliviana de Derecho Ambiental, Fundación para el Bosque Seco Chiquitano
- Civil society NGOs: Comités cívicos, organizaciones, comités de fiscalización
- International Cooperation Agencies: GIZ (Germany)

In **Brazil**, the key stakeholders include, amongst others:

- National Water Agency (ANA)
- Ministry of Environment
- Ministry of Integration Regional Development
- Ministry of Transport
- Ministry of Energy and Mines
- Secretary of State for the Environment of Mato Grosso
- Secretary of State for Environment, Economic Development, Production and Family Agriculture of Mato Grosso do Sul Institute of Environment for Mato Grosso do Sul
- Intermunicipal Consortium for the Sustainable Development of the Taquari River Basin
- Nascentes do Pantanal Consortium

- National Indian Foundation
- Águas Cuiabá
- Embrapa Pantanal
- Federation of Agriculture and Livestock of Mato Grosso & Mato Grosso do Sul
- Mato Grosso do Sul Professional Fishermen's Federation
- Indigenous peoples of the BAP
- Civil Society NGOs: ECOA, SOS Pantanal, Observatorio Pantanal, etc

In **Paraguay**, the key stakeholders include, amongst others:

- Ministry of Environment and Sustainable Development (Ministerio del Ambiente y Desarrollo Sostenible)
- Ministry of Foreign Affairs
- Ministry of Public Works and Communications (Ministerio de Obras Públicas y Comunicaciones, Dirección de Agua Potable y Saneamiento)
- Technical Secretariat of Planning
- National Service of Environmental Sanitation
- National Secretary for Tourism (Secretaria Nacional de Turismo SENATUR),
- Departamento Alto Paraguay, Municipalities of Chaco Central
- Pro Indigenous Communities (PCI)
- Civil society - Guyra Paraguay, WWF-Paraguay, Instituto de Derecho y Economía Ambiental (IDEA)

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

The project will promote gender equality and empowerment of women throughout the project development and execution phase and adhere the GEF's Gender Policy, IADB's and UNEP's Operational Policy on Gender Equity in Development and gender mainstreaming policy. Based on the GEF-6 Core Gender Indicators listed in the Gender Equality Action Plan

(https://www.thegef.org/sites/default/files/publications/GEF_GenderEquality_CRA_lo-res_0.pdf), the project will conduct a gender analysis during the project development phase and formulate a Gender Equity, and Mainstreaming Plan (output 5.3) for adoption during project execution. Improving gender equality and promoting the enhancement of socio-economic benefits for women is an important aspect of the proposal. In support of those objectives, the project's design will include specific measures to ensure the participation of women and that they are equal project beneficiaries (for example, that they have equal access to training programs on sustainable water use and land management)..During PPG, a gender responsive results framework will be developed, which will include specific gender sensitive indicators that will be mainstreamed into project implementation and its monitoring, evaluation and reporting plan. The specific actions that will be undertaken have yet to be defined and will be included in the Stakeholder and Communication Plan, as well as in the Gender Equity and Mainstreaming Plan. However, from prior experiences, some of these actions are likely to encompass the following: (i) holding specific consultation meetings with women to ensure that their feedback is captured in the design of the project; (ii) tailoring communication efforts to ensure that messages reach women; and (iii) including indicators to measure improvements in gender equity through their access to project benefits, among others. The project will incorporate women's empowerment issues and assess progress on gender equality in the project monitoring framework. The project will benefit from lessons and guidance from the WWAP Gender and Water Toolkit (www.unesco.org/new/en/natural-sciences/environment/water/wwap/water-and-gender/) developed under IW:LEARN.

Moreover, the Gender Equity and Mainstreaming Plan will also be informed by and compatible with national and agency level policies, including the objectives of ANA's Gender Pro-equity Committee - CPEG was established in 2016 in accordance with Ordinance No. 326/2016. The objectives of CPEG are to monitor and advance the mainstreaming of gender issues and equity within the agency, and with all agency projects and activities.

