



Binational and integrated water resources management in the Mer?n Lagoon Basin and Coastal Lagoons

Part I: Project Information

GEF ID

10550

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

CBIT **No**

NGI **No**

Project Title

Binational and integrated water resources management in the Mer?n Lagoon Basin and Coastal Lagoons

Countries

Regional, Brazil, Uruguay

Agency(ies)

FAO

Other Executing Partner(s)

National Water Directorate (DINAGUA; Uruguay); Agency for the Development of the Lagoon Mer?n Bay (ALM; Brazil)

Executing Partner Type

Government

GEF Focal Area

International Waters

Taxonomy

Sustainable Agriculture, Sustainable Land Management, Land Degradation, Focal Areas, Improved Soil and Water Management Techniques, Sustainable Pasture Management, Lake Basin, Freshwater, International

Waters, River Basin, Nutrient pollution from all sectors except wastewater, Pollution, Persistent toxic substances, Nutrient pollution from Wastewater, Strategic Action Plan Implementation, Fisheries, Transboundary Diagnostic Analysis and Strategic Action Plan Preparation, Terrestrial Protected Areas, Protected Areas and Landscapes, Biodiversity, Wetlands, Biomes, Lakes, Grasslands, Rivers, Mainstreaming, Agriculture and agrobiodiversity, Tourism, Climate information, Climate Change Adaptation, Climate Change, Climate resilience, Enabling Activities, United Nations Framework Convention on Climate Change, Agriculture, Forestry, and Other Land Use, Climate Change Mitigation, Strengthen institutional capacity and decision-making, Influencing models, Demonstrate innovative approach, Behavior change, Communications, Stakeholders, Public Campaigns, Education, Awareness Raising, Beneficiaries, Consultation, Type of Engagement, Participation, Community Based Organization, Civil Society, Academia, Trade Unions and Workers Unions, Non-Governmental Organization, Local Communities, Sex-disaggregated indicators, Gender Mainstreaming, Gender Equality, Capacity Development, Gender results areas, Participation and leadership, Access to benefits and services, Knowledge Generation and Exchange, Capacity, Knowledge and Research, Innovation, Knowledge Generation, Learning, Knowledge Exchange

Sector

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 1

Submission Date

12/2/2021

Expected Implementation Start

4/1/2022

Expected Completion Date

4/1/2027

Duration

60In Months

Agency Fee(\$)

460,750.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
IW-3-6	Enhance water security in freshwater ecosystems	GET	4,850,000.00	40,859,856.00
Total Project Cost(\$)			4,850,000.00	40,859,856.00

B. Project description summary

Project Objective

Project Objective: To strengthen public and private sector capacities in Brazil and Uruguay for joint and integrated water resource management (IWRM) in the Mer?n Lagoon Basin, with emphasis on the sustainable and efficient use of water, preservation of ecosystems and their services, and adaptation to climate change, through the development of a Transboundary Diagnostic Analysis and Strategic Action Programme

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
1. Transboundary Diagnostic Analysis (TDA) of the Mer?n Lagoon Basin		1.1. Main transboundary environmental problems, causes, drivers and impacts, identified and agreed upon by both countries in the Mer?n Lagoon Basin and on the Yaguaron River , through a Transboundary Diagnostic Analysis	1.1.1 Environmental, social (gender, ethnicity and youth), economic and governance assessment, including ecosystem services valuation 1.1.2. Transboundary Diagnostic Analysis document based on collective and public consultation processes, and best available science and data.	GE T	695,768.00	8,487,799.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
2. Design of a Strategic Action Programme (SAP) for the Mer?n Lagoon Basin, and consolidation of capacities for its application,	Technical Assistance	<p>2.1. Existing mechanisms and institutions for integrated management and coordination are strengthened to enable integrated, better coordinated and effective joint governance, cooperation and management of the Mer?n Lagoon Basin.</p> <p>IW indicator 7.2: Regional legal agreement ratified and RMI functional Baseline:3; Target:4[1]</p> <p>IW indicator 7.3: National /local reforms/policies implemented, supported by IMCs and supplemented by governance reforms at binational level. Baseline: 1; Target:4[2]</p> <p>[1] 3 = Regional legal agreement signed and Regional Management Institutions (RMI) in place; 4 = Regional legal agreement ratified and RMI functional</p> <p>[2] 1 = Neither national/local reforms nor inter-ministerial committess (IMCs); 4 = National/local reforms/policies implemented, supported by IMCs.</p> <p>2.2. Implementation of mechanisms and tools for supporting joint decisions</p>	<p>2.1.1. Action plan/roadmap for strengthening the legal and institutional basis for transboundary IWRM at all levels</p> <p>2.1.2. Planning instruments to implement priority normative frameworks and good governance principles</p> <p>2.1.3. Capacity strengthening programme developed for relevant stakeholders in national and regional governments and other relevant actors to plan and develop prioritized actions</p> <p>2.2.1. Decision-support system established based on information, planning analysis and participation</p> <p>2.2.2: Data exchange mechanism established and functioning, with agreed rules and procedures and a shared database.</p> <p>2.3.1. Multi-sectoral process for formulation and socialization of the SAP designed, agreed and implemented</p> <p>2.3.2 SAP developed and agreed among stakeholders and signed at ministerial level.</p> <p>2.3.3 Financial sustainability strategy and action plan for</p>	GE T	1,378,605.00	10,148,034.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
3. Tools and demonstrations to support implementation of IWRM	Technical Assistance	3.1. Integrated Water Resource Management tools established 3.2. Benefits of integrated basin management demonstrated as the first stage of SAP through the implementation of pilot projects	3.1.1. Joint monitoring program and system in place 3.1.2 Protected area monitoring system in place 3.2.1 Pilot(s) of sustainable approaches to production and natural resource management to address transboundary issues 3.2.2. Pilot of ecosystem-based approach to management and governance of integrated fisheries and tourism development, including community-based management plans	GET	1,748,270.00	19,294,231.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
4. Project Monitoring, Communication and Evaluation	Technical Assistance	<p>4.1. Relevant project stakeholders are aware of the benefits of the pilot projects and integrated basin management</p> <p>4.2. The project is subject to effective Results-Based Management (RBM)</p> <p>4.3 Knowledge shared between Brazil, Uruguay, other countries and GEF IW projects in partnership with IW-LEARN (at least 1% of GEF grant to support IWLEARN activities).</p> <p>IW indicator 7.4: Level of engagement in IW: Learn through participation and delivery of key products.</p> <p>Baseline: 1; Target: 4^[1]</p> <p>_____</p> <p>[1] 1 = No participation; 4 = As above, plus active participation of project staff and country representatives at International Waters conferences and the provision of spatial data and other data points via project website.</p>	<p>4.1.1. Communication, education and awareness plan</p> <p>4.2.1. Project monitoring and evaluation (M&E) programme is developed and implemented</p> <p>4.2.2: System for adaptive RBM of the project</p> <p>4.3.1 Website in line with IW-LEARN^[1] guidance updated, with integrated environmental and socio-economic information</p> <p>4.3.2 IW-LEARN training / twinning events with participation from officials of both governments</p> <p>4.3.3 Production of at least one experience note and one results note in IW-LEARN</p> <p>4.3.4. International Waters conferences attended by project staff and country representatives, and spatial data and other data points provided via project website</p> <p>_____</p> <p>[1] International Waters Learning Exchange & Resource Network (https://iwlearn.net/).</p>	GE T	796,405.00	984,133.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
				Sub Total (\$)	4,619,048.00	38,914,197.00
Project Management Cost (PMC)						
		GET	230,952.00		1,945,659.00	
		Sub Total(\$)	230,952.00		1,945,659.00	
		Total Project Cost(\$)	4,850,000.00		40,859,856.00	

Please provide justification

C. 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(\$)
Recipient Country Government	Programme for Biodiversity Conservation and Sustainable Development in the Eastern Wetlands (PROBIDES)	Public Investment	Investment mobilized	423,533.00
Recipient Country Government	Programme for Biodiversity Conservation and Sustainable Development in the Eastern Wetlands (PROBIDES)	In-kind	Recurrent expenditures	99,363.00
Recipient Country Government	National Institute of Agricultural Research (INIA)	Public Investment	Investment mobilized	595,509.00
Recipient Country Government	National Institute of Agricultural Research (INIA)	In-kind	Recurrent expenditures	680,176.00
Recipient Country Government	General Directorate of Rural Development (DGDR/UD)	In-kind	Recurrent expenditures	1,020,803.00
Recipient Country Government	General Directorate of Natural Resources (DGRN)	Public Investment	Investment mobilized	141,773.00
Recipient Country Government	General Directorate of Natural Resources (DGRN)	In-kind	Recurrent expenditures	1,198,741.00
Recipient Country Government	National Directorate of Aquatic Resources (DINARA)	In-kind	Recurrent expenditures	549,400.00
Recipient Country Government	National Directorate of Environmental Quality and Evaluation (DINACEA)	Public Investment	Investment mobilized	605,000.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	National Directorate of Environmental Quality and Evaluation (DINACEA)	In-kind	Recurrent expenditures	565,000.00
Recipient Country Government	National Water Directorate (DINAGUA)	Public Investment	Investment mobilized	2,392,904.00
Recipient Country Government	National Water Directorate (DINAGUA)	In-kind	Recurrent expenditures	2,586,108.00
Recipient Country Government	National Directorate of Territorial Planning (DINOT)	Public Investment	Investment mobilized	339,058.00
Recipient Country Government	National Directorate of Territorial Planning (DINOT)	In-kind	Recurrent expenditures	1,510,118.00
Recipient Country Government	University Centre for the Eastern Region (CURE)	In-kind	Recurrent expenditures	1,345,000.00
Recipient Country Government	University Centre for the Eastern Region (CURE)	Public Investment	Investment mobilized	955,000.00
Other	Universidad Federal de Pelotas (UFPEL)	Grant	Investment mobilized	50,000.00
Other	Universidad Federal de Pelotas (UFPEL)	Public Investment	Investment mobilized	2,000,000.00
Other	Universidad Federal de Pelotas (UFPEL)	In-kind	Recurrent expenditures	2,060,000.00
Recipient Country Government	National Water and Sanitation Agency (ANA)	In-kind	Recurrent expenditures	216,355.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Geological Service of Brazil (SGB/CPRM)	In-kind	Recurrent expenditures	256,672.00
Recipient Country Government	Ministry of Infrastructure (MINFRA)	Equity	Investment mobilized	5,858,230.00
Recipient Country Government	Ministry of Regional Development (MDR)	In-kind	Recurrent expenditures	129,033.00
Recipient Country Government	Ministry of Regional Development (MDR)	Public Investment	Investment mobilized	15,282,080.00
Total Co-Financing(\$)				40,859,856.00

Describe how any "Investment Mobilized" was identified

The investment mobilized is as follows: - Public investment by the Program of Biodiversity Conservation and Sustainable Development of the East Uruguay Wetlands (PROBIDES) in conservation and sustainable development in the Merin Lagoon Basin - Research and demonstration projects on environmentally sustainable and climate smart agriculture, by the National Institute of Agricultural Research (INIA) in Uruguay - Investment in sustainable management of natural resources by the General Directorate of Natural Resources (DGRN) - Public investment in the development of the SAP and in tools and demonstration activities in support of IWRM, by the National Directorate of Environmental Quality and Evaluation (DINACEA) in Uruguay - Public investment by the National Water Directorate (DINAGUA) in Uruguay, in the development of the SAP and in tools and demonstration activities in support of IWRM - Public investment by the National Directorate of Territorial Planning in Uruguay in strengthening technical capacities for monitoring soil cover, natural resources and territorial planning; the integration of sustainability and adaptation approaches into territorial planning, and joint investments with the University of the Republic of Uruguay. - Public investment by the University Centre for the Eastern Region (CURE) in projects and activities related to the development of research and extension into natural resource management, agriculture and livestock production, fisheries management and water quality management. - Public investment by the Federal University of Pelotas (UFPEl) in water resource management in the Merin Lagoon Basin. - Public investment by the Ministry of Infrastructure (MINFRA) in partnership with the private sector for private investment in the region - Support for Integrated Local Sustainable Development Projects, Urban Development, Water Supply and Sewage Management by the Ministry of Rural Development in Brazil

D. 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(\$)
FAO	GET	Regional	International Waters	International Waters	4,850,000	460,750	5,310,750.00
Total Grant Resources(\$)					4,850,000.00	460,750.00	5,310,750.00

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount (\$)

150,000

PPG Agency Fee (\$)

14,250

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	GET	Regional	International Waters	International Waters	150,000	14,250	164,250.00
Total Project Costs(\$)					150,000.00	14,250.00	164,250.00

Core Indicators

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	Merin	Merin		
Count	1	1	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)
Merin	2	1		<input type="checkbox"/>
Select SWE				

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)
Merin	4	3		<input type="checkbox"/>
Select SWE				

Indicator 7.3 Level of National/Local reforms and active participation of Inter-Ministerial 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)
Merin	4	1		<input type="checkbox"/>
Select SWE				

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)
Merin	3	1		
Select SWE				

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	2,000	2,000		
Male	2,000	2,000		
Total	4000	4000	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

Part II. Project Justification

1a. Project Description

II. 1a. 1) Project Description

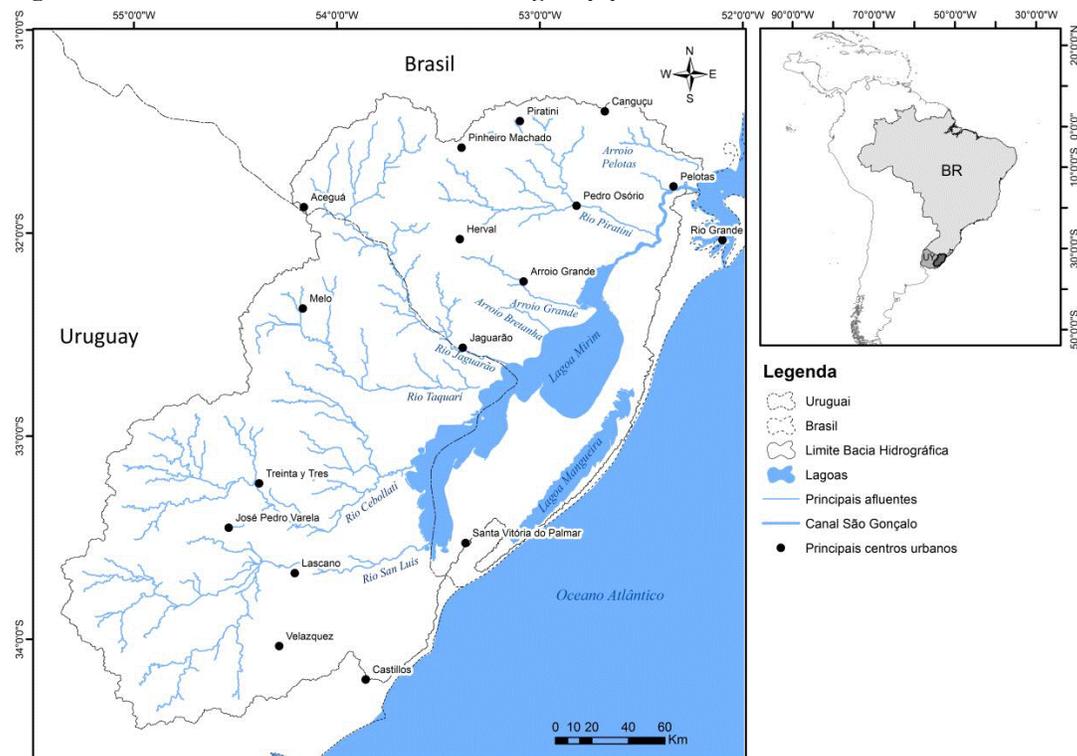
Context

General description of the basin of Mer?n Lagoon and Coastal Lagoons

1. The Binational Basin of Mer?n Lagoon[1]¹ (CBLM[2]²) is located in eastern Uruguay and southern Brazil, between 31? and 34?S and 51? and 55?W (Figure 1), and covers an estimated area of 62,250 km²

2.

Figure 1. **Binational Basin of the Mer?n Lagoon[3]³.**



3. Mer?n Lagoon and the surrounding wetland complex form one of the main transboundary watersheds in South America. With a biodiversity that includes a large number of endemic species of fauna and flora, this region has its value recognised as a UNESCO Biosphere Reserve (Mata Atl?ntica in Rio Grande do Sul on the Brazilian side and Ba?ados del Este on the Uruguayan side). In addition,

due to its large number of endemic, migratory and some endangered bird species, on the Uruguayan side the Baños del Este and Franja Costera Ramsar site was designated in 1984[4]⁴.

4. Merín Lagoon has an estimated area of 3,750 km². It is 185 km long and has an average width of 20 km. Together with the adjacent Laguna de los Patos and Mangueira, it forms the largest coastal lagoon complex in the world. Its importance as a freshwater reserve is fundamental for the economic and social development of the southern region of Rio Grande do Sul in Brazil and for the eastern region of Uruguay. It represents a valuable source of fishing resources for a large number of families who make a living from artisanal fishing, as well as supporting the agricultural livestock and forestry systems, both in Uruguayan and Brazilian territory, for example the extensive irrigated rice-livestock systems. This aspect also makes the region important from an economic point of view, as the rice activity drives the economic development of the region. It is also surrounded by wetlands of great importance to the ecosystem as a whole[5]⁵.

5. The results of the detailed characterisations of the biophysical, socioeconomic, institutional, policy and regulatory characterisations of the Basin, that were carried out during project formulation, are contained in the following annexes:

- Supplementary Annex 1: Hydrological, Physical and Biological Characterisation of the Basin
- Supplementary Annex 2: Demographic, Socioeconomic and Livelihood Conditions in the Basin
- Supplementary Annex 3: Institutional and Policy Frameworks for the Binational Management of the Basin
- Supplementary Annex 4: Environmental Monitoring

Global environmental problems and root causes

6. In the meeting of the **Regional Water Resources Council of Merín Lagoon Basin** on 20 February 2020, as part of the stakeholder consultation process during the PIF formulation process, participants prioritised the following environmental concerns in the CBLM (see Annex H.3.2 on Stakeholder Consultation during PPG):

? Sustainability of Water Quantity and Quality

- Imbalance between supply and demand during irrigation periods
- Process of deterioration of water resource quality and ecological integrity
- Impacts on stream morphology and alteration of the hydrological regime

? Water and Human Habitat

- Ineffective sanitation solutions
- Impacts of water runoff in cities

? Water and Associated Risks

- Impacts of extreme events, droughts and floods, in rural and urban areas.
- Potential risks associated with water infrastructure

7. In the **PPG Inception Workshop** in October 2020, with regard to the identification of environmental problems and pressures affecting water resources in the Basin, it was pointed out that in addition to the development of unsustainable production practices, economic activities in the area are highly dependent on water resources. The lack of wastewater treatment was also mentioned as a factor of pressure on water resources, while new infrastructure developments (waterway) are presented as a potential threat. Concerns about the consequences of these imbalances focused on aspects linked to water quality, the conservation of natural resources both for the protection of biodiversity and for the sustainability of food production and livelihoods, and the preservation of wetlands and protected areas. Specifically, the following concerns were mentioned:

- Specific productive practices that are carried out unsustainably.
-

- Increased occurrence of algal blooms in the body of the lagoon.
 - Productive economic activities highly dependent on water resources.
 - Life cycle of agrochemicals; waste/packaging management; illegal trafficking between countries.
 - Lack of studies to determine whether fishing is a major driver of pressure on ecosystems, as well as lack of information on fish populations and trends over time..
 - High anthropic influence as a consequence of the S?o Gon?alo canal lock and its impacts on ecosystems.
 - Lack of environmental information, and its integration, to determine what the environmental threats are.
 - Biodiversity, and presence of exotic species, and their interference in food chains).
 - Lack of sewage treatment.
 - New infrastructure developments can overwhelm equilibrium points in ecosystems .
8. These concerns coincided closely with the results of the technical studies carried out during PPG, which are set out below.

Imbalance of water supply and demand

9. The inflow of water from the tributaries of the Mer?n Lagoon (30,000 m³/s) is much higher than the outflow to the Patos Lagoon (4,000 m³/s), which determines that the lagoon acts as a large freshwater reservoir. However, given the connection with the Patos Lagoon and the flow reversals that occur in the S?o Gon?alo Canal (in low water and irrigation periods, coinciding with lower rainfall in the months of December and January), the flow contributed by the basin minus the flow from the intakes can reach zero or negative values. This situation can affect water quality, alter adjacent ecosystems and generate environmental risk and health effects. The main use of water in the Mer?n Lagoon Basin is for rice irrigation. A large part of the surface water for irrigation is taken directly from the watercourses and the Mer?n Lagoon, and from the dams built for this purpose. During the rice production period, which occurs from October to March, the highest water demand is combined with the lowest runoff, which can lead to problems of availability and compliance with environmental flows. In these months there is a great pressure on water resources due to the difference between water demand and the availability of the CBLM, causing a water imbalance in the region.

10. Studies carried out in Uruguay in similar basins show that afforestation has a downward impact on runoff, with a magnitude of up to 20% in relation to the same non-forested area in periods of low water and drought. In this study, it was also observed that the water replenishment of the groundwater table increased in the afforested basin. (FAO, 2018).

<i>Uruguay</i>	<i>Brazil</i>
<p>More than 95% of surface water concessions is for agricultural irrigation (mainly rice crops) in the Uruguayan territory. In rice production periods (October-March), when the specific demand flows could exceed flow during droughts, irrigation shifts are started. Water abstraction are limited to a specific value related to summer minimum flow.</p> <p>There has been a lack of water availability in the following rivers: Olimar, Cebollat?, Tacuar?. In addition, there are conflicts of use in the Tacuar? river due to irrigation intakes for crops; and problems of access to water in areas of low population density (DINAGUA, personal communication, 2019)</p>	<p>95.3% of water use in the basin is used for irrigation of rice crops (Governo do Estado de Rio Grande do Sul, 2018). Water availability in the region is considered average compared to other basins in the State, with the average annual flow in the basin being 395.91 m³.s⁻¹ with an average annual water demand of 77.17 m³.s⁻¹. The average summer flow is lower than the annual average 208.60 m³.s⁻¹, while the demand in this period triples (273.90 m³.s⁻¹), 133.32 m³.s⁻¹ of that demand is estimated to be due to irrigation of rice crops (ALM, 2021).</p>

Overexploitation of groundwater

11. Fresh groundwater reserves are of strategic importance in view of increasing climate variability, and for their roles in maintaining ecosystems and biodiversity. There is evidence of contamination of aquifers in the basin, which could affect the whole region. However, it is necessary to determine the origin of the pollutants, because they could be substances of natural origin. The transboundary Chuy aquifer is a shallow sandy aquifer unit, which is partly free and partly confined or semi-confined under clayey and silty-sandy deposits. In part of the basin these aquifers are the only significant source of urban and rural water supply, and for this reason their rational exploitation is essential for the area, both on the Uruguayan and Brazilian side. Recharge is exclusively through infiltration from rainfall and the water is generally of good chemical quality, except for some elevated nitrate contents in urban and peri-urban areas (Almagro and Custodio, 2004).

<i>Uruguay</i>	<i>Brazil</i>
The Litoraneo-Chuy transboundary aquifer is heavily exploited in La Paloma (Rocha) and other coastal resorts during the summer months, which could lead to overexploitation and water quality problems for water supply to the population, due to the high iron and chloride content (DINAGUA, pers. comm. 2019).	The Mangueira Lagoon, which has no tributaries or communication with the ocean, is fed only by rainfall and by the shallow aquifer that connects it with the Mer?n Lagoon, forming a single transboundary system. Discharge occurs through evaporation, groundwater flows to the sea, and intakes for irrigation. The water quality of the shallow aquifer is affected by the presence of nutrients and other elements from the Mer?n Lagoon Basin, which contributes to the contamination of the waters of the Mangueira Lagoon.

Potential agricultural effects

12. According to the Trophic State Index (TSI, linked to phosphorus concentrations), the Binational Basin of Mer?n Lagoon has trophic states ranging from mesotrophic (mainly in the tributaries of the basin located in Uruguayan territory) to super-eutrophic (points located in the lagoon, mainly in the eastern part of it), while the Water Quality Index (WQI) determines that the CBLM has a water quality between good and average. The high concentrations of nutrients present in Mer?n Lagoon may be due to the predominant agricultural activities in the area and, to a lesser extent, to occasional inputs from cities with or without basic treatment of their domestic waste, industries, dairy farms and feedlot farms (DINAMA, 2021; ALM, 2021). In addition, linked to the high nutrient content, potentially toxic cyanobacteria (with potential risk for bathers or direct animal watering) have been recorded in Mer?n Lagoon (in both countries), which leads to ecosystem degradation and difficulties for drinking water treatment.

13. The concentration of wetlands most threatened by diffuse pollution occurs in the western coastal strip of Mer?n Lagoon, up to 50 km from the lagoon margin. The widest strip is found in Uruguayan territory, while in Brazil this strip is narrower, occupying about 30 km, on the same margin. To the north, on the banks of the Canal de S?o Gon?alo, a plain of marshes is formed from the end of the Mer?n Lagoon to the Laguna dos Patos, with an approximate extension of 50 km in a straight line.

14. The Litoraneo-Chuy transboundary aquifer system may have water quality problems for water supply to populations, due to high iron and chloride contents (DINAGUA, personal communication, 2019).

15. Water pollution from agrochemical use also poses a threat to fisheries resources. Pesticides applied in rice fields can enter surface water bodies through runoff and discharges. The accumulation of their residues can have short-, medium- and long-term consequences on aquatic organisms and can enter food webs[6]⁶. However, the monitoring of pesticides in water by DINAMA or the accumulation of pesticides in fish carried out by INIA, have not generated alarms due to high concentrations. The persistence and threats they pose are a matter of debate. On the one hand, researchers claim that some of the agrochemicals widely used in rice production represent a potential threat to aquatic

organisms[7]⁷. On the other hand, agricultural research claims that the risks are manageable, and that for their dissipation and degradation at least to levels below the maximum admissible for surface waters[8]⁸. However, insecticides, herbicides, and molluscicides used in rice fields are acutely toxic to fish when they are directly exposed to them, even at doses recommended for agricultural management; the recommended rates are markedly higher than what would be considered safe use[9]⁹. In fact, the ecotoxicity of three of these pesticides, clomazone, methyl metsulfuron and quinclorac (which are not approved for use in the European Union), has been found experimentally in one of the species most frequently mentioned in this review: black catfish (*R. quelen*)[10]¹⁰. Because of the possibility of transfer from cultivated soils to adjacent aquatic ecosystems, fish can also potentially bio-accumulate mercury by this route, as it was used for decades in the composition of pesticides and fertilisers used in rice fields[11]¹¹.

16. In addition to the above, nitrogen fertilisers (from ammonia sources), soluble phosphates, potassium formulas, among other compounds, are added in agricultural production units. Of these, Nitrogen and phosphorus are the ones that present the greatest potential risk of being present in high concentrations in drainage water[12]¹². The use of these agrochemicals on crops leads to water pollution when they are applied at rates that exceed the soil's binding capacity, are washed away when dissolved in water (nitrate and ammonium) or are washed away with soil particles by erosion or drainage (when phosphate and other poorly soluble substances are involved); excess nutrients in aquatic systems can cause hypoxic eutrophication and lead to the formation of algal blooms[13]¹³. Excessive accumulation of these nutrients can also increase adverse impacts on human health through the consumption of fish and shellfish that have been exposed to these phenomena and can accumulate toxins[14]¹⁴. In this context, algal blooms were observed in 2019 in the Mer?n lagoon, although there were previous reports of cyanobacteria[15]¹⁵. A body of water connected to it, the India Muerta dam, had already experienced eutrophication processes, so it is hypothesised that this is the origin of the bloom. However, questions about the relationship between cultivation technologies and these phenomena remain unresolved. In another of the water bodies of interest to this project, the Castillos lagoon, cyanobacterial blooms have been recorded on several occasions, mainly filamentous species, the latest being the exceptional bloom in the summer of 2019[16]¹⁶.

17. It would therefore be necessary to build an integrated water quality monitoring system between the two countries, as well as the incorporation of good agricultural practices.

<i>Uruguay</i>	<i>Brazil</i>
----------------	---------------

Agricultural production contributes nutrients, organic matter and eventually pesticides to the basin[17]¹⁷.

11 of the 12 surface water intakes for drinking water are affected by the presence of potentially toxic algae, requiring additional water treatment for its potabilisation. In the Yaguar?n River during the low water and irrigation periods (intakes upstream of the cities), the flow contributed by the basin minus the flow of the intakes has reached zero or negative values, which produces a reversal of the direction of flow, taking water from the Mer?n Lagoon. This situation retains effluents, affecting water quality in this stretch of the river, and generating environmental and health risks[18]¹⁸.

High concentrations of nutrients are identified in the basin. The causes identified correspond to diffuse inputs from natural grasslands (Beretta, 2019), agricultural crops, urban discharges from treatment plants and, to a lesser extent, industrial effluents. The monitoring stations with the highest nutrient inputs were found in the Tacuar? river (upper zone), the San Miguel stream and the San Luis river. In Tacuar?, the main inputs would come from industries and population centres, while in San Miguel and San Luis, the load would be due to contributions from livestock on natural grassland and from rice crops (DINAMA, 2021).

Natural water quality problems in tertiary aquifers (excess sodium, chlorides, STD, iron and magnesium), basement aquifers (excess fluoride) and northeast basin aquifers (excess fluoride and sodium) (DINAGUA, pers. comm. 2019).

Agricultural production contribute nutrients, organic matter and eventually pesticides to the watershed[19]¹⁹. Total phosphorus exceeds the limits in most samples at all monitoring points. This would be associated with the agricultural, industrial and port activities carried out in the basin. In addition, there are some points where coliforms frequently exceed the limits (Barra, Ponte Trem, Rio Jaguarao) probably linked to population centres; and others where chlorophyll *a* limits are exceeded on several occasions (Barra, Curral Alto, Porto Santa Vit?ria, Praia do Pontal), probably associated with algal blooms[20]²⁰.

The Mangueira Lagoon has no tributaries or communication with the ocean, it is fed only by rainfall and by the shallow aquifer that connects it with the Mer?n Lagoon, forming a single transboundary system. Discharge occurs through evaporation, groundwater flows to the sea, and intakes for irrigation. The water quality of the shallow aquifer is affected by the presence of nutrients and other elements from the Mer?n Lagoon Basin, which contributes to the contamination of the waters of the Mangueira Lagoon.

Water pollution from urban sources

18. Sewage runoff from cities (Yaguar?n and R?o Branco) affects water quality in the Yaguar?n River, which, in addition to being transboundary, flows into the Mer?n Lagoon and can cause sanitary problems (DINAGUA, pers. comm. 2019). Furthermore, in Brazil, 15 of the 21 municipalities located in the basin do not have collection or treatment of their domestic effluents, which could generate sanitation problems in the basin (ALM, 2021).

Uruguay	Brazil
----------------	---------------

The city of Yaguari does not have any sewage treatment and the city of Rio Branco has a treatment lagoon. Both cities discharge their effluents into the Yaguari river (DINAGUA, pers. comm., 2019).

In addition, the city of Melo discharges its effluents into the Tacuari river, in which high levels of thermotolerant coliforms have been detected (DINAMA/MA, pers. comm. 2021).

Urbanisation models often ignore waters and their behaviour (DINAGUA, pers. comm. 2019).

Individual effluent treatment systems are one of the main solutions adopted for the disposal of sanitary effluents in several municipalities in the basin. The main percentages are associated with a scenario where there is no collection and treatment of domestic effluents. Of the total of 21 municipalities, only 6 have domestic effluent collection and treatment (ALM, 2021).

Ecosystem degradation

19. The Meri lagoon and its tributaries are the main source of water for rice crops, where 57% of the irrigated area is pumped[21]²¹. This extraction for irrigation purposes, with the operation of water intake pumps and pipes to channel and discharge into agricultural fields, can directly impact aquatic environments.

20. The works involved in rice production units also result in the alteration of hydrological cycles, with further impacts on fisheries. The transformation of soils that previously had connected to aquatic environments (since the effects do not necessarily have to be directly on water bodies but on riparian forests or flood plains, for example), the raising of embankments, the construction of canals and the drying up of marshes can have obvious ecosystemic impacts[22]²². Although only 1.4% of the area planted in the last harvest (2018/2019) was on new fields[23]²³, the effects of soil removal and the construction of artificial canals are cumulative and permanent.

21. Another effect of these works may be the alterations in ecological cycles, including periods of flooding and drought, which are so important for the ecology of aquatic fauna in changing hydrological conditions. It is therefore not only a question of the hydrological alterations, but also of the impact on marginal wetlands in the basin. In the flood phase the water bodies of the plain are interconnected and receive organic matter, minerals and other materials from the larger bodies (rivers, streams, lagoons). In the drought phase the flow of materials reverses direction, with some water bodies remaining isolated until the new flood phase. This pattern forms what is called a pulsed regime[24]²⁴. Flood and drought pulses modulate the behaviour and life cycles of groups of organisms, whose population patterns adjust to this variability. This adjustment to the pulsed regime applies as much to the migratory activity of organisms for food, reproduction or growth as it does to human fishing cycles. It would be worthwhile to analyse the effects on the frequency, intensity, recurrence, amplitude and seasonality of these pulses, as well as the effects on the fauna and fish and, incidentally, on fishing dynamics.

22. A process of historical degradation of the riparian forest has been observed (its absence encourages runoff and favours erosion) (DINAGUA, pers. comm. 2019).

23. Drainage works and dams in the CBLM also affect fragile ecosystems such as wetlands and palm groves (CAF, 2013).

Expansion of productive activities

24. The expansion and intensification of agriculture in the basin has caused pressures on biodiversity and loss of wetlands due to the expansion of irrigation in soils with low permeability, water pollution by runoff from cultivated areas, due to erosion, dragging both solid substances and

nutrients (especially phosphorus) and pesticides to the watercourses, with final destination in the Mer?n Lagoon (EMBRAPA, 2010; ALM, 2021).

25. This implies the loss of habitat and species of fauna and flora in ecologically sensitive areas, such as migratory birds, small mammals, rodents and pollinators, as well as the loss of valuable archaeological sites (such as the Cerritos de Indios), and the fragmentation of natural ecosystems, which can lead to population reductions, isolations of sub-populations, and even local extinctions of species of native fauna and flora. The construction of reservoirs and canalisation for irrigation or draining of wetlands, carried out for rice cultivation, produces transformations and physical fragmentation of the water bodies, as well as changes in the hydrological behaviour and residence time of the watercourse.

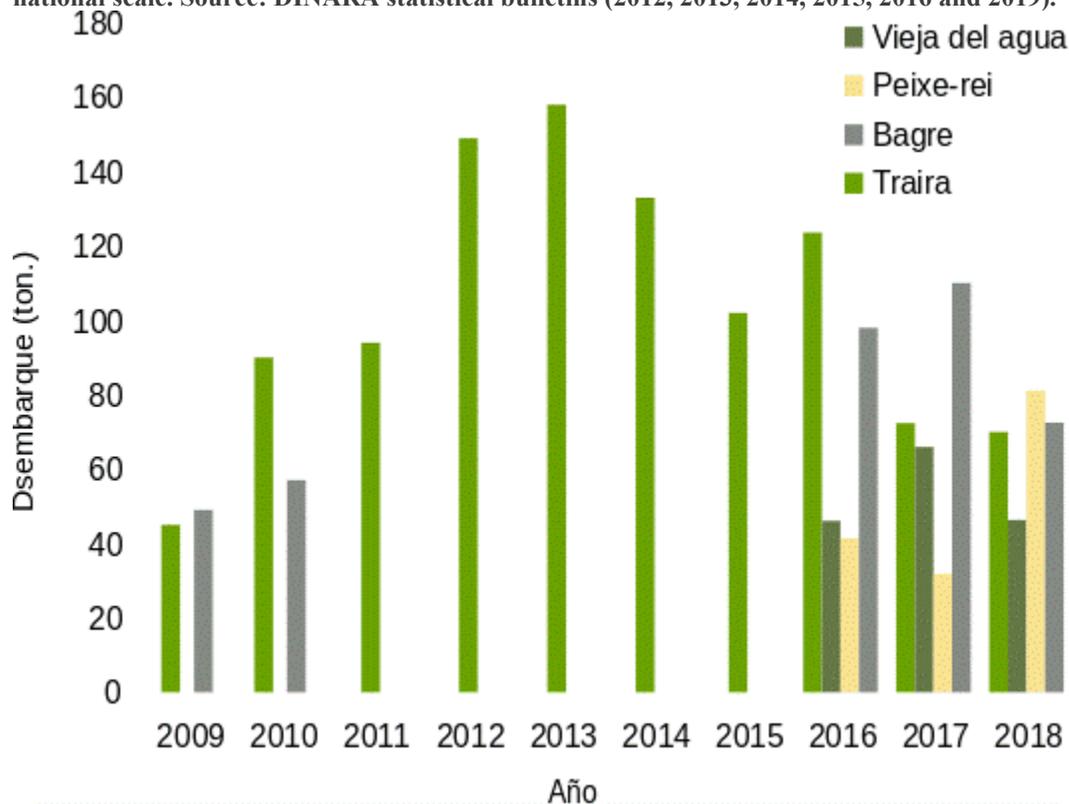
Uruguay	Brazil
<p>It is estimated part of the low plains that make up the Ba?ados del Este region were drained for rice cultivation and to gain land for livestock farming. Drainage and canalisation has diminished the natural capacity of these ecosystems to maintain their natural functioning in the face of new disturbances. There has also been an expansion of eucalyptus afforestation, mainly in the sierras, the highest lands of the basin (Eurosocial+, 2018)..</p>	<p>The promotion of rural development and strengthening of local and regional production chains based on family farming and irrigation has led to associated pressures on natural resources and ecosystem services (FAO, 2021c). Irrigated rice production stands out in planted area when compared to other crops. The large extension of planted areas and the need for irrigation has generated conflicts over water use in the region (ALM, 2021). Temporary crops increased from 26% of the basin in 2009 to 36% in 2019.</p> <p>Afforestation has expanded from 455 km² to 724 km² in the last 10 years (ALM, 2021).</p>

Fisheries

26. The use of mesh sizes smaller than recommended and permitted by Brazilian authorities has increased, with sizes as small as 35 mm. This is not the only technological adaptation that has taken place to increase catches by nets while fishery resources are becoming increasingly scarce. In Brazilian waters, the maximum length limit of nets per vessel (1830 metres) is frequently exceeded, with up to 3000 metres being used, i.e. with up to 100 nets per boat[25]²⁵.

27. Catches of the main species exploited by Uruguayan fishers in the Mer?n lagoon, the tararira, has oscillated between 45 and 158 tonnes landed on a national scale, in any case below the level in the Brazilian portion of the lagoon. It also shows a downward trend in recent years, from 2.78% (2010) to 0.49% (2018) of total artisanal landings, measured in weight (see Figure 2).

Figure 2. Annual landings of four groups of species by the Uruguayan artisanal fleet on a national scale. Source: DINARA statistical bulletins (2012, 2013, 2014, 2015, 2016 and 2019).



28. In the area of interest of the project there are interrelationships between artisanal commercial fishing and economic activities of other sectors, related to each other as water users, some of an extractive nature and others of a non-consumptive nature. Some of these activities can directly or indirectly generate impacts on fishing practice, mainly on the environments where it is carried out or on the target populations, but also on other dimensions of fishing (e.g. the definition of areas where access is limited). Under this heading, the interactions with agricultural production, hydraulic works and navigation are also discussed. Aquaculture and sport or recreational fishing are included as activities in the same sector.

29. There are also socio-economic interactions between agricultural activity and fishing, modulating the conditions and cycles of agricultural work, which ends up setting guidelines for the organisation of work in fishing. According to the fishermen interviewed^[26]²⁶, although there are people who work in agriculture all year round, it is during the harvest when most labourers come to the rice fields. The employment of fishermen in rice production takes place in these crews, especially during the summer, coinciding with the period when the use of gillnets is forbidden (the ban on the use of gillnets in the lagoon). After the rice harvests, the disengagement of the rice workers means that "the river absorbs a very important labour force", the river absorbs these workers who, after the rice harvest, dedicate themselves to sand extraction, but above all to fishing, greatly increasing the number of fishermen on a more constant basis.

Impacts of hydraulic infrastructure on ecosystems

30. In the first quarter of the twentieth century, Dr. H. von Ihering observed the spawning of marine catfish in the Camacu? river (Rio Grande do Sul), which came up the river mouths in the months of

November, December and January[27]²⁷. A few years later, the director of the Museum of Natural History of Uruguay confirmed these observations, this time with specimens obtained from the Cebollat? River (Uruguay)[28]²⁸. He further noted that the inhabitants of La Charqueada reported seasonal migratory events: "every year, in December and January, large shoals of catfish, absent during the rest of the year, would come: consequently, the marine catfish ascends from the Atlantic to the Patos Lagoon, passing from there to the Mer?n Lagoon and ascending from there to the inland rivers during the spawning season". It has also been observed with regard to the marine catfish, commonly called "bagad?" in the Mer?n lagoon, that when they reach their reproductive moment "they enter the Laguna de los Patos (Brazil), pass into the Mer?n Lagoon and go up the Cebollat? river, where they are found mainly in December and January. It is in this area that their peculiar type of reproduction takes place"[29]²⁹. These reports are records of specific breeding events of marine catfish of the Ariidae family in drainages of the Cebollat? River, and are part of the historical evidence that the estuarine region of the Lagoa dos Patos lagoon complex extended into the Mer?n Lagoon through the S?o Gon?alo canal. In addition, there are records of fishing activity of marine and estuarine species in the Mer?n Lagoon, proving that the estuarine region extended southwards from the lagoon system, entering the Mer?n Lagoon[30]³⁰.

31. Considering these and other evidence, the spatial configuration of the Patos-Mer?n lagoon system is considered to include the S?o Gon?alo canal as a corridor interconnecting freshwater and estuarine habitats. This is relevant to this analysis because a plan for the development of the Mer?n Lagoon and the S?o Gon?alo canal was developed in the 1970s. One of the sub-programmes of the master plan was the construction of a lockable dam in the canal. The purpose of this system was to block the entry of salt water into part of the S?o Gon?alo canal and the Mer?n Lagoon during the dry season, so that the supply of fresh water would be assured for both countries. The construction of this hydraulic work caused impacts on the estuarine environment and on fish populations that had long-distance migrations. For the purposes of this report, the impacts include the loss of estuarine area and the interruption of migration routes with the consequent loss of connectivity between fish populations and communities. Regarding the former, after the construction of the dam/lock in 1977, the inflow of the salt wedge was interrupted, resulting in the loss of a potential estuarine area of 2536 square kilometres in the Mer?n lagoon and the S?o Gon?alo canal. Currently, salinisation occurs only in 20% of the S?o Gon?alo canal, the portion connected to Lagoa dos Patos. In this area, during the late spring (December) and summer (January, February and March), approximately 70 marine and estuarine species have been recorded, mainly adults and juveniles of mullet (tainha), corvina and marine catfish, which are important resources for local and regional fisheries[31]³¹.

32. As for the second impact, it had been noted in the report of a consultant assigned to the project "Development of the Mer?n Lagoon Basin" (FAO/UNDP/SF/LAT/REG/35 project), carried out between March and May 1970, years before the works. Eight long-distance migratory species have been recorded in the Mer?n Lagoon-S?o Gon?alo canal system. Of these eight species, two marine catfishes, known as the white catfish (*Genidens barbatus*) and the longmouth catfish (*G. planifrons*) are endangered in Brazil and regionally, although they have not been assessed globally. The guri catfish (*G. genidens*) is classified as Least Concern (LC) at regional and global scales, although it has not been assessed at national scales in Brazil and Uruguay. On the other hand, the conservation status of tainha or mullet (*Mugil* sp.) and corvina (*M. furnieri*) is of Least Concern (LC) because these species use the estuarine region of the Lagoa dos Patos region as feeding and growth areas mainly by juveniles, while adults explore the limnetic region of Lagoa dos Patos and Mer?n Lagoon. On a large scale, the five species recorded for this area do not represent a major conservation status concern, mainly because they have a continental-scale spatial distribution, as in the case of catfishes *G. barbatus* and *G. planifrons*, mullet (*M. liza*) and corvina (*M. furnieri*). However, the degree of segregation of the stocks

of these species is unknown, so that stock status (and conservation status) can change drastically according to the region assessed, as happened with the species that support artisanal fisheries in the Los Patos estuary[32]³².

33. For the three species of marine catfish, the negative impacts of the dam on the canal are of great magnitude when considering aspects of the ecology such as migratory routes and habitat conditions for feeding and reproduction in this lagoon system. Spawning migration occurs during periods of flooding (in the direction from the ocean towards the Mer?n lagoon), during which time the floodgates may be open. However, juveniles travel from the Mer?n Lagoon to the sea when the gates are closed. The degree of blockage that the dam has exerted on the movement of the target species *G. barbuis* has not been monitored since its construction in 1977, and recent observations indicated that the designed passage system was not functional for the three species of marine catfish (*G. barbuis*, *G. genidens* and *G. planifrons*) and was not considered in the environmental study of the dam/ sluice gate[33]³³.

34. Meanwhile, fishing for estuarine species in the Mer?n lagoon has practically disappeared since the construction of the canal. The corvina, which used to come in during the summer, disappeared from the artisanal fishermen's catches at least seven years ago; the last bagadu were caught around the same time, while there are still shoals of mullet or tainha[34]³⁴.