Additionally, several of the ongoing projects that this project will link with work directly with empowering women, such as the "Strengthening of Professional Opportunities for Indigenous Youth and Women and Farmers in the Carmelo Peralta District" in Paraguay and the "Regional Model for Participatory Sustainable Development (including climate sensitive) in the interconnected areas of the Cerrado, Pantanal y Chiquitano de Bolivia, Brasil, y Paraguay ". Both projects will help to inform and enhance the role of women within the projects, but with the assistance of this GEF project be able to bring their results and knowledge to wider audience in the Basin.

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes

closing gender gaps in access to and control over natural resources; Yes

improving women's participation and decision-making; and/or Yes

generating socio-economic benefits or services for women. Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

The private sector is one of the main drivers of change in the basin, as well as benefactors of ecosystem services. The private sector is involved with: sanitation, agriculture and livestock, industry, hydroelectricity, waterways, fishing, tourism and leisure. The project will emphasize involvement of the private sector in the following key ways:

- (i) In implementing land management practices for the reduction of non-point source of pollution and sedimentation (Output 4.1), the project will work with industrial agriculture and subsistence farmers at the local levels. It is anticipated that their inputs will help inform the policies and recommendations resulting in the basin wide proposal for land management to reduce threats (Output 3.2).
- (ii) In identification and testing innovative approaches for water use permits to sewage discharge (Output 4.5) the private sector will be consulted and involved in implementing pilot tests.
- (iii) Under Output 5.2 targeted training will be given to utilities and industry, amongst others, particularly with respect to mining and industrial discharges, but also to the agricultural sector which will be involved in helping to develop some of the awareness tools (Output 5.1)
- (iv) In testing innovative financing mechanisms (Output 4.6) the private sector will participate in their design and implementation. This will be particularly important as there is a need to determine effective incentive mechanisms for the private sector.

5. Risks

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

The table below shows the Risk Matrix (at eligibility stage) for the project. Following the table, we provide the Environmental and Social (E&S) Safeguard Screening Form and E&S Safeguard Policy Filter Report for the project, prepared in accordance with IADB's E&S requirements and procedures for technical cooperation projects at the eligibility stage.

	Risk	Level of Risk	Mitigating Action
1	Low level of environmental awareness in the basin	Medium	The project will promote the participation of stakeholders through cultural and educational activities and improve environmental communication with communities in the basin
2	Insufficient financial commitment	Low to Medium	The project will prepare and adopt a financial strategy at the beginning of implementation involving both national resources and international financing.
3	Technical capacity of federal state and state water resources management bodies cannot assume the commitments of time and staff, or use technology once transferred.	Medium	Capacity development is anticipated in elaborating the project (Component 2, 3, 5 - and sustainable financing for on going work is addressed in 3.4). The agencies will be engaged in the PPG process and any issues around capacity will be addressed.
4	Many different/divergent stakeholder interests in target sites may prevent efficient consensual decision-making and hinder project execution, particularly with respect component 4.	Low	Identification of the appropriate government agencies (particularly at the local level), implementing partners and project implementation arrangements prior to project inception.
5	Lack of community involvement in some project sites – particularly related to component 4	Medium	Assessment of available community workforce, and interest, engagement with key community members in target sites prior to project inception
6	Lack of agreement on the technical terms for data exchange, or developing a basin wide network, amongst others	Low to Medium	To create a technical network at the onset of the project to address data exchange mechanisms at an early stage and identify possible problems in creating regional databases and information systems. Use a third party if necessary for temporary period.
7	Climate change may undermine the intended impacts of the project	Low	The project focuses on developing coordinated management actions for water resources, which includes resiliency with respect to climate change.