35. The other hydraulic work that should be mentioned here because of its impact on artisanal fishing is the Andreoni canal, built as part of the drainage system of the Ba?ados de Rocha and the Laguna Negra. The canal drains the waters of the Laguna Negra and the wetlands located to the south of the San Miguel mountain range and discharges them into the ocean at the height of La Coronilla, on the coast of Uruguay. Discharges from the canal have drastically affected the habitat and fauna inhabiting the sandy strip. Through nitrogen and phosphorus inputs to the coastal water, the canal discharges have altered the phytoplankton community and in turn the population dynamics of the yellow clam on which there is an artisanal fishery. The effect of artificial freshwater discharge has affected the macro-invertebrate community, decreasing biomass in the vicinity of the canal and creating a hostile environment for clam recolonisation. The environmental deterioration associated with the canal has affected fishing activity[35]³⁵.

36. Another type of hydraulic infrastructure of interest in Uruguay are water defence and protection works. The construction of defence or protection works against the water ingress due to overflow has multiplied considerably, and are carried out without prior control, which impacts and alters its environment, the ordering of the territory and the dynamics of the hydrological regime (PNA, 2017).

Impacts of shipping and port industry on ecosystems and fisheries

37. The Mer?n lagoon has natural depths for the use of vessels with a draught of 2.50 metres. However, these conditions are not sufficient to ensure navigability to allow a sustainable river outlet from the CBLM, which is so important from the point of view of the economic and social development of this basin. The challenge associated with commercial navigation in the Mer?n Lagoon is to achieve compatibility between the construction and operation of commercial navigation systems (which involve, among other things, major dredging of the lagoon and its tributaries), and the conservation of the integrity of this large freshwater reserve, of ecosystem services, of the nuclei of greatest biodiversity associated with the basin (backwaters) and also of subsistence economic activities such as tourism and traditional fishing carried out by the riverside populations (EMBRAPA, 2010; MRREE-MTOP-CAF, 2014). The governments are currently in negotiations to implement the waterway, generating a binational multimodal corridor, allowing the circulation of vessels from the ports of La Charqueada (on the Tacuar? River in Uruguay) and/or others that will be planned for this waterway, to the ports of Pelotas (crossing the S?o Gon?alo canal), Rio Grande and Porto Alegre (on the Patos Lagoon) and Estrela, and its potential connection with S?o Paulo, Brazil.

38. With the project to open the waterway through the Mer?n lagoon, the construction of port terminals on the Tacuar? and Cebollat? rivers has been contemplated[36]³⁶. This project may generate tensions over the use of water space between those interested in port and shipping development and the fishermen, which should be considered in detail. Another effect of the implementation of the waterway may be the accidental introduction of exotic species through ballast water or other transport mechanisms, as happened with the golden mussel (*Limnoperna fortunei*), already present in the Mer?n lagoon. These species are a threat to native biodiversity, becoming part of the diet of fish fauna, which could potentially lead to changes in trophic interactions[37]³⁷.

Flooding of population centres

39. Due to the flattened landscapes and the fact that the surface runoff system has been modified by drainage works and canal management for irrigation, the phenomenon of flooding affects populations near the Mer?n Lagoon, (in particular in the vicinity of the Yaguar?n and Cebollat? rivers in Uruguay) being a relevant factor (Eurosocial+, 2018; PIF, 2020). Floods are recorded in the city of Treinta y Tres (Olimar river) and downstream; upstream and downstream of Paso Aver?as (Cebollat? river); the Cebollat? river enters the San Luis river for floods with a return period >20 years, exceeding the system's conveyance capacity; the city of Melo is exposed to the extreme flows of the Conventos stream (DINAGUA, pers. comm. 2019).

40. Most of the municipalities in the Brazilian basin do not register significant percentages in relation to flood risk. However, the municipalities of Pelotas and Pedro Os?rio have percentages considered higher, particularly in Pelotas, where the number of dwellings at risk is almost 7% (ALM, 2021).

Exotic species

41. There is also a potential invasion of exotic fish species (from aquaculture in Brazil) throughout the basin (ALM, 2021), as well as the presence of golden mussels in both countries, which causes problems such as the obstruction of water intakes (DINAGUA, pers. comm. 2019). These invasive alien species have competitive advantages over native species, possibly altering ecological cycles and potentially driving native species to extinction.

42. The use of exotic species in fish farming can cause problems in the functioning of ecosystems, with the economic costs that this entails. At the beginning of this century, carp were first recorded in natural habitats in the Los Patos-Mer?n lagoon complex and a decade later evidence of reproductive activity of at least one of the carp species, *Cyprinus carpio*, was published. Today, they are occasionally caught in gillnets by artisanal fishermen[38]³⁸. With research being carried out to adapt tilapia to temperate water systems, rather than promoting the farming of exotic species, there is concern in Uruguay about the adverse effects of their accidental (or intentional) introduction into natural aquatic environments. Undoubtedly, it is appropriate to generate the conditions for a management aimed at creating an institutional and legal framework that responds to this problem in a basin with shared waters where aquaculture production with exotic species is promoted in one of the jurisdictions while it is restricted in the other[39]³⁹.

Climate change

43. The CBLM is subject to the impacts of rising sea levels due to climate change, and to the strong variations in rainfall due to the El Ni?o - La Ni?a alternation. Given the large surface area of the Mer?n Lagoon, during extreme weather events, it greatly interferes with agricultural production, as the action of winds can cause large waves and currents that can lead to high sediment transport and flooding along the coastal areas (Eurosocial+, 2018).

44. The occurrence of climate changes in Uruguay can be summarised as follows: i) increase in summer precipitation; ii) increase in average temperature (all year round) and decrease in average maximum summer temperature; iii) decrease in the period with frost; iv) increase in inter-annual variability in some of the variables mentioned (Gimenez et al., 2006, in ECLAC, 2010). The greater availability of water, mainly in summer, due to climate change could be beneficial for the productivity of rice crops and natural pastures (INIA- GRAS, 2009, in ECLAC, 2010). On the other hand, the lower maximum summer temperature would also be beneficial, perhaps causing a decrease in evapotranspiration (and thus achieving greater water conservation). The trade-off is lower solar irradiation in summer due to higher cloud cover, which could be detrimental to irrigated crops (such as rice). The above impacts are logically supported, but are speculative, and may be subject to unforeseen actions of other factors (also affected by climate change), for example: climate variability, with increasing frequency of extreme events, or the possible higher incidence of pests and other crop health problems (ECLAC, 2010). On the other hand, almost 20% of Uruguay's livestock production takes place on shallow and moderately shallow soils in the Sierras del Este (located in the CBLM), where increased inter- and intra-annual variability of rainfall is particularly noteworthy, which negatively affects the net primary productivity of ecosystems (lower forage production) and the security of water supply for livestock. Climate change increases the risks of production in these territories and makes it necessary to introduce new management strategies related to fodder, water and shade, as well as new institutional arrangements. In addition, droughts cause degradation of the botanical composition of the natural tapestry due to overgrazing, with effects that extend beyond the reversal of the drought. Consequently, sustainability - social, economic and ecological - is negatively affected (OPYPA, 2012).

45. Among the extreme events recorded between 2003 and 2016 in Brazil, droughts accounted for most of the recorded occurrences in the municipalities of the basin, with 118 records, followed by flash floods (38), floods (28), gales (26), heavy rains (23) and hail (17) (ALM, 2021).

Barriers

46. In the meeting of the Regional Water Resources Council of Mer?n Lagoon Basin on 20 February 2020, as part of the stakeholder consultation process during PIF formulation, participants prioritised the following barriers to the effective and sustainable management of the CBLM (see Annex H.3.2 on Stakeholder Consultation during PPG):

- Dispersed and outdated legislation
- Weakness of administrative tools and procedures for management
- Insufficient information
- Inter- and intra-institutional weaknesses in integrated water resources management
- Weaknesses in dissemination, training and research on water issues in the face of new management challenges

Similarly, in the PPG Inception Workshop, participants considered both alliances and conflicts emerge in relation to the management of the Basin, according to interests, institutional location and the use of water resources, among other aspects. Along with these conflicts, a set of tensions of various kinds were preliminarily identified to be considered in the various stages of the project:

- Competing interests regarding roles, types of participation and forms of involvement in the project by institutional actors linked to the management of the Basin.
- Possible disagreements on available environmental information and in particular on water pollution levels.
- The availability of and access to information already created and to be created in the course of the project.
- In general terms, opposing visions between production and sustainability; the different positions regarding the impact parameters that must be admitted in order to consider a form of production as sustainable; traditional production versus alternative forms of production such as agroecological, organic, etc. and the space they should have.
- The existence of non-compatible national regulations, controls and policies between countries, particularly in the field of fish farming and aquaculture.

47. The obstacles identified by workshop participants to the achievement of integrated water resources management included inadequacies in communication, articulation, coordination, agreements, legislative frameworks for binational management, information (data not available or inaccessible in terms of intelligibility for the population), and specific competences for River Basin Councils.

48. Through the governance analysis and the various informal meetings held with institutional actors to support it, the following key barriers have been identified:

- Institutionally fragmented management of quantitative and qualitative aspects in the two countries.
- Insufficient autonomy and lack of clarity as to the legal status of CLM before international organizations (potential donors, investors and partners).
- Gaps in CLM's organizational structure and mechanisms for stakeholder participation in its activities, as well as for long-term financing of joint actions and the commission itself.
- Insufficient attention paid to environmental aspects in treaty implementation.
- Legal gaps or insufficiently developed provisions on key cooperation themes under the legal-institutional regime in place.

49. These elements are synthesized in the following analysis of barriers, structured in accordance with the components of the project.

1) Absence of a complete and integrated Transboundary Diagnostic Analysis of the Basin:

50. Although both countries have made major progress in characterising and monitoring the environmental conditions in their respective portions of the Basin, resulting in the generation of significant information resources (summarized in the context description above), this has yet to be crystallised into an explicit shared understanding of the processes and challenges affecting the Basin from the perspective of the catchment as a whole, including consideration of the nature and implications of transboundary environmental issues and flows of impacts. Until such a common perspective is developed and fully 'bought into' by the diverse stakeholders in both countries, through a complete, integrated and multi-stakeholder Transboundary Diagnostic Analysis (TDA), it will not be possible to develop and effectively implement a fully integrated Strategic Action Programme (SAP) that responds to the stakeholders' diverse needs and is 'owned' by them, and can be applied in an adaptive manner in the short, medium and long terms.

51. In addition to the need for organizing and reviewing existing information and developing this shared understanding, there are some important information gaps remaining to be filled, for example on groundwater quality, and the status of and trends in fisheries populations.

52. Moreover, there is insufficient understanding of the governance barriers that make it harder to achieve TWRM in a transboundary context, at binational, national and subnational levels. In order for the needed reforms to take place, it is necessary to further analyse, build consensus and validate findings around priority weaknesses, gaps and risks in legal and institutional governance, as well as to identify the most appropriate avenues for addressing such barriers.

2) Limited coordination and harmonization of the governance and management of the Basin

53. The key impediment to the effective and adaptive management of the Basin from a transboundary perspective, which will be addressed through the project, is the lack of a fully informed and consensus-based Strategic Action Programme (SAP) for the Basin, that may play the role of an initial basin-wide management plan. Crucial supporting aspects related to the SAP, that also must be addressed, are multi-stakeholder agreements on core principles and strategies for basin management (for example the ecosystem approach to fisheries, and the use of nature-based solutions), and strategic framework-level planning on specific thematic issues such as fisheries, tourism and infrastructure management.

54. The effective implementation of the SAP, with a binational integrated basin management perspective, also requires tools and instruments harmonised with regulations, administrative procedures, data collection and analysis and information (hydrometric and meteorological information;

water quality including biological indicators; biodiversity and ecosystem services). It is also necessary to ensure that adequate relevant capacities exist in key institutions to allow them to carry out their roles in support of SAP implementation and IWRM: while a high level of technical and administrative capacity does in general exist in Basin institutions, these capacities require further review, consolidation and enhancement, for example in relation to stakeholder participation, adequate staffing and long-term financing, and the joint management and sharing of knowledge.

55. Currently, legal and regulatory frameworks are mostly in place across the basin, although some key ones are still missing. This legal regime has served as a solid legal basis for cooperation over the years, but filling its gaps, providing greater specificity to its general provisions, and making treaty implementation more systematic would be beneficial for both countries, creating a stronger enabling environment for the sharing of benefits and sustainable basin management.

56. Under the existing legal regime, CLM has governance and planning competences that it has yet to put fully into practice to improve basin management. Also, existing mechanisms for participation in the CLM are underutilized, possibly due to absence of prioritization by the countries, or lack of capacity or insufficient levels of awareness among key social actors; and underdeveloped, with the legal regime containing general language on participation of observers, but not detailing how such participation is to be exercised and not going beyond CLM meetings. In addition, the large distances prevent the participation of the population in the different initiatives.

57. There are no formally established and jointly employed mechanisms for coordination between the CLM, its national sections, the Regional Council of Water Resources (Uruguay) and the Basin Management Committee (Brazil). Binational decisions are taken under the CLM umbrella according to the criteria of consensus between the two national Commission Sections, but largely in an *ad hoc* and project-by-project basis and without regular follow-up of agreed actions.

58. On some key topics, like fisheries or pollution, there is no guidance in terms of binational policies, alignment of regulatory frameworks and legitimization of public policies by civil society.

59. At the level of good governance, there is no mechanism for the joint management and regular exchange of data, information and knowledge between the two countries, so that information remains scattered across different actors and is not collected or processed in a harmonized manner to provide for a truly basin-wide understanding of the Basin and its challenges.

60. Key issues to be addressed, identified through the PPG formulation process, include the following:

- Within CLM structure, absence of a permanent binational body to execute and follow-up on Commission decisions, coordinate between the Brazilian Section and the Uruguayan delegation and jointly engage with stakeholders and other cooperation forums between the two countries.

- Insufficient staff and resources for CLM to perform its functions, including because of the absence of predictable funding streams for joint activities in the form of e.g. regular state contributions earmarked on the respective national budgets.

- Underutilized and insufficiently developed mechanisms for stakeholder participation in the activities and meetings of CLM and its two National Sections.

- Limitations and lack of clarity on CLM's international legal personality in its relations with other international bodies, especially to seek funding and potential partners.

- Absence of formally established, well-known and effectively employed channels of regular communication, consultations, and exchange between the two secretariats of each National Section of the CLM to promote treaty implementation and, where appropriate, its progressive development.

- In the Mer'n Lagoon-S'o Gon?alo Management Committee (Rio Grande do Sul State, Brazil), lack of adequate resources, lack of an executive body to advise and support the Committee and lack of implementation of the water charges needed to finance such a body, as envisioned and required by the applicable legislation ? a role currently performed by the state agency, but with insufficient financial and human resources to do so effectively.

- Pending adoption in the Committee of the basin management plan meant to guide and govern activities and long-term programming.
- In the Regional Water Resource Council (Uruguay), pending adoption of the regional water resources plan meant to guide the Council's activities and long-term programming.
- Absence of a dedicated body, under the Council's umbrella, dealing with groundwaters and their relationship to the Lagoon and the wider basin
- Insufficient financial and human resources for the Council to perform its functions effectively, including to involve civil society organizations in its activities in a meaningful manner
- Lack of representation of certain key actors in the Council's composition and their active participation in its activities, such as rice sector workers, artisanal fishermen, the tourism sector as a whole, including the competent ministry, businesses, and sector workers.

61. The application of an effective binational approach to fisheries management in the Lagoon and its tributaries is currently hindered by the existence of inconsistencies in fisheries regulations between the two countries, as summarized in Table 1: for example, while there are coincidences in the temporality of fisheries closures and in some limitations on access to fishing for people other than the inhabitants of the coastal communities, there is no complete coincidence in the minimum catch sizes; there are more spatial restrictions in Uruguayan waters; and in Brazil there are specifications of fishing gear that are non-existent in Uruguay.

Table 1. Differences in fisheries regulations between the Brazilian and Uruguayan portions of the Basin.

Type of measures	Brazilian jurisdiction	Uruguayan jurisdiction
Restrictions on access	<ul style="list-style-type: none"> - Limited to fishermen from the Mer?n and Manguera lagoons by naval regulations. - Processing in the Fishing Register mediated by Fishermen's Associations. 	<ul style="list-style-type: none"> - Limited by naval regulations and according to fishing permit area delimitations (in this case, artisanal fishing areas J and K).
Spatial limitations	<ul style="list-style-type: none"> - Fishing prohibited at the convergence of rivers and lagoons. - The nets cannot occupy the entire watercourse, crossing from one bank to the other. - Waiting nets may not exceed one third of the aquatic environment. - Mer?n fishermen cannot fish in Manguera, and vice versa. 	<ul style="list-style-type: none"> - No net fishing in the Olimar and Tacuar? rivers and in all streams. - Setting of gillnets prohibited in authorised rivers, up to 300 metres from the mouth of the river, and when the distance between banks is less than 500 m. - The nets cannot occupy the entire watercourse, crossing from one bank to the other. - Prohibition of shrimp fishing in some stretches of the Castillos lagoon and the Valizas stream. - Fishermen are assigned to zones delimited by the fishing authority and delimited by the authority on navigational safety.
Temporary closures	<ul style="list-style-type: none"> - Between November 1 and January 31 inclusive. - Applies to Mer?n Lagoon and tributaries; also to Manguera Lagoon. 	<ul style="list-style-type: none"> - Between November 1 and January 31 inclusive for the four main fish species. - Applies to the Mer?n lagoon and tributaries; also for the Castillos lagoon.

<p>Allowable catch sizes (total length for fish; other dimensions for crustaceans)</p>	<ul style="list-style-type: none"> - painted (<i>P. maculatus</i>): 18 cm. - peixe-rei or silverside (<i>Odonthestes</i> sp.): 20 cm - traíra or tararira (<i>H. malabaricus</i>): 30 cm - sea bass (<i>M. furnieri</i>): 30 cm - black catfish (<i>R. quelen</i>): 30 cm - grumat? or shad (<i>Prochilodus</i> sp): 30 cm tainha o lisa (<i>Mugil platanus</i>): 35 cm - catfish (<i>Netuma barba</i>): 40 cm 	<ul style="list-style-type: none"> - spotted dogfish (<i>P. maculatus</i>): 25 cm - greater silver smelt (<i>Odonthestes bonariensis</i>): 30 cm - tararira (<i>H. malabaricus</i>): 40 cm - sea bass (<i>M. furnieri</i>): 32 cm - black catfish (<i>R. quelen</i>): 30 cm - shad (<i>Prochilodus lineatus</i>): 42 cm - - blue or siri crab (<i>Callinectes sapidus</i>): 105 mm width of chub. - pink shrimp (<i>Penaeus paulensis</i>): 10 g weight per fish
<p>Restrictions on fishing gear</p>	<ul style="list-style-type: none"> - Net fishing is prohibited during fish migration season; - Regarding the dimensions of the nets, in Lagoa Mangueira minimum mesh size is 80 mm and height 50 meshes; - Mer?n Lagoon and tributaries: minimum mesh size 90 mm and height 50 meshes; - In both lagoons, each vessel may operate and carry a maximum of 1000 fathoms of net or 1830 m, regardless of the number of licensed fishermen on board. In the tributaries it may only be up to 1280 m or 700 fathoms. - In Lagoa Mangueira, catching of peixe-rei is allowed in July and August using waiting nets up to 300 fathoms in length, corresponding to 550 m. 	<ul style="list-style-type: none"> - Net fishing is prohibited in rivers and streams, with the exception of the Cebollat? and Yaguar?n rivers. - There are no specifications for the use of gillnets in these areas.
<p>Conservation by natural protected areas</p>	<ul style="list-style-type: none"> - Taim Ecological Station; sin plan de manejo adoptado. 	<ul style="list-style-type: none"> - Laguna de Castillos and Arroyo Valizas Protected Landscape; no management plan adopted.

62. In addition to the existence of remaining gaps in the information available on the Basin and its resources, and the lack of an explicitly expressed common understanding of the Basin and its processes (as explained above under Barrier 1), the long-term effective and adaptive management of the Basin from a binational perspective is further hindered by the inadequate development of mechanisms for accessing, managing and sharing information, and for taking decisions based on that information in an objective manner that adequately recognises complexity and trade-offs among diverse objectives, sectors and stakeholder priorities.

3) **Limited development of knowledge and tools for the sustainable transboundary management of the Basin**

63. To be relevant and effective, the formulation and implementation of the SAP needs to be grounded and validated by field level capacities and experiences.

64. At present, a key deficiency at ground level is in relation to the incomplete coverage of the monitoring of key variables of relevance to Basin management, for example water quantity and quality, wetland conditions, fisheries management and environmental threats such as floods, droughts and cyanobacteria blooms.

65. At present, frameworks and experiences of field-level natural resource governance are inadequately developed, without which the higher-level strategic planning identified as being a need under Barrier 2 will lack relevance and effectiveness. The SAP will not be effective or sustainable unless its technical proposals are validated at field level, and conditions created for uptake and scaling through the establishment of demonstrations/pilots and the effective management of the resulting knowledge.

66. In the case of fisheries, for example, there is need not only for a framework fisheries plan for the Lagoon (and its tributaries) as a whole, but also for location-specific governance frameworks and management plans that provide for community ownership and participation and respond to local stakeholders' livelihood needs. Without this (as at present), fishing communities and the existing community- and sector-based organizations associated with them will have limited means and motivation to support sustainable management. This need also applies to technical aspects: t

II. 1a. 2) Baseline scenario

67. Binational governance cooperation in the basin has a long history of institutionalization through the Brazil-Uruguay Joint Commission for the Development of the Mer?n Lagoon Basin (CLM, for its acronym in Spanish), established in 1963 to study the common territorial problems related to this basin. The two States agreed to request technical cooperation from the United Nations Development Programme aiming at studies of the region and a comprehensive development plan for the Mer?n Lagoon Basin. FAO conducted a broad study of the region in areas such as water resources and infrastructure works for water and soil use for agricultural activity, and socio-economic development. Technical cooperation included regulation and storage reservoirs in high and middle areas, drainage and water management in middle and low areas to protect against flooding and to use water for irrigation. The drainage of the middle and low areas made it possible to recover land with low permeability and high risk of flooding for livestock and agriculture, mainly rice.

68. In 1977 a Cooperation Treaty for the Natural Resources Management and Development of the Mer?n Lagoon Basin was signed by the two governments. CLM is the joint institutional mechanism in charge of promoting and facilitating the implementation of the 1977 Treaty. It is composed of two national sections, each with its own secretariat and with five representatives designated by the respective national government. Each national section has its own HQ, with the Uruguayan Delegation in Treinta y Tres and the Brazilian Section in Pelotas. Within this framework, there are important binational agreements in fields such as the navigation, sustainable development of natural resources of the Mer?n Lagoon, the water resources of the Yaguar?n River, the provision of health services, entrance and residence permits to border localities.

69. In 1993, PROBIDES, the Programme for Biodiversity Conservation and Sustainable Development in the Eastern Wetlands, was created in Uruguay with the aim of drawing up a plan for environmental planning and sustainable land management in the area. In 1999, a Master Plan for the Ba?ados del Este/Uruguay Biosphere Reserve was published, with a proposal for geographical zoning. However, in 1994, in accordance with the Article 3.2 of the Ramsar Convention, the site was placed on the Montreux Record List because it did not meet the necessary protection requirements. In response to this situation, in 2011 the Ramsar National Authority of Uruguay carried out a process of re-delimitation and implementation of compensatory measures in the Ramsar Site (Good Agricultural Practices and environmental monitoring). This area has now been excluded from the list (DINAMA-LDSGAT, 2016, Evia and Musitelli, 2015 -PROBIDES).

70. A National Action Plan for the Southern Lagoons (NAP) was developed in Brazil in 2018 - including in its extension to the Mer?n Lagoon - led by the Instituto Chico Mendes de Conserva??o da Biodiversidade (ICMbio) of the Ministry of the Environment. This NAP aims to "improve the conservation status of endangered species and ecosystems in the lagoons of the coastal plain of southern Brazil, promoting sustainable and/or traditional ways of life associated with the territory". In addition, it establishes conservation actions for 29 species of fish, crustaceans, molluscs, reptiles, birds and mammals threatened with extinction that are on the National List; and 113 species of flora that are on the National List. In order to achieve its objective, the NAP, which is valid until 2023, established conservation actions in four different objectives:

1. Promote and strengthen articulated and intersectoral actions for land use and management, with an ecosystemic focus on conservation and sustainability, encouraging the equitable empowerment of society.
2. Promote socio-environmental education, the exchange of knowledge and the production and dissemination of knowledge for a culture of sustainability, seeking recognition of the importance of ecosystem goods and services, socio-biodiversity and the territories of traditional peoples.
3. Encourage activities that promote well-being and the maintenance and improvement of ecosystem processes through the adoption of sustainable practices.
4. Promote actions that subsidise the improvement of legal instruments, regulations and licences for integrated and participatory management, considering a synergistic and cumulative analysis of the impacts generated by the undertakings on the ecosystems of the NAP territory.

71. This Plan has not had funding to develop its actions (Palma-FURG-, *pers. comm.* 3/2/2021). It is identified as an opportunity for interaction with the FAO/GEF project, for the establishment of joint actions.

72. The drawing up of a joint strategy for integrated basin management was requested in the last meeting of the CLM (July 2019), paying attention to the following topics:

- Governance and civil society participation in the management of the basin's natural resources
- Binational cooperation in education and training.
- Monitoring water quality and quantity and access to water and support services
- Design and development of grey infrastructure (channels and ports)

73. The main stakeholders of the Basin are active members of two important water resource management bodies, the Regional Water Resources Council for the Mer?n Lagoon Basin in Uruguay and the Comit? de Gerenciamiento das Bacias Hidrograficas da Lagoa Merim e do Canal de S?o Gon?alo (Rio Grande do Sul). This has leveraged the activities of the 1977 Treaty and associated agreements, by enabling the organized presence of most stakeholders with an integral vision of the territory in Uruguay and of the tributaries in Rio Grande do Sul.

74. Brazil is in the process of reviewing its National Water Resources Plan, which, among other aspects, establishes how to manage state, federal, and international competences by hydrographic regions and basins. As for Uruguay, the National Law on Water Policy establishes the division of its territory into three transboundary hydrographic regions, coordinated by the respective Regional Councils, which is also reflected in the National Water Plan published in 2018. Management plans at the level of the Mer?n Lagoon basin and sub-basins are being developed within the framework of the Regional Council in Uruguay, the Basin Committee in Rio Grande do Sul and ALM in Brazil.

75. Through the national plans, countries have made headway on general guidelines for the construction of integrated basin management plans, including water management, to ensure water availability and provide current and future generations with good quality water for drinking and other uses. In addition, both countries have paid attention to flood water risk management. It should be stressed that any solution to reduce the risk of flooding in the Basin and in the Lagoon, either through hydraulic works in the San Gon?alo Canal itself, through the construction of dams on the tributaries or a sluice to discharge to the ocean or through nature-based solutions, will always have implications to be regulated according to 1977 Treaty provisions.

76. In recent years, both countries have presented their national sanitation plans, as a basis for policies to provide adequate sanitation conditions in the region. Both Brazil and Uruguay have water quality monitoring programmes for parts of the basin and ANA and DINAGUA coordinate some monitoring and disaster risk management actions within the basin. ALM carries out monitoring activities in the Lagoon itself.

77. The following projects and programmes being implemented by national governments constitute a solid baseline for the project:

Uruguay:

- The National Water Plan (Executive Decree N? 205/017), contributes to the implementation of its 10 programmes, in particular: Programme 01: Water for Sustainable Development; Programme 04: Waterworks Management; Programme 06: Integrated Water Resources Management Plans; Programme 07: Information Systems and Models; Programme 08: Quantity and Quality Monitoring; Programme 09: Interinstitutional Strengthening and Coordination; Programme 10: Water Education, Communication, Research and Capacity Building.

- National Environmental Plan for Sustainable Development (Executive Decree No 222/019), contributes to Dimension 1, Objective 1.3: Preserve water quality, conserve continental aquatic ecosystems, and maintain hydrological processes through models for sustainable basins and aquifers management; Objective 1.4: Conserve and manage coastal areas in a sustainable manner; Objective 1.5: Increase resilience of socio-ecological systems to climate change and variability and other global changes, contributing to the protection of the regional and global environment. Contribution to

Dimension 2, Objective 2.2: To promote sustainable production practices that reduce the environmental impact of agricultural activities.

- The National Response Plan to Climate Change (PNRCC, acronym in Spanish) is the main instrument of the national government and the Congress of Mayors to incorporate climate change into the country's long-term sustainable development strategy.

- Agriintelligent Uruguay Strategy (MGAP): challenges for sustainable development, aiming at promoting sustainable agricultural production, reduce climate vulnerability of production systems through adaptation, support innovation and ensure the inclusion of all producers in the value chains. Strategic line 2: Promoting intensive production with economic, environmental and social sustainability, has two relevant items for this project: a) land use planning and basin protection and b) best agricultural practices and agrochemicals control.

- Uruguay's National Strategy for the Conservation and Sustainable Use of Biological Diversity, specific contribution to Objective 2: To promote strategies and practices for the sustainable use of biological diversity and natural resources in general, and to Objective 4: To develop mechanisms to improve knowledge management and use regarding to biological diversity.

- The EUROsociAL+ Programme, established at the initiative of the Congress of Mayors of Uruguay, is currently being implemented in coordination with the Uruguayan delegation to the CLM. The project aims at strengthening social cohesion and local governments in the border areas and assessing the socio-economic and environmental impacts from a Basin perspective. The Project aims at ensuring higher participation of local governments and civil society in the Basin Commissions and Committees, in the dialogue with national, state and provincial authorities and providing technical and territorial foundations to the agreements through formal regional integration. This will serve as the basis for the planning process for integrated and coordinated water resource management by the countries, to contribute to the sustainable development of the region.

Brazil:

- The State Programme for Irrigation and Multiple Water Uses: The objective is to increase productivity and minimize the effects of droughts and environmental impacts.

- Uruguay-Brazil Waterway Project, to facilitate and promote trade exchange between Uruguay and Brazil.

- Fish Farming Development Project, including fishers of the rural credit registry, to strengthen capacities of artisanal fishery to leverage local economy.

- The review process of the National Water Resources Plan, to ensure current and future generations with water availability with quality standards appropriate to its use.

- National Water Security Plan, to ensure an integrated and consistent strategic and regional water infrastructure up to the year 2035, to reduce the impacts of droughts and floods

- National Basic Sanitation Plan; Integrated Basic Sanitation Planning, including the four components: drinking water supply, sewerage, solid waste management, and urban rainwater drainage.

- ABC Plan - Low Carbon Emissions Agriculture, which aims to organize and plan the actions to be taken to adopt sustainable production technologies to meet the commitments assumed by the country to reduce GHG emissions in the agricultural sector.

- Pro-Committees, Programme of the National Water Agency (ANA) to promote the improvement of basin committees, in which the Mer?n-S?o Gon?alo State Committee participates.

- National Water Resources Information System, to gather, provide consistency and disseminate data and information on the qualitative and quantitative situation of water resources in Brazil.

- State Water Resources Plan, a strategic planning tool for water management in R?o Grande do Sul.

- EUROsociAL+: as in Uruguay, actions under this programme in Brazil aim to support social cohesion social cohesion and local governments in the border areas, assessing socio-economic and

environmental impacts from a Basin perspective, and strengthening cross-border cooperation programmes in the Uruguay River Basin and the area around the Merin Lagoon[40]⁴⁰.

78. Other ongoing activities to be cited as part of the project's baseline include: ALM's monitoring and environmental program, within the framework of the Brazilian Ministry of Justice; (ii) other GEF projects at different stages within the region: biodiversity and ecosystem service valuation (MA, Uruguay); coastal and management zones (MMA, Brazil); water producer program (ANA, Brazil), incentivizing water conservation through payments for ecosystem services; Watersheds Cleanup Program (PRODES) (ANA, Brazil); Consolidation Program for the Water Management National Pact (PROGESTAO) (ANA, Brazil), in which the Rio Grande do Sul state participates.

79. Through the initiatives set out above, significant progress has been made with the management of the Basin and its natural resources in each country. Under the baseline situation, these country-level efforts will continue to be made, but will not be adequately consolidated, scaled up, or coordinated and harmonized between the two participating countries and the Brazilian State of Rio Grande do Sul; the environmental issues affecting the Basin will not adequately be addressed with a catchment perspective; and the biological, hydrological and social connectivity of the Basin's systems, and the porosity of the national frontier, will not be adequately taken into account in management. As a result, transboundary environmental and social processes will continue to undermine the global environmental values of the Basin system, and national-level efforts at addressing environmental issues will have limited effectiveness.

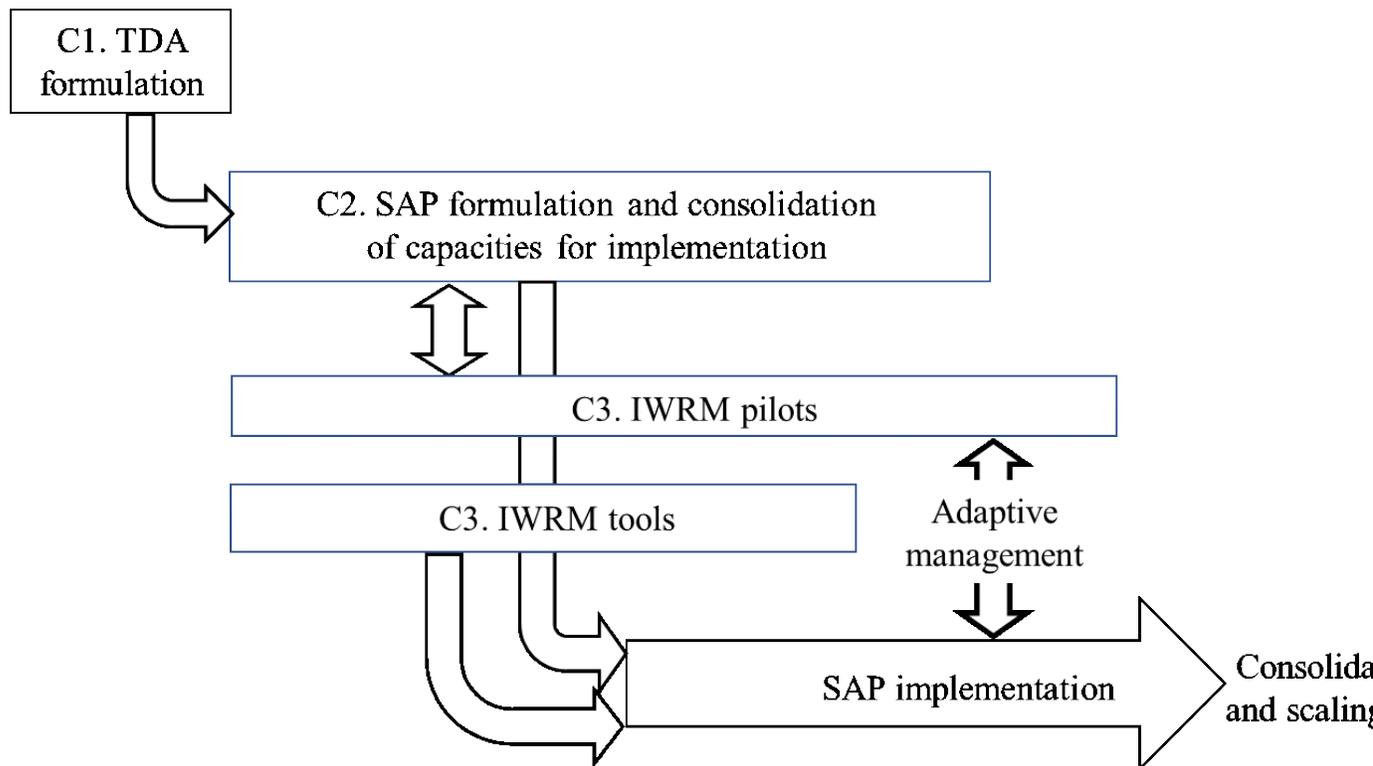
II. 1a. 3) The proposed alternative scenario

80. The objective of the project is to strengthen public and private sector capacities in Brazil and Uruguay for joint and integrated water resource management (IWRM) in the Mer?n Lagoon Basin, with emphasis on the sustainable and efficient use of water, preservation of ecosystems and their services, and adaptation to climate change, through the development of a Transboundary Diagnostic Analysis and Strategic Action Programme (SAP).

81. Achievement of this objective will in the medium term (post project) result in the full, sustained and adaptive implementation of the SAP, permitting the sustained generation of global environmental benefits together with social and economic benefits in both of the participating countries.

82. The theory of change is presented in detail in Figure 4, and summarized in Figure 3.

Figure 3. Summarized theory of change and project sequencing



83. The key sequential elements of the theory of change are as follows:

1) Formulation of the **Transboundary Diagnostic Assessment (TDA)**, under Component 1 (C1) of the project. This will build on the considerable existing information resources and the work undertaken during project formulation to collate, synthesize and structure these in relation to the specifics of this project. The TDA process during the life of the project will focus in particular on ensuring that the key institutional stakeholders of the project, in the two participating countries, have a shared understanding of the status of the basin and the key issues that need to be addressed through the SAP. This situation will be achieved through a combination of continued desk-based work to collate and synthesize available information, and facilitated discussions to arrive at this shared vision.

2) Formulation of the **Strategic Action Programme (SAP)** and **consolidation of capacities for its implementation**, under Component 2 (C2). The SAP will be the most important product of the project, and its formulation will follow on sequentially from the TDA, on the results of which it will be based. Project actions will cover not only the formulation of the SAP *per se*, but also the strengthening of the existing institutions and mechanisms that are required to sustain its effective implementation, as well as

the strengthening of mechanisms for decision-making that are necessary to allow it to be implemented in an adaptive manner that responds to reliable and updated information on conditions in the basin, and balances the interests of different stakeholders.

3) **Pilots of approaches to integrated water resource management (IWRM)**, under Component 3 (C3) to validate and demonstrate alternative approaches to resource management at ground level. These pilots will have two main functions: firstly, they will generate ideas and experiences which will inform and enrich the SAP formulation process; secondly, they will act as crucibles for the application and scaling up of the recommendations of the SAP process, during and beyond the life of the project. There will therefore be an iterative relation between Components 2 and 3, whereby the pilots under C3 inform and enrich the SAP process, while at the same time the pilots will respond adaptively to the emerging strategic orientations generated through the multi-stakeholder negotiations under the SAP process.

4) The establishment of the pilots and the implementation of the SAP at ground level will be supported through the establishment of **IWRM support tools**, also under Component 3.

84. The scope of both the TDA and the SAP will be the Binational Basin of Mer?n Lagoon as a whole, given that the effective management and generation of global environmental benefits in the two binational water bodies that it contains (Mer?n Lagoon and the Yaguar?n River) will depend on the application of an integrated whole-basin approach to planning and management, in order to address basin-wide flows of ecosystem services and impacts that affect those water bodies. The pilots proposed under Component 3, however, will especially focus on the two binational water bodies themselves, in order to maximize impacts with the available funds in line with the priorities of the International Waters focal area.

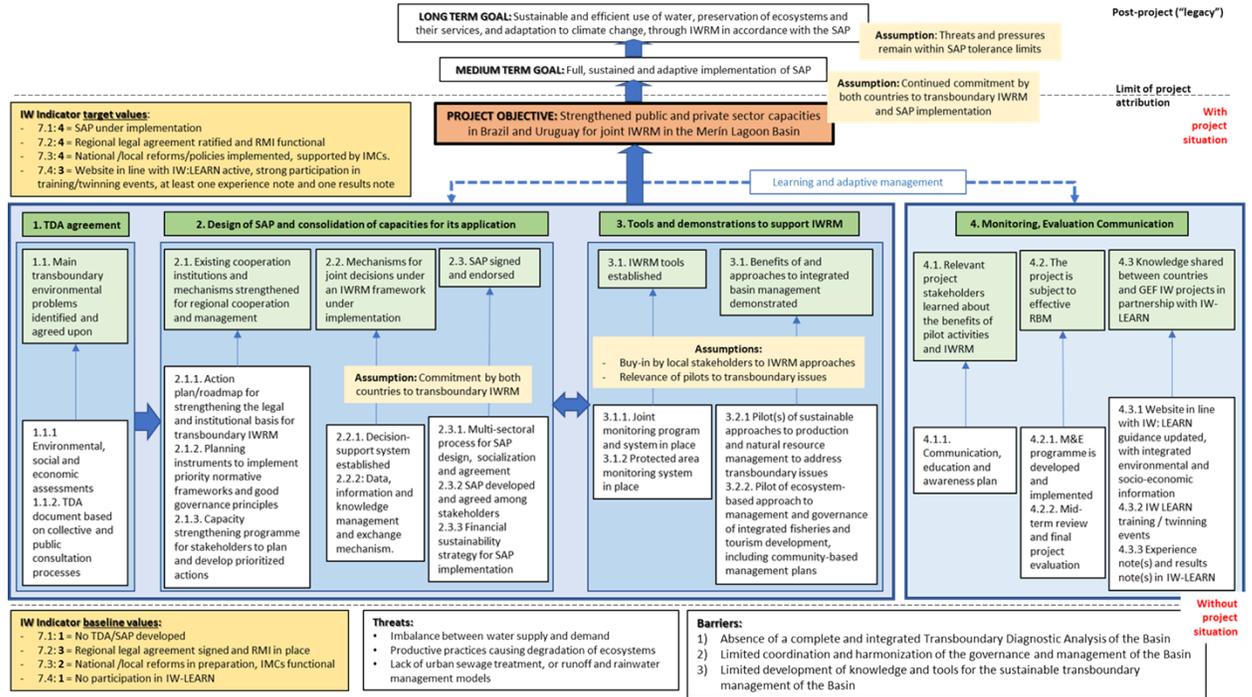
85. The core assumptions implicit in the theory of change are that:

- There is **commitment by both countries to transboundary IWRM**. This commitment is evidenced by the existing treaty and institutional frameworks for collaborative management. The effectiveness of the application in practice of the provisions of the treaty is currently limited, but the project will provide a catalyst for this collaboration to be reinvigorated, through the facilitation of the TDA and SAP processes, backed up by valuation and decision-support tools, and pilots of management options with transboundary dimensions, which will raise awareness among all actors of the benefits to be gained from effectively harmonized and collaborative management.

- There is **buy-in among local actors** (communities and private sector actors) to the IWRM options that are to be included in the pilots, allowing these pilots to be supported and sustained, and to generate real social and environmental benefits with transboundary dimensions. This assumption in turn depends on the genuineness and effectiveness of the multi-stakeholder processes that will be used for selecting and designing the pilots.

- **The pilots are relevant** to the key issues, with transboundary dimensions, that are affecting the basin, in order for their results to serve in fostering commitment among institutional actors to binational collaboration.

Figure 4. Theory of change



Outcomes and outputs

Component 1. Transboundary Diagnostic Analysis (TDA) of the Mer?n Lagoon basin

Outcome 1.1 Main transboundary environmental problems, causes, drivers and impacts in the Mer?n Lagoon Basin and Yaguar?n River identified and agreed upon by both countries through a Transboundary Diagnostic Analysis.,

86. The project will support the formulation of a Transboundary Diagnostic Analysis (TDA) for the Mer?n Lagoon Basin. In accordance with the IW process and the Theory of Change, this will provide the basis for the negotiated formulation of the binational Strategic Action Programme (SAP) for the Basin. The process of formulating the TDA will be used as an opportunity to achieve binational and multi-stakeholder consensus on the condition of the Basin, the threats facing it and the in particular the nature of the transboundary dynamics that provide the justification for concerted binational efforts under this International Waters (IW project).

Box. 1. Transboundary Diagnostic Analyses[41]⁴¹

The main technical role of a TDA is to identify, quantify, and set priorities for environmental problems that are transboundary in nature. The key steps in the TDA process are:

1. Defining system boundaries
2. Collection and analysis of data/information
3. Identification & prioritisation of the transboundary problems
4. Determination of the environmental and socio-economic impacts
5. Analysis of the immediate, underlying, and root causes
6. Development of thematic reports
7. Identification of leverage points
8. Drafting the TDA

The TDA provides the factual basis for the strategic component of the TDA/SAP Process ? strategic thinking, planning and implementation of the SAP. In addition to this, however, the TDA should be part of a process of engagement and collaboration with stakeholders through the initial TDA steps and the subsequent development of alternative solutions during the formulation of the SAP. Consequently, studies of institutional capacity, governance, and investment are all essential components of the TDA.

87. Formulation of the TDA will be based on the principles of the water/food/energy/land nexus, and Integrated Watershed and Coastal Area Management. The process of identifying and agreeing on the main issues of transboundary concern in the basins, their causes and possible solutions will be based on the scientific findings of the assessments as well as local knowledge and participatory processes, and will consider the previous experience of different programs carried out in the basin. The approach will focus on water, land, fishery resources and biodiversity management for sustainable, productive, equitable or inclusive and resilient use. Regarding the coastal area included in the project, the TDA will incorporate an Integrated Coastal and Watershed Area Management approach, as a coordinated strategy of natural, socio-cultural and institutional resource allocation for the conservation and sustainability of the multiple uses of the coastal zone.

88. The Transboundary Diagnostic Analysis (TDA) will be based on open governance mechanisms, taking advantage of the existing institutional framework to promote cooperation between the different areas of interest in the Basin. The diagnosis of each country will be examined and integrated in a status of the basin from a comprehensive water resources perspective, including regulatory, management, climate, geomorphology, hydrology, social, economic, ecological, cultural aspects (local production, tourism, anthropology), water uses and impacts on the basin. This is essential for the development of

mechanisms to promote social cohesion between the Brazilian and Uruguayan societies of the Mer?n Lagoon Basin and Yaguaron river region.