Safeguard Screening Form

Operation Information

Operation		
RG-T3641 Transboundary Cooperation for Conservation, Sustainable Development and Integrated Management of the Pantanal and the Upper Paraguay River Basin		
Environmental and Social Impact Category	High Risk Rating	
C		
Country	Executing Agency	
REGIONAL	US-IDB - INTER-AMERICAN DEVELOPMENT BANK	
Organizational Unit	IDB Sector/Subsector	
Water & Sanitation	INTEGRAL MANAGEMENT OF WATER RESOURCES	
Team Leader	ESG Primary Team Member	
RAUL MUNOZ CASTILLO	IVAN MATIAS BESSERER RAYAS	
Type of Operation	Original IDB Amount	% Disbursed
Technical Cooperation	\$7,822,500	0.000 %
Assessment Date	Author	
20 Mar 2020	DENEAT Project Assistant	
Operation Cycle Stage	Completion Date	
ERM (Estimated)		

QRR (Estimated)	
Board Approval (Estimated)	
Safeguard Performance Rating	
Rationale	

Operation Classification Summary

Overriden Rating	Overriden Justification
Comments	



Safeguard Screening Form

Conditions / Recommendations

No environmental assessment studies or consultations are required for Category "C" operations.

Some Category "C" operations may require specific safeguard or monitoring requirements (Policy Directive B.3). Where relevant, these operations will establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.)

The Project Team must send the PP (or equivalent) containing the Environmental and Social

Strategy (the requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports.

Summary of Impacts / Risks and Potential Solutions

Disaster Risk Summary

Disaster Risk Level

Low

Disaster / Recommendations

No specific disaster risk management measures are required.

Disaster Summary

Details

The project is classified as low disaster risk because the occurrence of the hazard event does not impact in the achievement of project outcomes.

Actions

Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.



Safeguard Policy Filter Report

Operation Information

Operation		
RG-T3641 Transboundary Cooperation for Conservation, Sustainable Development and Integrated Management of the Pantanal and the Upper Paraguay River Basin		
Environmental and Social Impact Category	High Risk Rating	
C		
Country	Executing Agency	
REGIONAL	US-IDB - INTER-AMERICAN DEVELOPMENT BANK	
Organizational Unit	IDB Sector/Subsector	
Water & Sanitation	INTEGRAL MANAGEMENT OF WATER RESOURCES	
Team Leader	ESG Primary Team Member	
RAUL MUNOZ CASTILLO	IVAN MATIAS BESSERER RAYAS	
Type of Operation	Original IDB Amount	% Disbursed
Technical Cooperation	\$7,822,500	0.000 %
Assessment Date	Author	
20 Mar 2020	DENEAT Project Assistant	
Operation Cycle Stage	Completion Date	
FRM (Estimated)		

QRR (Estimated)	
Board Approval (Estimated)	
Safeguard Performance Rating	
Rationale	

Potential Safeguard Policy Items

[No potential issues identified]



Safeguard Policy Filter Report

Safeguard Policy Items Identified

B.1 Bank Policies (Access to Information Policy– OP-102)

The Bank will make the relevant project documents available to the public.

B.1 Bank Policies (Disaster Risk Management Policy– OP-704)

The operation is in a geographical area exposed to [natural hazards \(Type 1 Disaster Risk Scenario\)](#). Climate change may increase the frequency and/or intensity of some hazards.

B.1 Bank Policies (Disaster Risk Management Policy– OP-704)

The sector of the operation is vulnerable to natural hazards. Climate change may increase the frequency and/or intensity of some hazards.

B.1 Bank Policies (Disaster Risk Management Policy– OP-704)

The operation includes activities related to climate change adaptation, but these are not the primary objective of the operation.

B.1 Bank Policies (Gender Equality Policy– OP-761)

The operation will offer opportunities to promote [gender equality](#) or [women's empowerment](#).

B.1 Bank Policies (Indigenous People Policy– OP-765)

The operation will offer opportunities for indigenous people

B.2 Country Laws and Regulations

The operation is expected to be in compliance with laws and regulations of the country regarding specific women's rights, the environment, gender and indigenous peoples (including national obligations established under ratified multilateral environmental agreements).