Output 1.1.1 Environmental, social (gender, ethnicity and youth), economic and governance assessment, including ecosystem services valuation.

89. The TDA process to be supported by the project will take into account the significant knowledge base that already exists and that is summarised in the context section above. It will therefore focus on filling in information gaps and updating the information generated prior to and during the PPG phase. This is especially important given the constantly evolving situation with COVID-19, and its implications for socioeconomic conditions and the social/productive drivers of the environmental issues set out in the previous section.

90. Key activities of the project to this end will be:

1. Review, at project inception, of the current state of knowledge, and agreement with key stakeholders of the key gaps to be filled and issues to be updated (see below).
2. Completion and updating of the environmental and social characterisations carried out prior to and during PPG, including ecosystem service valuations, and updating of the implications of the COVID-19 pandemic.
3. Completion and updating of the comparative analyses for the alignment of legislative and institutional frameworks carried out during PPG, and identification of governance deficiencies and opportunities (national and sub-national) on priority topics, including protected areas, fishing, pollution and energy.
4. Production of a binational atlas of the Mer?n Lagoon Basin. This will be a descriptive and analytical document, based on cartography, which describes and analyses the situation of the CBLM from a territorial viewpoint, integrated with an environmental vision of the hydrological basin. It will support the proposal of new strategies for territorial planning and integrated planning of water management at basin scale, generating maps of trends in land cover and use over time, in order to relate these to changes in the condition of water resources and environmental conditions; maps of ecosystems (with emphasis in Ramsar wetland sites); and the identification of cultural and archaeological heritage.
5. Cause-effect analyses, through the pressure-state-response methodology, defining future scenarios and recommendations for the SAP process.

91. Subject to confirmation by key project stakeholders at inception, the updated assessments will focus on issues including the following:

- ? **The current state (quantity and quality ? covering sedimentation, physio-chemical and biological indicators, including zooplankton) of water resources (surface water and groundwater) including watercourse, lakes, wetlands, coastal lagoons;**
- ? Soil conditions, particularly total content of phosphorus in order to estimate the P-index;
- ? The current state of fishery resources, aquaculture production capacity; and effects of fishery and aquaculture activities on biodiversity and the environment;
- ? Surveys on climate services and creation of a list of climate services tailored to support rice producers and fishermen;
- ? Risk and impacts from sea level rise, floods, droughts and other adverse climate events (both long term trends and sporadic events) and climate variability;
- ? Sources of pollution and critical points for specific and diffuse pollution, with emphasis on nutrients;
- ? Poverty, gender, ethnicity and access to resources and rights, and vulnerability;
- ? Governance, participatory planning and decision-making process between sectors and actors;
- ? Trends in land use and processes, drivers and severity of natural resource degradation in the basin;

? State of conservation and sustainable use of biodiversity including agricultural, forest, aquatic and livestock biodiversity;

? Analysis of wetland status and fragility

? Analysis and assessment of the economic values of ecosystems and their services, and the economic impacts of their degradation or loss.

Output 1.1.2 Transboundary Diagnostic Analysis document based on collective and public consultation processes, and best available science and data:

92. Project resources will be used to support the communication, consultation and multi-stakeholder validation of the updated situation assessments that will be developed under Output 1.1.2, focusing in particular on common and transboundary issues. This will be a participatory and interactive multi-stakeholder process, the methodological details of which will be confirmed at project inception. In addition to reviewing and validating the results of the assessments, it will involve the stakeholders in the two participating countries comparing their respective situations as highlighted in the assessments, reflecting on their transboundary dimensions and implications, and arriving at a binationally-negotiated prioritization of issues to be addressed through the SAP.

-

Component 2: Design of a Strategic Action Programme (SAP) for the Mer?n Lagoon Basin, and consolidation of capacities for its application

Outcome 2.1. Existing mechanisms and institutions for integrated management and coordination are strengthened to enable integrated, better coordinated and effective joint governance, cooperation and management of the Mer?n Lagoon Basin.

IW Core sub-indicator 7.2 (Progress with legal agreements and regional management institutions, at binational, national and subnational levels, to support SAP implementation):

- ***Baseline value = 3:*** Regional (binational) legal agreement ratified and RMI functional, but legal/institutional basis underdeveloped and underutilized in making strategic decisions with basin-wide implications
- ***Mid-term target = 3:*** Regional (binational) legal agreement ratified and RMI functional, with legal basis and RMI (CLM) undergoing strengthening
- ***End of project target = 4:*** Regional (binational) legal agreement ratified and RMI functional, with legal basis strengthened, detailed and more effectively implemented, under the umbrella of a fully operational RMI (CLM).

IW Core sub-indicator 7.3 (Progress with national/local reforms and active participation of Inter-ministerial Committees)

- ***Baseline value = 1:*** Neither national/local reforms nor IMCs
- ***Mid-term target = 2:*** National/local reforms in preparation, IMCs functional
- ***End of project target = 4:*** National /local reforms/policies implemented, supported by IMCs and supplemented by governance reforms at binational level.

93. Under this outcome, the project will invest in ensuring that conditions, instruments and capacities exist for the effective implementation of the SAP, recognising the central role of the CLM in developing plans and strategies for the management of the Basin, and the prerogative of national institutions in the two participating countries in relation to the definition and improvement of legal and institutional frameworks.

Output 2.1.1: Action plan/roadmap for strengthening the legal and institutional basis for transboundary IWRM at all levels

94. The harmonisation of legislative instruments between the two countries and across sectors is an essential prerequisite for the effective management of transboundary processes in relation to, for

example, river transport, fisheries and flows of water-borne contaminants, in order to minimise the risk of impact leakages.

95. Given that bringing about reforms to legal instruments, in order to achieve this harmonisation, is outside of the scope and timeframe of the project, its target will be to achieve agreement on a negotiated action plan/roadmap to be followed by the competent authorities in order for those reforms to be pursued in the longer term.

96. To this end, the project will support interstate, intrastate and stakeholder discussions on options and priorities for strengthening and, where appropriate, harmonizing national and binational governance frameworks and institutions for participatory IWRM in a transboundary context. This will involve the design of studies; the provision of expert legal and technical advice; the exploration of alternative governance, financing and management models; participatory workshops; high-level meetings; and the facilitation and/or provision of facilities for binational negotiations. The project will result in the generation of concrete recommendations to inform domestic, intrastate and interstate negotiations on policy reforms and harmonization (including on topics such as treaty implementation, binational coordination, stakeholder participation, and financing of key binational and domestic institutions); and support CLM in the design and submission of draft joint regulations for the Parties? approval on priority topics (e.g. governance, financing, infrastructure, fisheries and the ecosystem approach, financial sustainability, nature-based solutions).

97. An essential requirement for this process of regulatory harmonization will be the achievement of consensus on the guiding principles for the management and governance of the Basin, through multi-stakeholder discussions facilitated and oriented through the project. Subject to validation by key stakeholders at the start of the process, it is proposed that the issues on which consensus will be sought through these discussions will include the following:

- Criteria and options for the **incorporation of sustainability considerations into the agriculture sector** and for promoting synergies with other sectors
- The application of the **Ecosystem Approach to Fisheries** as a guiding principle for the definition of binationally-agreed harmonized management, to be supported by harmonized fisheries regulations, implemented under a framework fisheries management plan for the Mer?n Lagoon (under Output 2.1.2) and applied in pilots of sustainable fisheries under Output 3.2.2.
- **Transboundary approaches to biodiversity conservation and management**, including principles for the transboundary harmonization of protected area management in order to avoid impact leakages and to promote biological connectivity.
- **The design and management of infrastructure** with implications for hydrological conditions, aquatic biodiversity and fisheries (such as dredging, ports, dams, locks, sluices and waste water treatment plants), including agreement on management objectives and environmental standards, taking into account issues with transboundary implications.
- The need for **ecological flows** for aquatic biodiversity, balanced against water abstraction needs in low-flow periods;
- **Basin-wide water accounting** to optimize the equity of water availability among different sectors and across the Basin;
- The management of **salinity levels** within the lagoon taking into account considerations of biodiversity and irrigation needs.
- Criteria, objectives and strategies for **sustainable tourism**;
- Clean energy, including options for identifying and addressing potential trade-offs with landscape and biodiversity values.

98. Specific needs to be addressed under this output are summarized in Table 2.

Table 2. Specific issues to be addressed in strengthening the legal and institutional basis for transboundary IWRM

Issues to be addressed	Results of project actions
CLM	
Within CLM structure, absence of a permanent binational body to execute and follow-up on Commission decisions, coordinate between the Brazilian Section and the Uruguayan delegation and jointly engage with stakeholders and other cooperation forums between the two countries.	Model chosen by the countries in place and operational on a permanent basis, under the auspices of the CLM and its two national sections, to improve treaty implementation, decision follow-up, binational coordination, and stakeholder participation.
Insufficient staff and resources for CLM to perform its functions, including because of the absence of predictable funding streams for joint activities in the form of e.g. regular state contributions earmarked on the respective national budgets.	Model chosen by the countries in place and operational to improve financial sustainability of the cooperation process and CLM resourcing and staffing
Underutilized and insufficiently developed mechanisms for stakeholder participation in CLM activities and meetings.	Model chosen by the countries in place and operational to enhance stakeholder engagement in transboundary basin governance and management.
Limitations and lack of clarity on CLM's international legal personality in its relations with other international bodies.	Model chosen by the countries in place and operational to streamline relations with potential funders and partners under the cooperation process.
National CLM sections	
Absence of formally established, well-known and effectively employed channels of regular communication, consultations, and exchange between the two secretariats to promote treaty implementation and, where appropriate, its progressive development.	Model chosen by the countries in place and operational to allow for regular communications between the secretariats of each CLM section.
Unclear and/or insufficiently developed mechanisms for the participation of national stakeholders in the activities and meetings of each CLM Section.	Model chosen by each CLM Section in place and operational to enhance transparency and stakeholder engagement in their respective national meetings and other activities.
Mer?n Lagoon-S?o Gon?alo Management Committee (Brazil)	
Lack of adequate resources, lack of an executive body to advise and support the Committee and lack of implementation of the water charges needed to finance such a body, as envisioned and required by the applicable legislation ? a role currently performed by the state agency, but with insufficient financial and human resources to do so effectively.	The Government of Rio Grande do Sul, through its Water Resources Council, and in consultation with the State Water Resources Department and the Committee, consider the legal and financial requirements for establishing a Water Agency or nominating other authorized entity for temporarily servicing the Committee until said requirements are met and assess the viability of fulfilling those requirements in the course of the TDA/SAP process.
Pending adoption of the basin management plan meant to guide and govern the Committee's activities and long-term programming.	Basin management plan at the state level adopted, with a financing plan to support its future implementation.
Regional Water Resource Council (Uruguay)	
Pending adoption of the regional water resources plan meant to guide the Council's activities and long-term programming.	Regional water resources plan adopted, with a financing plan to support its future implementation.

Absence of a dedicated body, under the Council's umbrella, dealing with groundwaters and their relationship to the Lagoon and the wider basin	Absence of a dedicated body, under the Council's umbrella, dealing with groundwaters and their relationship to the Lagoon and the wider basin
Lack of representation of certain key actors in the Council's composition and their active participation in its activities, such as artisanal fishermen, the tourism sector as a whole, including the competent ministry, businesses and sector workers, and local populations at the sub-basin level	Support provided for discussions within the Council on options to improve representativity of basin stakeholders among its membership and better engage all relevant actors in its meetings and other activities and enhance transparency: reforms implemented within the Council to improve representativity and transparency.

Output 2.1.2 Planning instruments to implement priority normative frameworks and good governance principles

99. The project will support CLM and other relevant national organisms in relation to their roles in developing planning frameworks for the Basin. Subject to further multi-stakeholder validation at project inception, it is proposed that this will result in the formulation of framework plans covering key thematic issues of particular relevance to the transboundary management of the Basin and the generation of global environmental benefits, including the following:

- Development of aquatic transport as part of a plan of logistical integration and environmental sustainability;
- General aspects of the binational management of the fisheries of the Basin;
- Sustainable tourism, linked where possible with other thematic sectors including sustainable community-based fisheries management and biodiversity conservation;
- Clean energy (potentially including wind energy, taking into account its potential impacts on landscape and biodiversity values, and its potential contribution to economic and financial sustainability);
- Biodiversity conservation, including the binational harmonization of protected areas planning and management in order to optimize biological connectivity and reduce the risks of cross-border impact leakages.
- The integration of Territorial Land Use plans in different levels of Government as a tool for integrated resource management

100. These proposed instruments will constitute thematically-specific elements of the overall SAP, and will also provide the frameworks for the pilots proposed under Component 3: for example, the binational fisheries management plan will provide the framework (in terms of principles, strategies, broad zoning and targets) for the formulation and pilot implementation of community-based fisheries management plans in specific locations of the two national territories.

101. Project support will include, as necessary, the design and execution of complete and detailed studies for the participatory development of sectoral joint management and investment plans, and the facilitation of the participatory multi-stakeholder processes for the formulation of the plans, taking advantage of and as necessary strengthening existing participation mechanisms and other relevant entities. Specifically, the project will support a study into the generation of clean energy in the Basin (a priority of the Ministry of Rural Development in Brazil), and its potential to contribute to economic and financial sustainability of the water infrastructure and the management of the Basin.

Output 2.1.3. Capacity strengthening programme developed for relevant stakeholders in national and regional governments and other relevant actors to plan and develop prioritized actions (supported by IW- LEARN)

102. The capacity building component of the project is targeted at state and regional stakeholders (including resource management agencies, NGOs, academia, etc.) with expertise in the basin's

resources. This output will carefully consider the results from the Gender Mainstreaming Strategy to include a gender approach in the capacity programmes, which will include training in:

? Data collection, analysis and management using information technology including gender disaggregated data on socioeconomic aspects

? Water balance and development of future water scenarios due to climate variability and climate change, which will make it possible to assess water stress and environmental and socio-economic impacts;

? Integrated Water Resources and watershed Management and Integrated Coastal Lagoons Management;

? Groundwater and shared aquifers management.

103. Capacities for binational water governance monitoring will be strengthened, based on a review of existing water governance monitoring frameworks (such as the OGA Protocol in Brasil <https://observatoriodasaguas.org/>)

104. The regional offices (the Mer?n Lagoon Basin Commission in Uruguay and the Mer?n Lagoon Agency in Brazil), which are established as permanent instruments for orientation, support, dialogue and promotion of transboundary management in the Mer?n Lagoon Basin municipalities, will be strengthened in areas such as: federal cooperation and institutional agreements, support in the elaboration of projects and programmes focused on regional development; innovation in processes to improve water management, production of information for management (geoprocessing).

105. Further capacity needs analyses will be carried out at project start, permitting the formulation of detailed capacity enhancement plans and strategies for the institutions in question. Both the needs analyses and the capacity enhancement planning will be carried out as fully interactive processes with the members of these institutions, in order to ensure relevance and buy-in. Subject to the results of these processes, it is foreseen the capacity enhancement will combine a range of complementary approaches, including workshop-based problem analyses and strategising in order to raise participants' awareness of needs and approaches for integrated transboundary management; on-the-job training in areas such as the use of information technology; and the co-formulation of strategy and procedural guidance documents. Capacity enhancement will be managed as a process, including follow-up assessment and refreshment as needed.

106. With facilitation by the project, full advantage will be taken of the capacity development opportunities offered by IW-LEARN (<https://iwlearn.net/learning/courses>). Recent and ongoing online courses available through IW-LEARN cover, for example:

- International Waters Project Management
- Governance for Transboundary Freshwater Security
- Sustainable Blue Economy
- Introduction to Integrated Water Management
- OTGA Training Course: Research Data Management
- Biodiversity Finance

Outcome 2.2. Improved joint decision-making processes under an integrated water resource management (IWRM) framework

Output 2.2.1: Decision-support systems (DSS) based on participation, integration and dissemination of data and information, their analysis and planning:

107. The project will support systems and procedures to support decision-making across the shared basin, based on information and monitoring that considers aspects such as resource allocation, water quantity and quality, ecosystem preservation, and emergency situations management (floods, droughts, wildfires). These systems and procedures will consider stakeholder responsibilities and competencies and will be administered by the CLM.

108. The DSS will support decision-making by permitting the modelling of alternative future scenarios and their implications, for example through:

- Hydrological modelling, considering the implications for basin-wide hydrology, water balances and water quality of alternative scenarios for the management of water infrastructure (e.g. reservoir outflows, sluices in the lagoon system, surfacewater and groundwater abstraction);
- A hydrodynamic model including: i) a preliminary flood risk assessment of the project area, flood hazard maps and flood risk maps; ii) the preparation and implementation of flood risk management plans for achieving certain levels of protection; iii) analysis of minimum flows to ensure the functioning of the ecosystem; and iv) social, economic and environmental development diagnosis.
- Modelling of the implications of alternative climate change scenarios for e.g. river flows, water abstraction needs for irrigation, the impacts of sea level rise and salinity incursion on aquifers;
- The development of harmonized criteria for the classification, management and control of water infrastructure (such as canals and defence works) based on a strengthened and updated registry of infrastructure, permitting the modelling of alternative development and management scenarios and their implications.

109. Decision-making will further be supported through the application of economic valuation tools (such as Targeted Scenario Analysis and Natural Capital Accounting) that allow the relative net economic outcomes of alternative scenarios to be estimated, taking into account diverse biophysical, productive and socioeconomic variables and allowing decision-makers to examine the implications of varying their assumptions or varying the relative levels of importance assigned to different factors. These valuation tools will also take into account gender aspects, especially in relation to gender differences in water use and vulnerabilities.

110. The United Nations Economic Commission for Europe (UNECE) document 'Identifying, Assessing and Communicating the Benefits of Transboundary Water Cooperation'[42]⁴² provides guidance on approaches for evaluating the benefits of cooperation, for example in relation to ecological functions and services: the results of such evaluations would contribute to decision-making and therefore would be fed into the DSS.

Output 2.2.2: Data, information and knowledge management and exchange mechanism, with agreed rules and procedure and a shared database

111. A data exchange agreement and platform will be designed by the CLM and responsible national entities, which will also, following its approval by participating Governments, be responsible for its establish and management, with the participation as well of the national institutions responsible for the tributaries of the lagoon. It will include data and information on water quality and quantity, climate scenarios, and hydrographic models[43]⁴³.

112. The project will seek to strengthen the exchange of meteorological data between Uruguay and Brazil and to develop an Impact Assessment Toolbox for the monitoring of different trans-boundary hazards currently affecting the lagoons (e.g. flooding and sea level rise).

Outcome 2.3. Strategic Action Programme (SAP) socialized with stakeholders, agreed with national governments, signed and endorsed at ministerial level

IW Core sub-indicator 7.1: Level of Transboundary Diagnostic Analysis and Strategic Action Programme (TDA/SAP) formulation and implementation

- *Baseline value = 1: No TDA/SAP developed*
- *Mid-term target = 3: TDA finalized*
- *End of project target = 4: SAP under implementation*

113. On the basis of the TDA and broad public participation, the States will reach a comprehensive agreement through a Strategic Action Programme for the management of the basin. The SAP will

include structural and non-structural measures, policy recommendations, communications, and a sound financing strategy, reviewed through a multi-sectoral process, socialized with stakeholders and agreed with national governments.

Box. 2. The Strategic Action Programme (SAP) process^[44]⁴⁴

The SAP is a negotiated policy document that should be endorsed at the highest level of all relevant sectors. It establishes clear priorities for action (for example, policy, legal, institutional reforms, or investments) to resolve the priority problems identified in the TDA. The preparation of a SAP should be a highly cooperative and collaborative process among the countries of the region. The strategic component of the SAP process has 2 key phases:

1. Strategic Thinking:
 - a. Defining the vision
 - b. Setting goals to achieve the vision
 - c. Brainstorming innovative ideas and opportunities to meet the goals
 - d. Strategising the new ideas and opportunities? prioritising alternatives
2. Strategic Planning:
 - a. National and regional consultation processes
 - b. Setting strategies for implementation
 - c. Setting actions, timescales, priorities and indicators
 - d. Drafting the SAP
 - e. Steps towards SAP implementation

The 2 phases outlined above take the SAP process from a water system focus to a national focus and then back to a system focus.

Output 2.3.1. Multi-sectoral process for formalization and socialization of the SAP of the Mer?n Lagoon Basin agreed and implemented.

114. The eventual relevance and uptake of the SAP will depend to a very large degree on the adequacy of the processes whereby it is formulated, and in particular the effectiveness of the participation of the diverse stakeholders. A key first step, to be facilitated through the project, will therefore be to bring the key stakeholders together to agree on the formulation process, and the methodologies and rules for their participation, and to develop and agree on a detailed workplan for the SAP process.

Output 2.3.2 SAP developed and agreed among stakeholders, and signed at ministerial level

115. Guided by the workplan and agreed processes, the project will then facilitate the multi-stakeholder formulation of the SAP in accordance with IW guidelines (see Box. 2), followed by its validation and communication to key stakeholders, and its signing at ministerial level.

116. Given the strong focus of the SAP development process on the involvement of local governments and civil society, this will be closely coordinated with the EUROSocial+ project, which aims at strengthening social cohesion and local governments in the border areas, assessing socio-economic and environmental impacts from a Basin perspective, and strengthening cross-border cooperation programmes in the Uruguay River Basin and the area around the Merin Lagoon^[45]⁴⁵. The latter is mentioned in the Action by the EUROSocial+ Programme in Brazil (https://eurosocial.eu/wp-content/uploads/2021/02/3_309_brasil-febrero_2021_EN-2.pdf), in the Line of Action: Regional Development Assistance. In Brazil, the MDR and the Brazilian Cooperation Agency (ABC) are involved in the Programme and will be in direct contact with the GEF project team.

Output 2.3.3 Financial sustainability strategy for implementation of SAP developed and agreed

117. The long-term sustainability of the implementation of the SAP will depend in part on the existence of mechanisms to ensure the continued availability of financial resources. The financial sustainability strategy will include:

- An analysis of financial needs for the different elements proposed in the SAP
- Identification of financing opportunities (e.g. recurrent budgets, taxes/duties/levies, payment for environmental services etc.)
- Selection of options of financial sustainability strategies
- Formulation of financial sustainability strategy/plan with projections.
-

Component 3: Tools and demonstrations to support implementation of IWRM

118. The countries resolve to undertake joint actions supported by field testing sustainable approaches, policies, practices, technologies and innovations, and impacts monitoring (environmental, social and economic), sharing results and experiences, and recommending solutions.

119. As set out in the project theory of change, Component 3 will focus on field-level actions required for the implementation and validation of the proposals contained in the SAP. These field-level actions will focus especially on the two binational water bodies located within the Binational Basin of Mer?n Lagoon, namely Mer?n Lagoon itself and its tributary the Yaguar?n River.