B.6 Consultations

Consultations with affected parties will be performed equitably and inclusively with the views of all stakeholders taken into account, including in particular: (a) equal participation by women and men, (b) socio-culturally appropriate participation of indigenous peoples and (c) mechanisms for equitable participation by vulnerable groups.

B.7 Supervision and Compliance

The Bank is expected to monitor the executing agency/borrower's compliance with all safeguard requirements stipulated in the loan agreement and project operating or credit regulations.

B.15. Co-financing Operations

The operation or any of its components is being co-financed.

Recommended Actions



Safeguard Policy Filter Report

Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.

Additional Comments

[No additional comments]

The UNEP risk matrix "Environmental, Social and Economic Review Note (ESERN)", is inserted in the roadmap section as an attachment

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

The project will be implemented jointly by the IDB and UNEP to provide oversight and compliance with GEF policies and procedures.

It is believed that a partnership between IDB and UNEP is very well suited to address the challenges associated with the advancing cooperation and coordinated management in the Pantanal and Upper Paraguay Basin. UNEP whose core mandate is the environment and supports normative work and transboundary cooperation and, IADB brings investment planning strengths and on-the-ground project development expertise. The collaboration will be able to oversee the formulation of a robust SAP grounded in sound science that includes a portfolio of prioritised bankable multisector investments for the region in alignment with national investment plans and priorities. The resulting prioritized investments could be funded by IADB blended with other financing sources, including other MDBs, bilateral cooperation or private sector investments. In order to optimise the impact of the SAP and fast-track investments such partnership is needed at the SAP formulation stage. Engagement with IFIs once the SAP is formulated while much less efficient will also cause delays in investments. Moreover, UNEP has experience at the regional and transboundary level and is strongly linked to environmental agencies in the countries. This is complimented by the IDB which has strong connection with multiple agencies at the national level through its different investment sectors. Such an approach would also facilitate strong connection to countries respective ministries/authorities in charge of environment including water management as well as ministries of economy and finance whereby leveraging more sustainable inter-ministerial coordination opportunities.

UNEP and IDB have had a historical relationship initiated on wastewater management through the CREW and now feel confident to support watershed management promoting a novel and more sustainable approach to the traditional TDA/SAP process offering a fast track to investments. They are also partnering in the UNEP GEF funded project promoting design of the first ever transboundary Water Fund in the Trifinio Basin.

In this context, the two agencies will work collaboratively. While during project preparation phase, the distribution of tasks and responsibilities within and across components will be further defined, it is anticipated that IADB would lead with the support of UNEP on Component 3 (SAP formulation for sustainable planning and investment) and Component 4 with the demonstration activities to ensure that the economic dimension is well captured. Whereas UNEP would mostly lead with inputs from IDB on Component 1 to support transboundary cooperation and Component 2 supporting the scientific assessment and analysis as the basis for the SAP and its investment portfolio ("science for investments"). Component 5 and PMC are essentially cross cutting supporting awareness raising and stakeholder involvement and, project management.

The final choice of the regional entity in charge of coordinating project execution will be decided during PPG in consultation with the 3 countries. Neither IDB nor UNEP is intended to act as an executing agency in this project. During PIF formulation, the countries explored different options and criteria for the executing agency were developed including *inter alia* i) their presence in the region, ii) experience in managing multi-country projects, iii) GEF project experience, iv) fiduciary standards and procurement policies, and v) overhead cost. A Project Coordination Unit will manage day-to-day project execution. The Project will also establish a Steering Committee which will be composed of, amongst others, UNEP, IDB, the executing agency, national line agencies, and any relevant stakeholders as determined during the PPG.

A Monitoring and Evaluation (M&E) Plan will be developed during the PPG phase in accordance with GEF standards and will include amongst others: PIR, annual reports, a Mid-term Review and Final Evaluation. The Project Steering Committee will meet, at least annually, to provide guidance and ensure project compliance with the Project Document developed in the PPG.

National level coordination will be achieved through technical level representation in relevant agencies.