120. Outcome 3.1 will focus on establishing specific tools to support IWRM in practice, within the overall framework of the capacities and mechanisms to be developed across the Basin under Outcomes 2.1 and 2.2. Outcome 3.2 will focus on the pilot application of specific practical approaches to resource management: the results of this validation will then be fed back in an iterative manner into the SAP process in order to allow the SAP to be adjusted as necessary through iterative learning and response, throughout the latter part of the project and beyond. The pilots proposed under Outcome 3.2. will also provide the seeds for future scaling out beyond the life of this foundational project.

Outcome 3.1. Integrated Water Resource Management tools established

Output 3.1.1. Joint monitoring systems in place

121. Consistent monitoring of key environmental variables at field level is essential in order to plan and implement effectively harmonized binational management efforts in the Basin.

122. A common framework for monitoring will be approved by the CLM, to guide the monitoring programmes of national actors in both countries, including the National Water Authority (ANA) in Brazil and the National Water Directorate (DINAGUA) and the National Directorate for the Environment (DINAMA), both from Uruguay. Specifically, this will allow for shared, planned and coordinated actions in water quantity and quality monitoring, especially with regard to sampling points, analysed parameters and the methodologies used in analyses in the Mer?n Lagoon and its basin. Additional variables to be covered through these improvements to joint monitoring will be defined at project outset.

123. A transboundary monitoring system will also be established in place for the fishery resources of the Mer?n Lagoon Basin within an integrated watershed and coastal area management framework: this will involve basin-level bodies in each country and also cover the tributaries of the lagoon (especially the Yaguar?n River), the fish populations in which are connected to those of the lagoon itself. This will generate field-level information that will permit the adaptive application of the Lagoon-wide framework plan for fisheries management proposed as one of the elements under Output 2.1.2, as well as the specific community-based fisheries management plans proposed under Output 3.2.2. Recording of catch volumes (total and per unit effort) and sampling of fish sizes, by species, will be integral elements of the application of the community-based management plans.

124. An early warning system will also be established, for floods, droughts and water quality issues such as cyanobacteria blooms.

125. The data generated through this harmonized monitoring will feed into the data exchange agreement and platform that will be established as Output 2.2.2, allowing them to be used in informed and effectively harmonized decision-making as proposed under Output 2.2.1.

Output 3.1.2 Protected areas monitoring system

126. A monitoring system will be established for the protected areas in the Basin, with a particular focus on wetlands (including coastal lagoons), especially those with transboundary and regional significance, such as the Baños del Este and Laguna de Rocha Ramsar site in Uruguay. Tools such as remote sensing, rapid ecological assessment and digital sensors will be used to identify critical sites and monitor changes in their conditions, and participatory monitoring schemes will be developed and implemented focusing in particular on participatory monitoring of wetland (and ricefield) birds. Particular attention will be paid issues with landscape/basin-wide and transboundary dimensions, such as water flow dynamics and quality, which may be affected by water management decisions elsewhere in the basin; and the implications of transboundary biological connectivity for wetland biodiversity.

127. The results of this monitoring will be used to inform management decisions at local level, in the context of the pilots proposed under Outcome 3.2, and also the formulation of framework plans for biodiversity conservation as proposed under Output 2.1.2, including the formulation of proposals for the restoration of biological corridors connecting the currently fragmented wetland units.

Outcome 3.2. Benefits of integrated basin management demonstrated as the first stage of SAP through the implementation of pilot projects

128. In the PPG Inception Workshop (see Annex H.3.2 on Stakeholder Consultation during PPG), one of the central aspects expressed with regard to the project and its objectives was the concern to move towards more sustainable forms of production, in particular with regard to the agricultural sector (with emphasis on rice production), the fisheries and aquaculture sectors, and tourism, given the pressure they currently exert on water resources and the environment at the Basin level.

129. Informed by the results of PPG analyses (and additional information generated through the TDA during the first year of the project), the project will support analyses and discussions with the multiple key institutional stakeholders of the Basin to prioritise the issues to be included in pilots, and potential locations for them to be established. Consultations will then be held with local stakeholders in target communities and sectors, in which participatory situation/problem analyses will be carried out and the specific nature of the pilots will be confirmed. The pilots will then be designed in detail, taking into account the results of the stakeholder consultations, and also technical studies to be contracted through the project. Detailed descriptions of the pilots and the specific quantifiable output indicators for the specific pilots and the entire project will be submitted to the GEFSEC within the first year of implementation.

Output 3.2.1 Pilot(s) of sustainable approaches to production and natural resource management to address transboundary issues

130. Subject to the results of the analyses and multi-stakeholder discussions explained above, the options for sustainable production and natural resource management to be included in the pilots may include the following:

- Improved water/irrigation management in rice production systems, within overall frameworks of natural resource and land use governance, and water accounting that recognises the downstream ecological and social values of water return flows that are not used by crops^[46], and land use governance.
 - Climate smart agricultural practices for rice plantations in order to better use water resources, reduce GHG emissions and improve nutrient use efficiency;
 - Agroecology and the integration of biodiversity into production systems
-

- Other sustainable agricultural practices to reduce the impacts of livestock and rice plantations on water quality and flows (e.g. from agrochemicals; nutrient loading; erosion), with a focus on activities in the Yaguaron River watershed.

Output 3.2.2. Pilot(s) of ecosystem-based approach to management and governance of integrated fisheries and tourism development, including community-based management plans

131. Within the overall framework of the fisheries management plan for the Basin proposed under Output 2.1.2, the project will support the formulation of fisheries planning instruments for the transboundary waters of the Mer?n Lagoon itself and the Yaguar?n River, together with location-specific pilots of integrated fisheries and tourism development, designed and managed in a fully participatory way by local fishing communities in accordance with the principles of the Ecosystem Approach to Fisheries (EAF).

132. The integration of fisheries and tourism would respond to the fact that tourism high seasons tend to coincide with closed seasons for fisheries, and might involve, for example, the establishment of a fisheries-focused tourism route, the use of fishing vessels for tourism and the development of tourism-related markets for fisheries products. The small numbers of indigenous peoples living in the Brazilian side of the Basin mostly have handicraft production as their main livelihoods: during project implementation, it will be investigated whether there are any opportunities for linking their handicraft production to these fisheries/tourism initiatives.

Box. 3. The Ecosystem Approach to Fisheries (EAF) in the context of the project (see also Supplementary Annex 5 for more detail)

The Ecosystem Approach to Fisheries (EAF) proposes a set of principles, criteria and methodological considerations for fisheries management that transcends traditional schemes.

Implementation of the EAF essentially involves answering the following questions:

- What impacts are fishing activities having on target and associated species and the ecosystem of which they are components?
- What impacts are fishing activities having on resources or human activities managed by other sectors?
- What are the costs and benefits of fishing and its related activities (in both economic and social dimensions) to society as a whole?
- What other activities and drivers outside the control of fisheries management are affecting the ability of the fishery to achieve its management objectives?
- What other activities and drivers outside the control of fisheries management are affecting the ability of the fishery to achieve its management objectives.

At the very least, questions of management and participation, access and use rights to fisheries resources, and the differences in power relations between actors that these issues entail, should be added.

133. Management plan formulation under the EAF will involve a participatory process of identification of the problems affecting management, and the determination of information needs in order to establish a baseline. This will start with a consensual definition of the social, economic and ecological objectives to be achieved, according to the fisheries, the nature of the problems and the characteristics of the problems; and the specification of the limits and scope of the management plans to be designed. It will also be necessary to generate rules and regulatory instruments, with defined strategies for the monitoring, control and surveillance of their compliance. Social stakeholder groups will play a fundamental role in the design and implementation of the strategies. The results of the participatory planning process will be condensed in a document that clearly describes the objectives, scope, benchmarks, targets and indicators of the desired management scheme.

134. It will be necessary to enrich the frameworks for decision-making on aquatic environments, that may affect fishing practices. Rather than replacing the management arenas envisaged by the fisheries

administration in Uruguay (the Zonal Fisheries Councils) or those of the social movements (COMIRIM), these be articulated where possible around other planning and management arenas, such as water use management and tourism. In any case, these management spaces will in no way replace those set up for fisheries management.

Component 4: Project monitoring, communication and evaluation

Outcome 4.1. Relevant project stakeholders are aware of the benefits of the pilot projects and integrated basin management

135. Under this outcome, global and local benefits will be generated through the exchange and dissemination of project experiences and lessons learned.

Output 4.1.1: Communication, education and awareness plan on the outcomes supporting the activities of the project developed:

136. The dissemination of findings and results will be carried out through workshops, conferences, webinars and other online tools, and the publication of documents, involving different water users. In addition, cooperation mechanisms will be established between the Universidad Federal de Pelotas (UFPel) and the Universidad de la Rep?blica (UDELAR) to provide access to undergraduate courses as well as mobility of professors and researchers, on issues related to bilateral relations and the scope of the Mer?n Lagoon Treaty, which brings countries together in promoting regional development and transboundary integration. The courses in question may include aspects related to environmental and water resource management in the Mer?n Lagoon Basin for primary and secondary school students; incorporation of social, economic and environmental aspects into water management, at tertiary (degree and post-graduate) level; and specific training for civil society actors in environmental and water resource protection. A cooperation agreement will be signed to promote Portuguese and Spanish as foreign languages for higher education students and teachers living in the border areas to facilitate interaction in the long term.

137. A cross-cutting environmental education plan will be developed and implemented, aimed at formal educational institutions (primary, secondary and tertiary) as well as other stakeholders (e.g. CSOs, private sector, water users). including a range of approaches to education (to be defined in detail during project implementation) and the establishment of teaching networks.

Outcome 4.2. The project is subject to effective RBM

Output 4.2.1. M&E programme is developed and implemented

138. The objectively measurable SMART indicators set out in the project results framework and indicative M&E plan (see Section II.9) will be operationalized at project start through the formulation and implementation of a more detailed M&E plan and system through a consultative process. These will specify responsibilities and (to ensure consistency over time) measurement methodologies, as well as procedures for analysing and reporting on M&E results.

Output 4.2.2: System for adaptive results-based management (RBM) of the project

139. Mechanisms will be incorporated into the project management structure for ensuring that M&E results are used to guide adaptive results-based management (RBM). Adaptive RBM will be applied on a continuous basis through the project implementation period based on continuous feedback from the project implementation team and stakeholders (facilitated through the project?s stakeholder participation mechanisms), as well as periodic measurements of project indicators in accordance with the programme set out in the M&E plan; the annual meetings of the Project Board, annual reporting of progress to GEF through Project Implementation Reviews (PIRs), and the external mid-term review (MTR) in particular, will provide more substantive opportunities for results-based management adaptation.

140. This will result in the co-formulation of an RBM plan to which Government partners will be fully ?bought in?, including provisions for corresponding capacity development and the proposal of an exit strategy allowing the framework to be taken on by relevant Government institutions in accordance with their needs and interests.

Outcome 4.3 Knowledge shared between Brazil, Uruguay, other countries and GEF IW projects in partnership with IW-LEARN

IW Core sub-indicator 7.4 (Level of engagement in IW LEARN through participation and delivery of key outputs):

- *Baseline = 1: No participation*
- *Mid-term target = 2: Website in line with IW:LEARN guidance active*
- *End of project target = 4: Website in line with IW:LEARN guidance active, plus strong participation in training/twinning events and production of at least one experience note and one results note, plus active participation of project staff and country representatives at International Waters conferences and the provision of spatial data and other data points via project website.*

141. Under this outcome the project will establish a project website following the IW LEARN standards. In addition, the information generated will be integrated into the respective portals used by national and regional governments for the dissemination of environmental information. National governments and the agencies involved will disseminate the project's achievements in meetings and technical publications. At least 1% of GEF grant will support IWLEARN activities.

142. The project will coordinate efforts with the following on-going GEF-funded initiatives in each country:

Table 3. Projects in the participating countries with potential for exchange of knowledge

Project Name	Project Objective
Uruguay	
10081 (UNDP) Consolidate biodiversity and land conservation policies and actions as pillars of sustainable development (2020-present).	Strengthen systemic, financial and institutional capacity for biodiversity conservation and sustainable land management, improving the effectiveness and sustainability of protected area management, private land administration and human welfare.
9153 (FAO) Climate-smart livestock production and land restoration in the Uruguayan grasslands (2018-present).	Mitigate climate change and restore degraded land by promoting climate-smart practices in the livestock sector, with a focus on family farming.
Brazil	
4834 (IADB): Recovery and protection of climate and biodiversity services in the Southeast Atlantic Forest Corridor (2014-present).	Recovery and preservation of the Paraiba do Sul basin of Brazil Atlantic Forest (AF) to protect carbon sequestration and generate benefits for biodiversity.
4637 (World Bank): Marine and coastal protected areas (2014-present).	Reduce the loss of marine and coastal biodiversity in Brazil through the conservation of globally significant ecosystems and key environmental services relevant to national development and welfare of coastal communities. Protected ecosystems will maintain their capacity to produce food, good water quality and increase resilience, bringing far-reaching social benefits.
Both countries	

EUROSocial+	<p>EUROSociAL+ focusses on the implications and effects that the design, formulation and implementation of public policies have on women and men, emphasizing the need for policies and programmes in all areas to address this focus in order to gradually contribute to reducing inequality and generate a positive impact on social cohesion.</p> <p>EUROSociAL+ also promotes work in conjunction with consolidated and emerging networks that become involved in regional reform processes to strengthen the cohesion processes in the Americas in a multidimensional way.</p> <p>EUROSociAL+ has the capacity to identify and rapidly mobilise experts from Latin American and European institutions to transmit knowledge, experiences and lessons learnt in each of the supported sectors, guaranteeing a technical dialogue at regional and bi-regional levels.</p>
-------------	--

Output 4.3.1 Website in line with IW: LEARN guidance updated, with integrated environmental and socio-economic information

143. A website for the TDA/SAP process will be designed and established at project start, following IW:LEARN guidance and toolkits (<https://iwlearn.net/learning/toolkits>), based on a clear definition of objectives, content and target audiences in consultation of TDA/SAP stakeholders. The planning of this process will also include the definition of responsibilities for its management in the short, medium and long term.

144. The website will not be limited to IW projects, but will also serve for the exchange of knowledge and experiences with other GEF projects including those listed in Table 3.

Output 4.3.2 IW LEARN training / twinning events with participation from officials of both governments

145. Knowledge management will also seek the injection of ideas and models that may be new to the area: to this end, and taking advantage of the opportunities provided through IW-LEARN (<https://iwlearn.net/learning/twinning>), the project will support the establishment of twinning programmes with other binational basins with comparable conditions, to explore for example options of alternative governance models.

Output 4.3.3 Production of at least one experience note and one results note in IW-LEARN

146. GEF IW Experience Notes (<https://iwlearn.net/documents/experience-notes>) are short case studies on specific project experiences that may be of interest to other projects in the portfolio to replicate. They cover a range of topics related to project management, stakeholder involvement, technical issues, demonstration projects, and more. GEF IW Results Notes (<https://iwlearn.net/documents/results-notes>) are more targeted aggregations of key results of projects in terms of stress reduction, process and change in environmental status in a concise way.

147. The issues to be included in the experience and results notes will be provisionally agreed by TDA/SAP participants at the same time that the nature of the pilots is agreed, but may be adjusted as the pilots evolve. This early identification of target issues will ensure that knowledge management activities focus adequately on capturing results and lessons on these issues from early on, allowing processes and cause-effect relations to be traced and recorded.

148. The notes will also seek to capture the perspectives of local stakeholders, so the project will support structured participatory recording of their views and experiences.

Output 4.3.4. International Waters conferences attended by project staff and country representatives, and spatial data and other data points provided via project website

149. Project staff will participate in the GEF Biennial International Waters Conference (IWC), the first of which during project lifetime is to be held in Uruguay in 2022. The project is expected to be showcased during the event, to contribute to knowledge-sharing with other countries that share freshwater basins. Project staff will also participate in person or virtually in subsequent meetings of the IWC, foreseen in 2024 and 2026.

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

150. The project is aligned with Objective 3 of the International Waters focal area, GEF-7: *Enhance water security in freshwater ecosystems*. The GEF-7 IW Strategy states that "... IW support in freshwater basins will focus on three areas of strategic action: 1) advanced information exchange and early warning; 2) enhance regional and national cooperation on shared freshwater surface and groundwater basins; and, 3) invest in water, food, energy and environmental security". All three areas are covered in the proposed project.

151. With regard to the first area, the project will support:

- The management of risks through the implementation of early warning systems for floods, droughts and water quality degradation.
- Availability of sound data and information for evidence-based decision and policies.

152. In order to support further regional and national cooperation in the shared water basin (strategic action area 2), as set out in the strategy, funding will focus on the following priorities:

- Participation in addressing common problems and agreeing on opportunities for cooperation through a shared vision;
- Capacity building for convergence in integrated water management tools between countries;
- Processes for formulating and formalizing cooperative legal and institutional frameworks;
- Identify and approve resources and investments addressing prioritized activities to provide SAP enabling tools;
- National policy, strategy and regulatory reform in line with regional agreements;
- Improve national and regional policies formulation processes and joint surface water management;
- Stakeholder's commitment to increase collaboration and communication through IW-LEARN.

153. Finally, investments in water, food, energy and environmental security will:

- Increase water efficiency, and reduce specific and diffuse pollution sources;
- Apply nature-based approaches to improve infiltration, prevent sedimentation and erosion through integrated basin management and sustainable land management;
- Protect and rehabilitate aquatic ecosystems, especially wetland areas; with multiple ecosystem services; support freshwater fishery and aquaculture through improved management strategies and policy formulation processes.

154. The TDA/SAP processes proposed under the project respond directly to the guidance provided in the GEF Transboundary Diagnostic Analysis/Strategic Action Programme Manual of 2013.

II. 1a. 5) Incremental cost reasoning

155. The project will build upon a solid **baseline**, as set out in section II 1a. 2 above, which most significantly features the existence of a bi-national treaty and the establishment of a Joint Commission (Merin Lagoon Commission ? CLM, for its name in Spanish/Portuguese) to manage the same. Other instruments developed to date include a Master Plan for the Ba?ados del Este/Uruguay Biosphere Reserve; a National Action Plan for the Southern Lagoons (NAP) in Brazil; and National Water Plans, through which both countries have made headway on general guidelines for the construction of integrated basin management plans, including water management, to ensure water availability and provide current and future generations with good quality water for drinking and other uses; and national sanitation plans, as a basis for policies to provide adequate sanitation conditions in the region. There are also significant resources of information and knowledge

156. Under the **baseline situation (without GEF investment)**, significant efforts would continue to be made by both governments for the sustainable management of the basin and the socio-economic development of the territory within the framework of the instruments and institutions described above: management would however still be dominated by a largely country-specific lens and would inadequately reconcile social, productive and environmental considerations, due largely to limited and differing appreciations among stakeholders of the conditions, dynamics, challenges and opportunities in the basin, and their transboundary dimensions.

157. The incremental benefits resulting from GEF investment, under the **GEF alternative**, will include the following:

- **Increased science-based understanding** of the conditions and dynamics of the basin, including their transboundary dimensions, based on the binational TDA, which will focus in particular on the **integration and joint analysis of existing data and information through a whole-basin, transboundary lens**;
- **Consensus among stakeholders** (both binationally and within each participating country) regarding dynamics and challenges in the basin, and their respective implications and relative priorities, through the **negotiated, multi-stakeholder nature of the TDA**;
- **Solid science- and practice-based evidence** of the feasibility of management options capable of addressing shared and transboundary management issues, through pilots which, by virtue of being designed on the basis of the negotiated TDA process, will benefit from **relevance, ownership and acceptability** across stakeholder categories;
- Enhanced institutional, legal and planning frameworks providing a **solid basis for the coordinated and sustained implementation** of the provisions of the SAP;
- **Enhanced decision-making processes** regarding the management of the basin, based on sound science-based information and tools that permit multiple interrelated social, productive and environmental issues to be considered and weighed up against each other, and synergies to be identified and realised.
- **Mutual enrichment of this and other IW projects** through the effective flow of information, experiences and knowledge through the IW-LEARN platform.
- Participation in **International Waters Conference(s)**, particularly in the IWC 2022 to be held by Uruguay, where the project is expected to be showcased. The project will contribute to knowledge-sharing with other countries that share freshwater basins.

II. 1a. 6) Global environmental benefits

158. The proposed project will generate global environmental benefits that will be measured through GEF **Core Indicator 7** for the international waters and biodiversity focal area: *Number of shared water ecosystems (fresh or marine) under new or improved cooperative management*: 1. The project will also generate co-benefits under **Core Indicator 11**: *Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment*, as follows:

- ? 4,000 direct beneficiaries (2,000 men and 2,000 women)
- ? 928,744 indirect beneficiaries (464,372 men and 464,372 women)

159. Direct beneficiaries: as explained in the footnote to Table F, this is an estimate of the number of persons who will benefit from an improvement in their livelihoods and resources and/or reduced environmental pressures through implementation of resource management activities in the basin (to be decided during SAP design) under Component 3 of the project.

160. Indirect Beneficiaries: 928,744 indirect beneficiaries (464,372 men and 464,372 women). The estimate of the total indirect beneficiaries is based on the total population of the Mer?n Lagoon basin^[47], who will benefit from improved information generated through the Transboundary Diagnostic Analysis (TDA); more informed decision-making through the Strategic Action Programme (SAP); and better understanding and awareness among local inhabitants, scientists, and decision-makers of sustainable management priorities for the basin, under Components 1, 2 and 4 of the project.

161. The project adds the multi-country and multi-level decision-making dimension needed to reform and harmonise existing national policies and plans, addressing the transboundary implications of the shared nature of the resource. This regional dimension will require shared recognition of the system boundaries (in line with the ecosystem approach), the establishment of multi-country mechanisms for information exchange and cooperation on common issues such as climate risk mitigation, improve regional awareness and stakeholder participation, all of which is incremental to the ?baseline? represented by the emphasis each country has currently adopted.

162. The project contributes to strengthening coordination efforts for integrated basin water management, promoting transboundary cooperation for sustainable development and addressing the challenges of shared basin management and the achievement of the SDGs, in particular SDG 6 and its interface with climate change (SDG 13), terrestrial ecosystems management (SDG 15), food security (SDG 2) and effective governance (SDG 17). The project facilitates the inclusion of advances in scientific understanding and knowledge of local populations, and the complexity of the interconnected and shared nature of the transboundary basin, thus minimizing conflicts among users, and promoting water security and ecosystem integrity. Therefore, the cumulative regional benefits of the project will be derived from the improved protection and sustainability of the basin, ecosystems and transboundary water resources, which will improve the overall stability, water security in the region, and the preservation of ecosystems and their ecosystem services.