Strong linkages with the below listed projects will be secured during PPG:

GEF Projects:

- “Water Funds: A Conservation Climate Resilient Model for Stressed Watersheds in Latin America and the Caribbean “(GEF ID: 10048) is developing water fund mechanisms for five Latin American cities by connecting water users in urban areas with upper watershed land stewards that produce important hydrologic benefits through healthy watersheds. There is potential for learning exchange from examples of innovative funding, particularly related to outcome 4.2.
- “Preparing the Ground for the Implementation of the La Plata Basin Strategic Action Program” (GEF ID: 10038) – The project will set the scene for the implementation of the priority national and regional actions identified in the Strategic Action Program (SAP), agreed upon by the countries sharing the La Plata Basin and aimed at improving water security, climate resilience and ecosystem health; it will do so by fostering the consolidation of regional cooperation, the alignment of national and regional priorities, and by promoting the integration across sectors and funding sources. This project is complementary in that it will focus on the Pantanal - Upper Paraguay Basin, which is a sub-basin of the La Plata system and will be fostering regional cooperation.
- “Implementation of the Strategic Action Programme to Ensure Integrated and Sustainable Management of the Transboundary Water Resources of the Amazon River Basin Considering Climate Variability and Change” (GEF ID: 9770) has just been launched (February 2020). The countries of the Amazon Basin, including Brazil and Bolivia, have already gone through the process of developing a TDA, SAP and establishing a joint environmental monitoring system. These are all key activities within this project and lessons learned which can be transferred.
- “Taking Deforestation Out of the Soy Supply Chain” (GEF ID: 9617) is dedicated to reduce the threat to biodiversity that the advancing agricultural frontier is posing in the Matopiba region, through a supply chain approach that solves the underlying root causes of deforestation from soy. The lessons learned will be important to understand when developing actions for sedimentation control in Outputs 3.2 and piloting interventions in 4.1.
- “Realizing the Biodiversity Conservation Potential of Private Lands” (GEF ID: 9413) has the objective of promoting sustainable land management and contribute to biodiversity conservation and ecosystem services provision in private lands. The lessons learned will be applicable towards working with the private sector in the cerrado to address water efficiency and sediment control.
- “Innovative Use of a Voluntary Payment for Environmental Services Scheme to Avoid and Reduce GHG Emissions and Enhance Carbon Stocks in the Highly Threatened Dry Chaco Forest Complex in Western Paraguay” (GEF ID: 5668) is helping to promote conservation through sustainable management and land use in the Chaco area. It is being implemented by Guyra Paraguay and the Secretariat of the Environment (Ministerio del Ambiente y Desarrollo Sostenible), both of whom will be involved in this project. The lessons learned will be helpful in identifying best practices for water use efficiency and preserving forest cover in the cerrado and plateau of the Pantanal.
- “Strengthening the integral and sustainable management of biodiversity and forests by indigenous peoples and local communities in fragile ecosystems of the dry forests of the Bolivia Chaco” (GEF ID: 10393) has just been approved by the GEF secretariat. Linkages will be established with this project in relation to developing land and water management best practices to reduce sediment loading. The project is being executed by the Ministry of Environment and Water which the key national agency in this project.

- “Food Systems, Land Use and Restoration (FOLUR)” Impact Program Addendum (GEF ID: 10397). Within the impact programme, there is a specific project dealing with sustainable commodities production (deforestation free), land use and restoration in Paraguay which is currently under formulation and likely to work in Fuerte Olimpo and Bahia Negra developing local land use plans which might prove a useful input to the proposed Pantanal project.

Other projects which will be contacted in relation to this project include, amongst others:

- The Sustainable Forest Landscapes of the Chiquitano and Cerrado (Paisajes Sostenibles en el Bosque Chiquitano Cerrado y Pantanal) (Brasil, Bolivia y Paraguay). Funded by the European Union (B4Life) and implemented by WWF, this project works to consolidate protected areas, advance economic activities within ecosystems and improve governance structures for protected area management across Paraguay, Bolivia and Brazil. The goals of the project are in direct alignment with the goals of sustainable land management for improving water resources in the cerrado. The project is being implemented between 2020 and 2021. There will be the opportunity to glean input from the project in the proposal development phase and build upon their successes and experiences during implementation phase.
- The Pantanal-Chaco project is being executed by WWF Paraguay and involves strengthening institutions and promoting public participation in policy development for sustainable land management. The project began in 2016 and will end this year, however, their experience will be valuable during the PPG phase as well as building upon their experience in the implementation phase and expanding their work to include water resources management considerations. This is particularly important with respect to the Pantanal-Chaco which is project is being followed up by the Cerrado Project (2020-2025) to conduct a similar exercise in the cerrado forests.
- The project SuLu is executed in conjunction with WWF-Germany to monitor land use changes, planning, and capacity development in local communities in the Pantanal region. While the project is ending this year it will provide valuable information for the PPG phase of this project.
- The strengthening of professionals for indigenous youth and women in Distrito Camelo Peralta project (2021-2025) empowers indigenous women and youth to participate more in civic affairs, decision making, and in providing opportunities for alternative income generation. It is funded through the European Union and executed through WWF Paraguay. The project will help inform methods of enhancing public participation in decision making and engaging civil society.
- WWF International project “Cerrado Pantanal: wetlands and forests to support our future” in Bolivia (2018-2021) has been engaging local communities in local sustainable land management practices.
- GIZ’s “Integrated management for reducing deforestation” is operating in the Chiquitanía, and focuses on strengthening forest management practices for soft wood. The project will run from 2019-2022 and there is a possibility to exchange experiences in working with local communities on land resource issues.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

- NATIONAL BIO STRATEGY ACTION PLAN (NBSAP)

- CBD NATIONAL REPOR.

- C T A P N R T

- N G O P N R T

- UNFCCC N C (NC)

- UNFCCC B U R (BUR)

- UNFCCC N D C

- UNFCCC T N A

- UNCCD R TING

- ASGM N A P (ASGM N AP)

- M I A (M I A)

- S N I P (NIP)

- S N I P U ☒

- N A P A U ☒

- O

The project is promoting cooperation and coordination of sustainable integrated development of water resources in the Pantanal – Upper Paraguay basin. As such it is in alignment regarding both international level and national level priorities.

International level

The project supports the principles of international law that regulates the uses of international waters (including principles of use, equitable and reasonable participation, obligation not to cause significant damage, cooperation and regular exchange of information) and the good practices set forth in the Treaty of the Plata Basin (1969). The Treaty of the Plata Basin has the following objectives: (i) the rational utilization of water resources, in particular by the regulation

of watercourses and their multipurpose and equitable development, (ii) the conservation of animal and plant life, and (iii) comprehensive knowledge of the River Plata Basin, amongst others.

The project is aligned with the objectives of the Convention on Wetland of International Importance especially as Waterfowl Habitat (1971) that all countries are full parties to. The convention's objectives are the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world.

The project is also aligned with the March 2018 *Declaration for the Conservation, Integrated and Sustainable Development of the Pantanal* which supports the sustainable development of the Pantanal. The project also assists in the countries' commitments to the Sustainable Development Goals, in particular Goal 6, but also goals 2, 11, 13 and 15.