II. 1a. 7) Innovativeness, potential for scaling, sustainability and capacity development

Innovativeness

163. The project will aim to foster innovation in the use of new technology as well as approaches to expand use of the technologies and adoption of best practices. Technologies could include, *inter alia*, accessible spatial data information systems, digital tools and advances in environmental monitoring and early warning, use of software, smartphones or tablets for data collection and information sharing, and climate smart solutions such as renewable energy (e.g. solar driven pumps and monitoring devices). Based on adequate connectivity and access to technologies, the project will be able to incorporate innovative tools such as remote sensing applied to agricultural activity and monitoring the quality of water bodies, the use of drones for monitoring (agriculture, fisheries, water), application of new technologies and improvements in water use (precision irrigation, sanitation, livestock watering), and the application of innovative technological packages to substitute the use of pesticides with biological alternatives and digital control, among others. Technologies in this arena are developing rapidly, and the project will investigate opportunities through relevant publications, conferences and other fora for exchange, as well as through private public sector partnerships in the basin.

164. In addition to innovative technologies, the project also proposes to adopt innovative approaches such as collaboration across sectors through virtual platforms for more effective sharing and partnership development, using an open source philosophy to improve access and transparency, testing appropriate and dynamic business models between public and private sectors, and building on local knowledge systems and adaptive management for scaling up of best practices. These approaches should contribute to improved environmental monitoring and use of natural resources, more effective programs and plans, and more efficient use of human resources.

165. The promotion of innovation, and the sharing and scaling of innovative practices, will in particular be promoted under Output 2.2.2, which focuses on the establishment of a mechanism for data, information and knowledge management and exchange; and under Outcome 4.3, which focuses on knowledge sharing between Brazil, Uruguay, other countries and GEF IW projects in partnership with IW-LEARN. The TDA process foreseen under Component 1 will also provide opportunities for the multiple scientific, academic and technical institutions that are active in the basin to identify opportunities for partnering on innovative approaches to resource planning and management with a basin/transboundary perspective.

Potential for scaling

166. The selection of pilot projects under Component 3 will be carried out with emphasis on the problems common to both countries, which will enable the lessons learned and experiences to be evaluated, adapted and replicated to benefit other critical sites within the Mer?n Lagoon basin, Yaguaron river watershed, and in the wider Latin American region. The pilot projects on watershed, water resources and wetland management, including water monitoring of water quantity and quality, as well as validation of practices and technologies for efficient and sustainable water use in the agricultural sector (including livestock management), sustainable fisheries and aquaculture, and ecotourism will provide tools and lessons learned.

167. The knowledge sharing proposed under Outcome 4.3 will serve to facilitate the scaling out, across relevant areas of the basin as a whole, of the resource management practices piloted under Outcome 3.2 and the tools developed under Outcome 3.1, as well as those already existing at national level (knowledge on which will be compiled through the TDA). It is also foreseen that the SAP will provide for specific mechanisms and resources to enable the continuation of the processes of learning, knowledge management and scaling out into the future. Efforts will be made to share lessons learned on transboundary cooperation, participatory territorial planning, and integrated ecosystem management, and to ensure their scaling out and up for wider adoption across the basin as well as their integration into policies, regulations, and institutional programs at the national level in both Uruguay and Brazil.

Sustainability

168. The project will contribute to sustainable watershed and coastal area management through a participatory multi-sectoral and multi-actor approach and the development of decision-making and technical capacities at different intervention levels (local to basin wide). The aim is to lay the

foundations and establish the enabling environment for cooperation, joint action and informed decision-making between the countries that share this transboundary water body and its associated ecosystems, so as to restore and sustain the ecosystem services on which a large share of the basin population depend for their livelihoods (fisheries, water supply, agriculture, tourism, etc.). This will be achieved through:

- A Transboundary Diagnostic Analysis (TDA) that will adopt an integrated approach, analyse freshwater resources, including surface and groundwater, evaluate their uses and interactions, and elaborate different future climate scenarios as a basis for better informed and joint planning and action.
- Generation of a joint platform for enhancing data and information on water quality and quantity, which in conjunction with climate scenarios, and the development of hydrographic models, will inform sustainable and harmonised development interventions across the various sectors and allow progress towards an integrated decision-making system based on scientific and local knowledge systems with the participation of the various actors and water users.
- Developed programmes, related to the agricultural, fishing and aquaculture, and tourism sectors, with the objective of improved water and land management and productivity with direct socio-economic benefits for those dependent on the basin's resources and wider environmental benefits and poverty alleviation for the population of the Mer'n Lagoon basin and Yaguaron river watershed. The experiences and tools can be shared and used as a model for other transboundary basins in Latin America and other regions of the world.

169. This foundational IW project will thereby establish a solid basis of analytical and planning instruments, capacities and tools, which will justify and enable potential further GEF investment aimed at consolidating these conditions, thereby further ensuring sustainability and outscaling effects, as foreseen as the long term goal in the theory of change diagram.

Capacity development

170. As a key element in the sustainability strategy of the project, investments under Outcome 2.1 will focus specifically on ensuring that adequate capacities exist to enable the SAP (to be developed under Outcome 2.3) to be effectively and adaptively implemented during and beyond the lifetime of the project.

171. As explained above in relation to Output 2.1.3, further capacity needs analyses will be carried out at project start, permitting the formulation of detailed capacity enhancement plans and strategies for the institutions in question. Both the needs analyses and the capacity enhancement planning will be carried out as fully interactive processes with the members of these institutions, in order to ensure relevance and buy-in. Subject to the results of these processes, it is foreseen the capacity enhancement will combine a range of complementary approaches, including workshop-based problem analyses and strategising in order to raise participants' awareness of needs and approaches for integrated transboundary management; on-the-job training in areas such as the use of information technology and modelling; and the co-formulation of strategy and procedural guidance documents. Capacity enhancement will be managed as a process, including follow-up assessment and refreshment as needed.

172. With facilitation by the project, full advantage will be taken of the capacity development opportunities offered by IW-LEARN (<https://iwlearn.net/learning/courses>).

173. The pilots to be developed under Outcome 3.2 will also have important capacity enhancement functions: they will be implemented with the full participation of local institutions and community- and sector-based organizations, which will be strengthened as needed to enable this participation to be effective: their participation will in itself serve to enhance their capacities by exposing them to experiences and learning opportunities. The pilots will also contribute to the enhancement of the capacities of institutions participating in the SAP process, by exposing them to experiences and lessons learned at field level.

II. 1a. 8) Summary of changes in alignment with the project design with the original PIF

174. The modifications to the project results framework are listed below:

PIF	Project Document	Explanation
Outcome 1.1: Main transboundary environmental problems identified and agreed upon by both countries in the Merin Lagoon <i>and Yaguaron River</i> , including causes, drivers and impacts	Main transboundary environmental problems, causes, drivers and impacts (including governance issues), identified and agreed upon by both countries in the Merin Lagoon <i>Basin</i> , through a Transboundary Diagnostic Analysis, <i>with particular emphasis on the Yaguaron River and its catchment</i>	The area of influence of the project (which has a hydrological basin management approach) is the Merin Lagoon Basin as a whole, of which the Yaguaron River and its catchment form a part
Output 1.1.1: Key weaknesses and barriers identified, through participation, environmental, social (gender, ethnicity and youth) and economic assessment, including ecosystem services valuation	Environmental, social (gender, ethnicity and youth), economic and governance assessment, including ecosystem services valuation	The original wording read as an outcome.
Output 1.1.2: Collective and public consultation process carried out through workshops and digital media	Transboundary Diagnostic Analysis document based on collective and public consultation processes, and best available science and data	The new Output 1.1.2 combines the original 1.1.2 and 1.1.3
Component 2: Design of a Strategic Action Programme (SAP) for the Merin Lagoon Basin <i>and Yaguaron river</i>	Design of a Strategic Action Programme (SAP) for the Merin Lagoon Basin, and consolidation of capacities for its application	The Yaguaron River is part of the Basin, so mentioning it explicitly is superfluous. Capacity consolidation is a fundamental element of the theory of change, without which the SAP will not be effectively implemented.
Outcome 2.2: Implementation of mechanisms for joint decisions under an integrated water resource management (IWRM) framework.	Implementation of mechanisms and tools for supporting joint decisions based on reliable shared information under an integrated water resource management (IWRM) framework	Additional detail and specificity.
Output 2.2.1: Decision-making system based on participation, integration and dissemination of data and information , their analysis and planning. Output 2.2.2: Data exchange mechanism established and functioning	2.2.1. Decision-support system established 2.2.2: Data exchange mechanism established and functioning, with agreed rules and procedures and a shared database.	Reference to data management is more appropriate under Output 2.2.1.

PIF	Project Document	Explanation
Outcome 2.3. Strategic Action Programme (SAP) signed and endorsed at ministerial level.	2.3. Strategic Action Programme (SAP) socialized with stakeholders, agreed with national governments , signed and endorsed at ministerial level	Additional specificity on the process.
Outcome 2.3.1. SAP of the Merin Lagoon and Yaguaron River designed and agreed through a multi-sectoral process, socialized with stakeholders and agreed with national governments	2.3.1. Multi-sectoral process for formulation and socialization of the SAP designed, agreed and implemented 2.3.2 SAP developed and agreed among stakeholders, and signed at ministerial level 2.3.3 Financial sustainability strategy and action plan for implementation of SAP developed and agreed	Additional detail and specificity: in the PIF financial sustainability was in a footnote, but it has now been given more prominence as an output.
Component 3. SAP implementation	Tools and demonstrations to support implementation of IWRM	SAP implementation, as worded in the PIF, is at objective rather than component level in the theory of change.
Outcome 3.1. Benefits of integrated basin management demonstrated as the first stage of SAP through the implementation of pilot projects	3.1. Integrated Water Resource Management tools established 3.2. Benefits of integrated basin management demonstrated as the first stage of SAP through the implementation of pilot projects	Divided into two outcomes to reflect the fact that a number of the proposed outputs are tools rather than demonstrations/pilots.

PIF	Project Document	Explanation
<p>Outputs:</p> <p>3.1.1. Water efficient and sustainable and climate-smart agriculture practices adopted</p> <p>3.1.2. Reduced contamination of the basin's water resources from municipalities located in the Yaguaron river watershed</p> <p>3.1.3. Tourism and fishery development programme in place for the Mer'n Lagoon, its tributaries (Yaguaron river mainly) and coastal lagoons.</p> <p>3.1.4. Common regulatory framework established to coordinate: i) water demand and supply mechanisms; ii) community integration; iii) tourism and food routes based on sustainable fishery and quality water.</p> <p>3.1.5. Monitoring programme established for water quantity and quality in the Mer'n Lagoon basin, Yaguaron river, and coastal lagoons</p> <p>3.1.6. Hydrodynamic model created for the Mer'n Lagoon and tributaries (Yaguaron river mainly)</p> <p>3.1.7. Identification of degraded lands and proposal for recovery</p> <p>3.1.8. Wetland monitoring system established</p> <p>3.1.9. Monitoring and co-management system in place for the fishery resources of the Mer'n Lagoon basin and Yaguaron river within an integrated watershed and coastal area management framework</p>	<p>3.1.1. Joint monitoring program and system in place</p> <p>3.1.2 Protected area monitoring system in place</p> <p>3.2.1 Pilot(s) of sustainable approaches to production and natural resource management to address transboundary issues</p> <p>3.2.2. Pilot of ecosystem-based approach to management and governance of integrated fisheries and tourism development, including community-based management plans</p>	<p>PIF Output 3.1.1 corresponds to new Outcome 3.2, and read as an outcome indicator rather than an output.</p> <p>PIF Output 3.1.2 read as an outcome indicator rather than an output.</p> <p>PIF Output 3.1.3. corresponds to new Output 3.2.2, which has been worded to stress the integrated and community-based nature of the proposed model.</p> <p>PIF Output 3.1.4 eliminated as regulatory harmonization is covered under Component 2.</p> <p>PIF Outputs 3.1.5-3.1.9 are included under in new Output 3.1.1.</p>
<p>4.2. M&E programme is developed and implemented</p>	<p>4.2. The project is subject to effective Results-Based Management (RBM)</p>	<p>Reworded to read as an Outcome.</p>
	<p>Output 4.3.4. International Waters conferences attended by project staff and country representatives, and spatial data and other data points provided via project website</p>	<p>Output added to reflect participation of the project in IW conferences, including the 2022 IW conference in Uruguay.</p>

[1] Lagoa Mirim in Portuguese.

[2] Spanish abbreviation for Binational Basin of Mer'n Lagoon (Cuenca Binacional de la Laguna Mer'n)

- [3] Moura-Fernandes F., Collares G., Corteletti R. 2020. Water as an element of transboundary integration: the case of the Mirim-São Gonçalo Watershed. Article accepted for publication in Revista Estudos Avanzados - USP eISSN: 1806-9592.
- [4] EMBRAPA.2010. Sustentabilidade Socioambiental da Bacia da Lagoa Mirim. 294pp.; DINAMA, 2017. Laguna Merín Water Quality Monitoring. Report 2014 - 2016. 76pp.; DINAMA-MVOTMA. 2018. Environmental status of the coastal lagoons of Rocha and Castillos and their main tributaries. 69pp.;
- [5] Steinke V. A. y Saito C. H. 2008. Pollutant load exportation for identification of wetlands under environmental risk in the Mirim lagoon watershed. *Sociedade & Natureza*, Uberlândia, 20 (2):43-67.
- [6] Bhuiyan S. & Castañeda, A. (1995). The impact of ricefield pesticides on the quality of freshwater resources. En: Pingali, P. & Roger, P. (Ed.). *Impact of pesticides on farmer health and the rice environment*. International Rice Research Institute. Kluwer Academic Publishers, Massachusetts. 181-202.
- [7] Resgalla, C., Noldin, J., Tamanaha, M., Deschamps, F., Eberhardt, D. & Rírig, L. (2007). Risk analysis of herbicide quinclorac residues in irrigated rice areas, Santa Catarina, Brazil. *Ecotoxicology* (London, England). 16: 565-71
- Van Scoy, A. R., & Tjeerdema, R. S. (2014). Environmental fate and toxicology of clomazone. *Reviews of environmental contamination and toxicology*, 229: 35-49
- Wendt-Rasch, L., Pirzadeh, P., & Woin, P. (2003). Effects of metsulfuron methyl and cypermethrin exposure on freshwater model ecosystems. *Aquatic toxicology* (Amsterdam, Netherlands), 63(3): 243-256.
- [8] Carlomagno, M., Math?, C., Cantou, G., Sanborn, J., Last, J., Hammock, B., Roel, A., Gonz?lez, D. & Gonz?lez-Sapienza, G. (2010). *Journal of Agricultural and Food Chemistry*, 58(7): 4367-4371.
- [9] Cagauan, A.(1995). The impact of pesticides on rice field vertebrates with emphasis on fish. En: Pingali, P. & Roger, P. (Ed.). *Impact of pesticides on farmer health and the rice environment*. International Rice Research Institute. Kluwer Academic Publishers, Massachusetts. 203-248.
- [10] Dos Santos D., Crestani, M., Shettinger, M., Morsch, V., Baldisserotto, B., Tierno, M., Moraes, G., V. Vieira. (2005). Effects of the herbicides clomazone, quinclorac, and metsulfuron methyl on acetylcholinesterase activity in the silver catfish (*Rhamdia quelen*) (Heptapteridae). *Ecotoxicology and environmental safety*, 61(3), 398-403.
- [11] K?tter, V., K?tter, M., Silva-Filho, E., Marques, E., Gomes, O. & Mirlean, N. (2015). Mercury bioaccumulation in fishes of a paddy field in Southern of Brazil. *Acta Limnologica Brasiliensia*, 27(2), 191-201.
- [12] ACA. (2013). Guide to good practices in rice cultivation in Uruguay. Association of Rice Growers-ACA. Montevideo.
- [13] Mateo-Sagasta, J., Marjani, S. & Turrall, H. (2017). Water pollution from agriculture: a global review. FAO-International Water Management Institute, Colombo.
- [14] M?ndez, S. (2006). Impact of harmful algal blooms in Uruguay: origin, dispersal, monitoring, control and mitigation. In: Menafrá, R., Rodríguez-Gallego, L., Scarabino, F. & Conde, D. (Ed.). *Bases for the conservation and management of the Uruguayan coast*. Vida Silvestre. Montevideo 57-69.
- [15] Bonilla, S., Haakonsson, S., Somma, A. et al. (2015). Cyanobacteria and cyanotoxins in limnetic ecosystems of Uruguay. *INNOTECH*, No. 10: 9-22.
- [16] Kruk C, Mart?nez A, Mart?nez de la Escalera G, Trinchin R, Manta G, Segura AM, et al. (2019). Exceptional bloom of toxic cyanobacteria on the coast of Uruguay, summer 2019. *INNOTECH* 2019; 18:36-68.
- [17] DINAMA, 2021
- [18] DINAGUA, personal communication, 2019
- [19] ALM, 2021
- [20] ALM, 2021
- [21] Couto, P. (Coord.) (2019). Rice survey, harvest 2018/2019. *Estadísticas Agropecuarias*, DIEA, Ministerio de Ganadería, Agricultura y Pesca, Serie Encuestas Número 359, Montevideo.
- [22] Segura, A., Pérez, F. & Gabin, N. (2018). Tensiones y conflictos ambientales en la región Este de Uruguay: pasado, presente y futuro. En: Machado, C., dos Santos, C., Barcellos, S. (Ed.). *Environmental and urban conflicts. Pesquisas e Resistências no Brasil e Uruguai*. Instituto de Educação, Universidade Federal do Rio Grande, Ed. da FURG, Rio Grande, 429-467.

- [23] Couto, P. (Coord.) (2019). Rice survey, harvest 2018/2019. Estadísticas Agropecuarias, DIEA, Ministerio de Ganadería, Agricultura y Pesca, Serie Encuestas Número 359, Montevideo.
- [24] Neiff, J. (1997). The pulse regime in rivers and large wetlands of South America. In: Malvarez I. and P. Kandus (Ed.). Tópicos sobre grandes humedales sudamericanos ORCYT-UNESCO, Montevideo: 99-149.
- [25] Piedras, S., Santos, J., Fernandes, J., Tavares, R., Souza, D. & Pouey, J. (2012). Characterization of the fishing activity in Lagoa Mirim, Rio Grande do Sul - Brazil. *Revista Brasileira de Agrociência*, 18: 107-116.
- [26] GFCh_20201125. Focus group with fishermen from the La Charqueada cooperative, Department of Treinta y Tres, Uruguay. November 25, 2020.
- [27] Ihering, R. von., Barros, J.C. & Planet, N. (1928). The ova and spawning of the freshwater fishes of Brazil. *Boletim Biológico*, São Paulo, 14: 97-109.
- [28] Devincenzi, G. (1933). The perpetuation of the species in South American fishes. *Annals of Natural History of Montevideo*, series 2, Volume IV, number 2.
- [29] Vaz-Ferreira, R. (1969). *Peces del Uruguay*. Nuestra Tierra, 23. Montevideo.
- [30] Burns, M. (2010). *Consequências da Barragem Eclusa do canal São Gonçalo para a ictiofauna do sistema Patos Mirim*. Thesis presented to the Post-graduate Program in Biological Oceanography of the Federal University of Rio Grande Foundation as partial requirement for the attainment of the title of Doctor. Federal University of Rio Grande, Rio Grande, Brazil.
- Burns, M. & Vieira, J. (2012). Influence of Sluice Dam in the movement of marine catfish (Siluriforms, Ariid) in São Gonçalo channel, Patos-Mirim System. *International Symposium on fish passages in South America*. Universidade Estadual do Oeste do Paraná. Brasil.
- [31] Burns, M (2010) op. cit.; Burns M & Vieira J (2012) op. cit.; Dunham, L. (1970). *Recoaisance Study of the Fisheries Development Potential*. Development of the Merín Lagoon Basin Brazil Uruguay. Roma: UNPD. FAO, p.
- [32] Burns, M (2010) op. cit.; Burns M & Vieira J (2012) op. cit.; Dunham, L (1970) op.cit.
- [33] Burns, M. D. & Cheffe, M. (2019). São Gonçalo Channel as an Ecological Corridor for the Movement of Migratory Fishes: Environmental History and Perspectives for Fishery Management in the Mirim Lagoon, South Brazil. *Revista Costas*, 1(1): 147-164. Burns, M. & Vieira, J. (2012) op.cit..
- [34] GFRB_20201125. Focus group with fishermen from Rio Branco and Balneario Laguna Merín, Department of Cerro Largo, Uruguay. November 25, 2020.
- [35] Jorge, G. (2016). *Ecosystem effects of freshwater discharge on a dissipative sandy beach in Uruguay*. Master's thesis in Biology, Basic Sciences Development Programme, Faculty of Sciences, University of the Republic, Montevideo.
- Lercari, D. & Defeo, O. (2006). Effects of the Canal Andreoni enplayas de Rocha: environmental deterioration and its effect on biodiversity. In: Menafra, R., Rodríguez-Gallego, L., Scarabino, F. & Conde, D. (Ed.). *Bases for the conservation and management of the Uruguayan coast*. Vida Silvestre. Montevideo, 631-636.
- Méndez, S. & Anciaux, F. (1991). Effects on coastal water characteristics caused by the discharge of the Andreoni channel at La Coronilla beach (Rocha, Uruguay). *Frente Marítimo*, Vol. 8, Sec. A, 101-107.
- [36] COSIPLAN (2019). *Multimodal transport in the Laguna Merín and Lagoa dos Patos system*. Project fiche. COSIPLAN, UNASUR.
- [37] Brugnoli, E., Lanfranconi, A. & Muniz, P. (2009). The golden mussel, 15 years of invasion in Uruguay. *Questions and answers*. Faculty of Science, University of the Republic.
- [38] GFCh_20201125. Focus group with fishermen from the La Charqueada cooperative, Department of Treinta y Tres, Uruguay. November 25, 2020.
- [39] Brugnoli, E., Clemente, J., Riestra, G., Boccardi, L. & Borthagaray, A. (2006). Exotic aquatic species in Uruguay: status, problems and management. In: Menafra, R., Rodríguez-Gallego, L., Scarabino, F. & Conde, D. (Ed.). *Bases for the conservation and management of the Uruguayan coast*. Vida Silvestre. Montevideo, 351-361.
- García, A., Loebmann, D., Vieira, J. & Bemvenuti, M. (2004). First records of introduced carps (Teleostei, Cyprinidae) in the natural habitats of Mirim and Patos Lagoon estuary, Rio Grande do Sul, Brazil. *Revista Brasileira de Zoologia*, 21(1), 157-159.

Troca, D., Lemos, V., Junior, A., & Vieira, J. (2012). Evidence of reproductive activity of the invasive common carp *Cyprinus carpio* (Linnaeus, 1758) (Teleostei: Cyprinidae) in a subtropical coastal system in southern Brazil. *BioInvasions Records*. 1. 289-293.

GFRB_20201125. Focus group with fishermen from Rio Branco and Balneario Laguna Mer?n, Department of Cerro Largo, Uruguay. November 25, 2020.