National level

Bolivia

- National Watershed Plan being implemented in alliance with partners like WWF, BID, GIZ, SERNAP to develop Basin Plans at a watershed level. (Plan Nacional de Cuencas). The NWP is an inter-institutional alliance network program that is being implemented to promote, facilitate and strengthening of different IWRM in Bolivian and transboundary basins. The framework will be delivered on the basis of social, local, participatory management of by different water uses, organizations and stakeholders of a basin or sub-basin, with emphasis on agricultural use, drinking water and sanitation, gradually addressing other water use sectors.
- Water and Sanitation Program was developed to enhance and assist smaller (populations of over 2000) and intermediate cities to develop master plans and investments for sanitation.
- The Law of the Rights of Mother Earth (Ley N° 300 de Derechos de la Madre Tierra) The purpose of this Law is to establish the vision and foundations of integral development in harmony and balance with Mother Earth for wellbeing, guaranteeing the continuity of the capacity for regeneration of the components and systems of life of Mother Earth, recovering and strengthening local knowledge and ancestral knowledge, within the framework of the complementarity of rights, obligations and duties; as well as the objectives of integral development as a means to achieve Living Well, the basis for planning, public management and investment and the strategic institutional framework for its implementation. This is supported by the Framework for Mother Earth and Integrated Development for Well being (Ley N° 071 Marco de la Madre Tierra y Desarrollo Integral para Vivir Bien).
- Patriotic Agenda for 2015 (Agenda Patriótica 2025) is based on 13 pillars to advance Bolivia's development. Pillar 9 is related to "environmental sovereignty with integrated development, respecting the Rights of Mother Earth" under Law 300. It is a national development agenda and guides all ministries in relation to their activities and policy development. The Patriotic Agenda 2025 constitutes the General Plan for Economic and Social Development of Bolivia, which informs the Economic and Social Development Plan (ESDP) within the framework of the Integral Development for Living Well 2016 - 2020. Within the framework of the Patriotic Agenda 2025, the ESPD establishes the general guidelines for the country's integral development with actions for public, private and community actors. The ESPD has specific goals to achieve under environment (Pillar 9) including (i) enhancing protection (Goal 4); (ii) developing sustainable productive areas (Goal 5); (iii) increasing forest cover (Goal 6), and (iv) integrated management of water resources and prevention of climate change risks (Goal 7), which includes integrated plans in at least 14 basins, with on-the-ground action in 225 micro-basins, and integrated management of 50% of Ramsar sites.

- Environmental Sector Plan for Integrated Development (Plan Sectorial de Desarrollo Integral del sector medio ambiente) is the guiding planning document for the Ministry of Environment and Water, including all its vice-ministries and departments. In particular, the vice ministry of Drinking Water and Basic Sanitation has the role of planning for the provision of water and sanitation and implementing specific programs such as the Water and Sanitation Program.
- Planes Territoriales de Desarrollo Integral

Brazil

- Brazil's Law no. 9,433/1997, which established the Brazilian Water Resources Policy and created the Brazilian Water Resources Management System (SINGREH), provides for water resource planning for water resources region, per state, and for the country.
- Brazil's National Water Resources Plan (2006) provides for implementation of integrated water resource policy within water regions and states.
- The Paraguay Region's Water Resources Plan (PRH-Paraguay) was approved by CNRH in March 2018 defined future scenarios; identified critical areas and proposed guidelines for management instruments; established goals and targets; laid down short, medium and long-term actions; and presented the related costs. Therefore, it consists of a long-term strategic planning tool for adequate water management in the Brazilian portion of the Upper Paraguay Basin.
- The Watershed Revitalization National Program is being developed by the Ministry of Regional Development. The Program to that aims the preservation, conservation and recovery of rivers, through the implementation of a set of integrated environmental interventions to improve the availability of water in quantity and quality for the various purposes, having the basin as planning and management unit.

Paraguay

- Water Law (Ley 3239/07 de Recursos Hídricos) promotes the sustainable and integrated use of water resources and places the watershed as a management and planning unit (Ley 376/12). It also promotes the establishments of basin management units, and the inclusion of stakeholders and the private sector in advancing the objectives of water management. In alignment, is the law to re-establish forests protecting watercourses (Ley N° 4.241/10 - Ley de restablecimiento de bosques protectores de cauces hídricos dentro del territorio nacional) which acknowledges the role of forest cover in helping to attenuate floods, reduce sediment loading and dissipate non-point source pollution.
- National Action Plan for Potable Water and Sanitation.
- Wildlife Law (Ley 96/92 de Vida Silvestre) promotes the delimitation of critical areas, creation of temporary restrictions for land use or economic activities, ensures the participation of those affected, awareness building and educational programs, amongst others.
- Protected Areas Law (Ley 352/94 de Áreas Silvestres Protegidas) establishes general norms for management and administration of the National System of Protected Wildlife Areas (SINASIP) including development of management plans.
- Fish and Agriculture Law (Ley 3556/08 de Pesca y Acuicultura)
- Impact Assessment Law (Ley 294/93 de Evaluación de Impacto Ambiental)
- Ecosystems Services Law (Ley 3001/06 de Servicios Ambientales)

- Decree 1478 – Expansion of Rio Negro National Park (Decreto N° 1478). Developed in 2004 this decree aims to protect and conserve a portion of the Pantanal ecosystem, which is home to a group of forests, floodplains and flooded and inundated savannas. It is home to endemic species of fauna and flora in conservation categories such as the otter (*Pteronura brasiliensis*), a rare species with a very restricted distribution. The declaration recognises that the Pantanal constitutes an ecoregion of regional and global importance, and that the areas adjacent to the Rio Negro appear to be the only representation of this ecoregion in Paraguay. That among the environmental services that the area offers is that of mitigating effects of desertification that can be accelerated by anthropogenic action and the consequent wind erosion that can affect livestock production and agricultural ecosystems. It acknowledges that the importance of working with neighboring countries, and that there are conservation initiatives bordering the area of Rio Negro, such as of the neighboring countries, through the Oturis National Park in the Republic of Bolivia (1,200,000 hectares) and the Navileque in the Federative Republic of Brazil, (500,000 hectares).
- Decree 13.202 – Biosphere Reserve for the Chaco (Decreto N° 13.202) declares the "Chaco Biosphere Reserve" as a Protected Wildlife Area. The objective of the Reserve is to contribute to the long-term maintenance of the ecosystems of the Chaco and Chaco-Pantanal, ensuring the fulfillment of the functions of a Biosphere Reserve, which are constituted by the conservation of biodiversity, sustainable development and logistical support for research, monitoring, education, etc.
- Ratification of the Ramsar Convention (Law 350/93). This law outlines the internal processes needed for application of regulations to adhere to the Ramsar Convention.
- National Climate Change Law (N° 5875).
- Law 3465 Approving the Cooperation Agreement between Paraguay and Brazil for the Sustainable Development and Integrated Management of the Apa River Basin.

8. Knowledge Management

Outline the Knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

Component 5 of the project is devoted to knowledge management, involving exchanging and learning at a local, national, regional and global level. Activities at the local, national and regional level focus on awareness raising and capacity building through outputs 5.1-5.4. In particular, awareness building tools will be developed (Output 5.4) for enhancing both a broad range of stakeholders, such as the general public and students, as well as targeted audiences such as the agricultural sector, and municipal utilities. Links will be made with Wetlands International's Brazil / Argentina office to exchange knowledge tools and potentially benefit from their support for some of the local events. They have a specific program "Programma Corredor Azul Pantanal" which works to link education and protection of wetlands across the Pantanal, Esteros de Iberá and the Paraná Delta wetlands.

Exchange and learning will occur at a regional and global level primarily using IW:LEARN as a platform for information exchange through its conferences and education platforms. In addition, the project's web site will serve as a workspace to be shared by experts and stakeholders involved in the project. The project will connect with other global knowledge centres working on wetlands, such as RAMSAR, UNESCO, IUCN, WWF and CI amongst others.

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Alfredy Alvarez Saavedra	Vice Minister of Environment, Biodiversity, Climate Change, and Management of Forests	MINISTRY OF ENVIRONMENT AND WATER	3/16/2020
Marcus Cesar Ribeiro Barretto	General Coordinator for External Financing	MINISTRY OF ECONOMY	3/12/2020
Graciela Soledad Miret Martinez	Strategic Planning Director	MINISTRY OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT	3/19/2020

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

The geographic boundaries of the project area are between longitudes 53°W and 65°W and latitudes 13°S and 22°S.