[40] https://eurosocial.eu/wp-content/uploads/2021/02/3_309_brasil-_febrero_2021_EN-2.pdf

[41] GEF Transboundary Diagnostic Analysis/Strategic Action Programme Manual

[42] <https://unece.org/environment-policy/publications/identifying-assessing-and-communicating-benefits-transboundary>

[43] See for example the model adopted by the Zambezi Watercourse Commission (ZAMCOM), which has both normative and technical components.

http://www.zambezicommission.org/sites/default/files/clusters_pdfs/16.07.28-

[Rules_ProceduresForDataSharing_Adopted-by-Council_FinalEditing_Ver10_FINAL.pdf](http://www.zambezicommission.org/sites/default/files/clusters_pdfs/16.07.28-Rules_ProceduresForDataSharing_Adopted-by-Council_FinalEditing_Ver10_FINAL.pdf)

[44] GEF Transboundary Diagnostic Analysis/Strategic Action Programme Manual

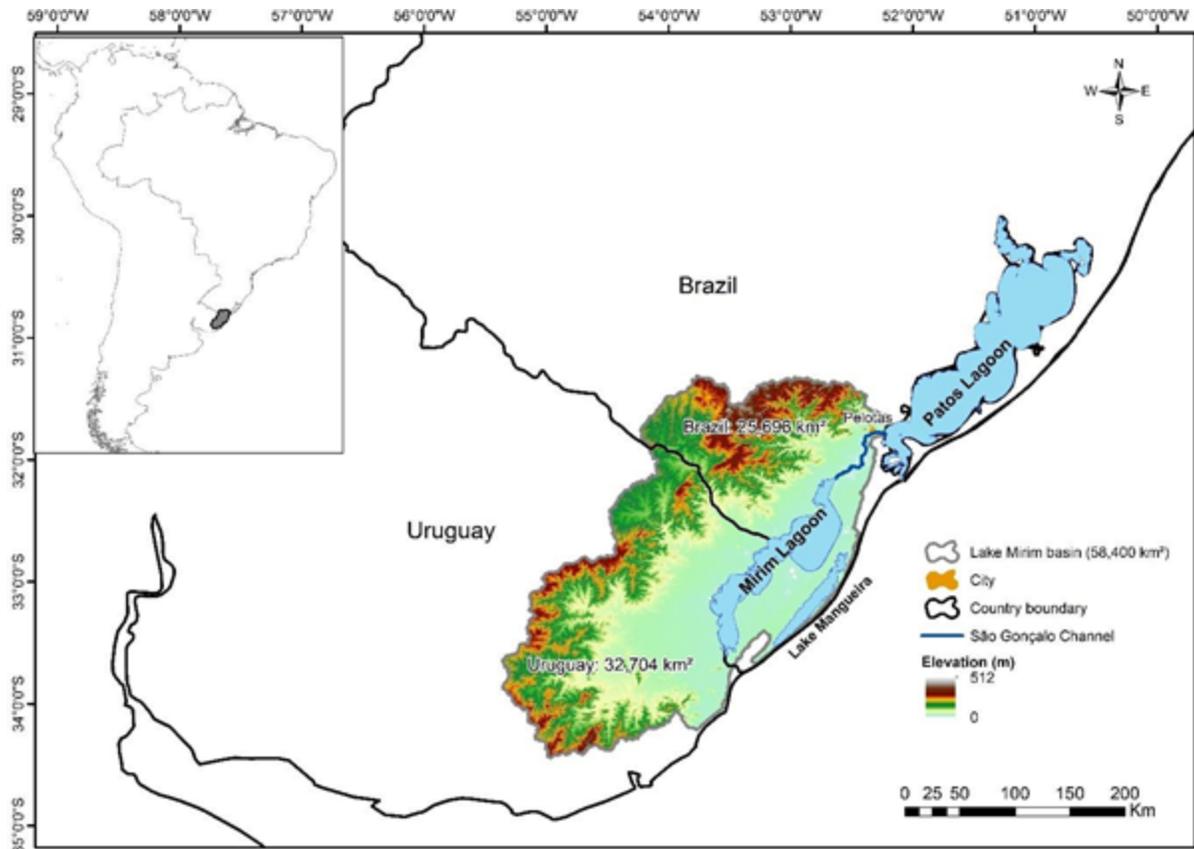
[45] https://eurosocial.eu/wp-content/uploads/2021/02/3_309_brasil-_febrero_2021_EN-2.pdf

[46] Water not taken up by crops is typically considered as wasted but in reality should normally be viewed as ?return flows? that play ecological roles in sustaining aquatic systems downstream, or are available for downstream water users. Without this perspective, irrigation efficiency on its own may lead to these return flows being captured by upstream users, with adverse implications in terms of ecology and water equity.

[47] The population estimate is based on the following: the population in the Uruguayan area of the Laguna Mer?n basin is 154,699 (8% rural) as reported in the Uruguay National Water Plan 2018, MVOTMA; the population of the Brazilian area of the Laguna Mer?n basin is 774,045 (14.5% rural), according to the Brasil Plano da Bacia Hidrogr?fica da Lagoa Mirim- Preliminary Diagnosis 2018, Governo Do Estado Rio Grande Do Sul, Ministry of Environment.

1b. Project Map and Coordinates

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



1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

2. Stakeholders

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

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

175. A detailed stakeholder analysis and engagement plan and details of stakeholder consultations carried out during project formulation are provided in Annex H.2, and a Stakeholder Engagement Matrix is provided in Annex H.3.

Summary of Stakeholder Analysis

176. As detailed in Annex H.2, the principal social stakeholder groups are as follows:

- **Family farmers and ranchers in the agricultural sector**, numbering more than 10,000 families. Their livelihoods are affected by climate change (droughts, floods, pests), competition for water, unsustainability of production, health risks from pesticide applications, and private works blocking watercourses. Their actions contribute to soil erosion, GHG emissions and water pollution.
- **Artisanal fishermen and their families**. There are approximately 450 people on the Brazilian side and around 80 on the Uruguayan side of the Basin who work on a stable basis in small-scale fishing in the Mer?n lagoon. In addition to this group, there is an indefinite number of seasonal workers who, having left other areas of work (especially the rice and livestock sectors), resort to fishing as a means of subsistence. They are affected by competition/interactions with other productive activities with negative impact on fisheries (agricultural, port and shipping development, industries, poor urban and rural sanitation, inadequate fishing and tourism logistics); uncertainty about the state of fishery resources; unfavourable value chains; inflexible fisheries management measures; the effects of climate change; clam fishers are in addition by directly affected by the changes resulting from the Andreoni canal.
- **Rice workers** (approximately 1800 living in Treinta y Tres, Rocha, Lavalleja and west of Cerro Largo). The use of inputs during the production process (use of agrochemicals and pesticides used in soil preparation, fertilisation and combating fungi, insects and pests) has an impact on the living conditions of the workers. Irrigation infrastructure (canals and sluice gates) is handled by the workers.
- **Tourism Workers**, who depend on tourism as a livelihood for at least part of the year (totalling more than 10,000 people). In coastal areas, both in Uruguay and Brazil, there are currently conflicts associated with the pressure of urban and infrastructure development linked to tourism, such as increased beach sealing, the presence of waste, and the extinction of species, among others. The greater dynamism of the zone also puts real estate pressure on land prices.

177. As explained in more detail in section II.4, there are a number of important private sector corporate actors of relevance to the project, including large livestock producers, large rice producers, forestry companies and tourism companies.

178. There is also a considerable number of civil society organisations (CSOs) representing the interests of specific stakeholder groups of working on specific thematic issues in relation to rural development and natural resource management. These CSOs, detailed information on which is provided in Annex H.3.1, include the following:

- Barra de Valizas Neighbours' Commission
- Pind? Azul Civil Association
- ECOS Civil Association
- REDES (Social Ecology Network) -Friends of the Earth
- Wildlife-Uruguay
- AIDIS Uruguay Asociaci?n Interamericana de Ingenier?a Sanitaria y Ambiental (Inter-American Association of Sanitary and Environmental Engineering)
- Uruguayan Environmental Network
- CEA Rio Grande do Sul- Brazil
- NEMA - Brazil
- AGAPAN- Brazil
- APEDeMA- Rio Grande do Sul- Brazil
- Daily Woman
- Association of Rural Women of Uruguay (AMRU)

Stakeholder engagement during project implementation

179. Stakeholder involvement in the implementation of the project will be ensured through various instances and mechanisms that are proposed to ensure full and meaningful participation of the stakeholders and avoid negative impacts on human rights, and which are summarized below:

180. **Project governance mechanisms:** At the executive level, stakeholder participation and representation will be driven by governance structures for project management, specifically the Project Steering Committee (PSC) and the Binational Project Coordination Unit (BPCU). The project will

promote inter-institutional coordination and the articulation and participation of stakeholders at the political and technical level; the PSC will make decisions regarding overall management and will ensure that the Project is executed within the agreed strategic framework. The PSC will be convened twice a year. Its functions will include, among others: (i) carry out general supervision of the Project's progress and achievement of the expected results through the Project Progress Reports (PPR); (ii) make decisions regarding the organization, coordination, and execution of the Project, while the Project Management Unit (PMU) will be in charge of executing the project activities with a participatory approach. The technical staff of the project will be responsible for leading and guiding the stakeholder participation processes under the supervision of the Binational Coordinator and the National IWRM Specialists in each country, with guidance from the project's Gender Specialist.

181. ***Inter-institutional and intersectoral coordination mechanisms:*** The project will promote inter-institutional and inter-sector coordination through various strategies, including: i) strengthening institutional arrangements and facilitate inter-institutional coordination at the national level to promote collaboration among stakeholders at different levels for national policies and spatial planning instruments; and ii) working with existing coordination mechanisms or promote new ones at the national and subnational levels (see Section 1.a - Project objectives, results and outputs for a detailed description of these strategies).

182. ***Project communication and information strategy:*** At the beginning of the project implementation, a communication strategy will be prepared with specific elements for the key stakeholders and for the intervention areas. The communication strategy will aim to develop effective communication management to inspire the involvement and commitment of key stakeholders in the management of the sustainable use zones of the intervention areas and their buffer zones. The communication strategy will seek to increase relevant information with a scientific / technical basis for decision-making in a language that is understandable to all stakeholders, sensitize local and national stakeholders by raising awareness on integrated basin management issues. The design of the strategy will take into account criteria and actions to promote participation and dialogue, as well as considerations of cultural sensitivity, social inclusion and gender.

183. ***Participatory approaches:*** the project will use a participatory approach in working with the beneficiary populations in all phases, seeking their empowerment, with a particular emphasis on women. Formulation of the TDA, including identifying and agreeing on the main issues of transboundary concern in the basins, their causes and possible solutions, will include consideration of local knowledge and participatory processes, and will consider the previous experience of different programs carried out in the basin. The TDA will be based on open governance mechanisms, taking advantage of the existing institutional framework to promote cooperation between the different areas of interest in the Basin. The diagnosis of each country will be examined and integrated in a status of the basin from a comprehensive water resources perspective, including regulatory, management, climate, geomorphology, hydrology, social, economic, ecological, cultural aspects (local production, tourism, anthropology), water uses and impacts on the basin. This is essential for the development of mechanisms to promote social cohesion between the Brazilian and Uruguayan societies of the Mer?n Lagoon Basin and Yaguaron river region.

184. The communication, consultation and multi-stakeholder validation of the updated situation assessments that will be developed under Output 1.1.2, focusing in particular on common and transboundary issues (which will be prioritized by stakeholders at inception) will be a participatory and interactive multi-stakeholder process, the methodological details of which will be confirmed at project inception. In addition to reviewing and validating the results of the assessments, it will involve the stakeholders in the two participating countries comparing their respective situations as highlighted in the assessments, reflecting on their transboundary dimensions and implications, and arriving at a binationally-negotiated prioritization of issues to be addressed through the SAP.

185. Formulation of the SAP will be similarly participatory. As explained under Output 2.3.1, a key first step, necessary to ensure the eventual relevance and uptake of the SAP, will be to facilitate the effective participation of diverse stakeholders by bringing them together to agree on the SAP formulation process, and the methodologies and rules for their participation, and to develop and agree on a detailed workplan for the SAP process.

186. **Gender Action Plan and FPIC Strategy for Indigenous Peoples:** Likewise, the project includes a Gender Action Plan (Annex I) and a strategy for the implementation of FPIC (see Annex J) to ensure the proper participation of women and indigenous communities present in the intervention areas. These plans include the definition of criteria and conditions for participation in the different instances of the project and their activities, in order that their participation and incidence can be carried out considering the conditions in which women and indigenous people operate in the intervention areas, as well as the different knowledge, needs and roles, so that these are recognized and addressed in the intervention. In the case of indigenous peoples, the FPIC processes proposed are in correspondence with the FAO guidelines contained in "Free, prior and informed consent. A right of Indigenous Peoples and a good practice for local communities" (2016) and the FAO Policy on Indigenous and Tribal Peoples (2011).

187. **M&E system and Knowledge Management Plan:** The project's M&E system will include consultation with the stakeholders, such as to collect their testimonies regarding the Project and their participation and contribution in it, in order to disseminate the results and establish a knowledge transfer strategy that contributes to the replication and upscaling of the lessons learned (see section 9 Monitoring and Evaluation).

188. **Project-level grievance redress mechanism:** Finally, the project will have a grievance redress mechanism, which will be disseminated among the key stakeholders of the project to inform them of its existence and mode of operation. The Binational Coordinator will be responsible for documenting all complaints and ensuring that they are addressed in a timely manner (see Annex H.4).

Stakeholder mapping and roles foreseen in project implementation

Stakeholder	Engagement
<i>Local communities and community groups</i>	
Family producers in the agricultural sector	Direct beneficiaries: they will be closely involved through consultation in the planning and implementation of activities. Action to be taken: ? Demonstrations of positive impact with regard to incorporation of process technologies ? Outreach programmes based on technicians acting as mediators or "border staff" (facilitators, translators). ? Financial support for the incorporation of input technologies.
Artisanal fishermen	Direct beneficiaries: these groups will be involved in environmental and social assessments and consultation processes. Their interests should also be taken into account in the instruments that are developed to advance an Ecosystem Approach Fisheries Management Plan.
Rice Workers	Indirect beneficiaries: efforts will be made to involve them through consultation with the union in the planning and implementation of activities.
Tourism Workers Uruguay and Brazil	Indirect beneficiaries: efforts will be made to involve representatives of the sector and state institutions (Ministries of Tourism) of each country in the field of tourism, and agro- and ecotourism, in order to articulate the project activities with state support programmes and instruments for the recovery of the sector.
Women's associations/groups	Direct beneficiaries: The situation of women is taken into account in the project's Gender Action Plan. They will be involved in ensuring that all project activities incorporate a gender perspective.
<i>Civil society</i>	
Barra de Valizas Neighbours' Commission	Participation in all socio-economic and environmental assessments for the TDA will be promoted.
Pind? Azul Civil Association	Participation in all socio-economic and environmental assessments for the TDA will be promoted.

Stakeholder	Engagement
ECOS Civil Association	Potentially to be involved in further work on deepening the participation of organised CSOs
REDES (Social Ecology Network) - Friends of the Earth	Potentially to be involved in socio-economic and environmental assessments for the TDA, in providing specific knowledge on NRM in the Basin, and in representing civil society interests.
AIDIS (Inter-American Association of Sanitary and Environmental Engineering)	Potentially to be involved in socio-economic and environmental assessments for the TDA. Contribution through opinions and evaluations of the actions proposed by the project. It can facilitate contact with population groups in the area.
Uruguayan Environmental Network	Could facilitate work with the range of environmental NGOs.
CEA Rio Grande do Sul- Brazil	Their participation in TDA process evaluations will be encouraged. Could provide expertise in protected areas of the project and in liaising with local communities.
NEMA - Brazil	Their participation in TDA process evaluations will be encouraged.
AGAPAN- Brazil	Their participation in TDA process evaluations will be encouraged.
APEDeMA- Rio Grande do Sul- Brazil	They may be contacted if there is a need to increase the involvement of the institutions they represent.
Daily Woman	Facilitate the involvement of local women's organisations in contributing to the success of the Gender Action Plan.
Association of Rural Women of Uruguay (AMRU)	Facilitate the involvement of local rural women's organisations in contributing to the success of the Gender Action Plan.
<i>Private sector actors</i>	
Large livestock producers	Change agents and direct stakeholders. The sector should be involved early in the project both in the environmental and socio-economic assessments, as well as in the consultative processes of the TDA-SAP. In addition, through demonstration activities, involve the sector in good practices and efficient water use.
Large rice producers	Change agents and direct stakeholders. The sector should be involved early in the project both in the environmental and socio-economic assessments, as well as in the consultative processes of the TDA-SAP. In addition, through demonstration activities, involve the sector in good practices and efficient water use.
Forestry Sector	Indirect stakeholders. The sector should be involved early in the project both in the environmental and socio-economic assessments, as well as in the consultative processes of the TDA-SAP.
Tourism Sector (business-corporate)	Direct stakeholders. Efforts will be made to involve representatives of the sector and state institutions (Ministries of Tourism) of each country in the field of tourism, and agro- and ecotourism, in order to articulate the project activities with state support programmes and instruments for the recovery of the sector.
<i>Academic and research institutions</i>	
INIA	Partner. Member of the Basin Council; R&D on sustainable production and its influence on large producers; authorised interlocutor for all actors.
CURE	Partner. Member of the Basin Council. Building knowledge on the region's natural resources, their current state and historical evolution.
UFPEL	Partner. Creation of specific HR knowledge in the Basin and participation in its governance (represented on the San Gonçalo Canal and Merquin Lagoon Basin Committee).

Stakeholder category And type of stakeholder	Characteristics,	Relevance to the project				Groupings, unions, associations, and/or networks representing their interests	Project responses	Interest in the project/ Impact of the project
		Role in environmental issues	How affected they are by the issues that the project aims to address.	Potential risks of the project to their interests	Potential risks they pose to achieving project outcomes			
Family producers in the agricultural sector DIRECT BENEFICIARIES	Local farmers and ranchers living in the Basin area, numbering more than 10,000 families.	Their activities can generate environmental impacts, while ecosystem degradation and climate change can negatively affect them.	<u>Affected by:</u> ? Climate change: droughts, floods, pests. ? Competition for water. ? Productive forms that affect productivity. ? Lack of controls on the application of fumigations. ? Private works blocking watercourses. <u>Their activities can generate pressures on natural resources and ecosystem services:</u> ? Soil erosion ? GHG emissions ? Water pollution affecting productivity and human health.	Low risk ? Proposals to modify forms of production that may require changes in work organization or investment in new technologies for more efficient water use.	Medium risk ? Resistance to change due to the socio-demographic characteristics of the segment, in particular low qualifications in business management and relative ageing.	<u>In Uruguay</u> ? CNFR ? Rural Development Societies ? Agricultural Cooperatives ? Development Associations, etc. ? National Colonisation Institute <u>In Brazil</u> ? Sindicato Rural de Pelotas ? Jaguarão Rural Workers Union ? Federation of Agricultural Workers of Rio Grande do Sul - FETAG-RS - Brazil ? Union of Rural Workers of Pelotas - Brazil ? Pampa Gaúcho Agricultural Productio	They will be closely involved through consultation in the planning and implementation of activities. Action to be taken: ? Demonstrations of positive impact with regard to incorporation of process technologies ? Outreach programmes based on technicians acting as mediators or "border staff" (facilitators, translators). ? Financial support for the incorporation of input technologies.	Interest: HIGH. Family production is considered a key social sustainability factor. Impact: potentially positive if they are effectively involved in consultation processes and demonstration activities.

Stakeholder category And type of stakeholder	Characteristics,	Relevance to the project				Groupings, unions, associations, and/or networks representing their interests	Project responses	Interest in the project/ Impact of the project
		Role in environmental issues	How affected they are by the issues that the project aims to address.	Potential risks of the project to their interests	Potential risks they pose to achieving project outcomes			
Artisanal fishermen DIRECT BENEFICIARIES	Local fishermen living in the territories. An estimated 80 fishermen and their families.	They are affected by the environmental problems addressed by the project and will therefore be beneficiaries. In addition, some groups contribute to pollution due to their establishment in unauthorised settlements. There may be overexploitation of some species.	<u>Affected by:</u> ? Competition/interactions with other productive activities with negative impact on fisheries (agricultural, port and shipping development). ? uncertainty about the state of fishery resources. ? Production chains do not favour the productive link. ? Management measures (especially closures) are not adaptive; ? Effects of climate change. ? The Almejeros are directly affected by the Andreoni canal works. <u>At the same time, they also have an impact on the environment:</u> ? The group of artisanal fishermen of the Castillos Lagoon - A? Valizas system is established in a small settlement with 32 precarious and unauthorised constructions, without sanitation, to which numerous tents are added during the shrimp harvest.	Low risk Most of them will benefit from project interventions, insofar as the state of fishery resources (monitoring), the impacts of development projects, the generation of information for decision-making on fisheries management from a binational approach, and the analysis and dynamisation of value chains. The group in Castillos - A? Valizas, may be affected by proposed changes to the housing	Low risk They express interest in the project with regard to: organisational capacity building? improvement of market conditions? monitoring the status of populations in order to adapt management and management measures? impact on fisheries activities at the level of agro-industry, real estate development, port and shipping projects; effects of Andreoni on the yellow clam?	<u>In Uruguay</u> ? Cooperative formation of fishermen from Rio Branco and Balneario L. Mer?n. ? La Charqueada fishing cooperative. ? Fishermen of the Castillos Lagoon - A? Valizas. ? Almejeros of La Coronilla and barra del Chuy ? SUNTMA <u>In Brazil:</u> ? Senhora da Aparecida Z25 (Jaguar?o) ? Santa Isabel Z24 (Arroio Grande) ? Z16 (Santa Vit?ria do Palmar) SUNTMA and several groups of fishermen	These groups should be involved in environmental and social assessments and consultation processes. Their interests should also be taken into account in the instruments that are developed to advance an Ecosystem Approach Fisheries Management Plan. The Castillos-A?Valizas group, since they have no associative links, contact with the project will require extra efforts. SNAP and MEVIR may also need to be involved.	Interest: HIGH. Fishing is a source of resources and food as well as work for men and women. In this case it is part of family production. Some of the species suffer very intensely from negative effects due to climate change. Impact: potentially positive, insofar as the project allows for the generation of more information on fishery resources and the establishment of common criteria and instruments to move towards a Fishery Management Plan with an Ecosystem Approach.

Stakeholder category And type of stakeholder	Characteristics,	Relevance to the project				Groupings, unions, associations, and/or networks representing their interests	Project responses	Interest in the project/ Impact of the project
		Role in environmental issues	How affected they are by the issues that the project aims to address.	Potential risks of the project to their interests	Potential risks they pose to achieving project outcomes			
Rice Workers INDIRECT BENEFICIARIES	Approximately 1800 rice workers living in Treinta y Tres, Rocha, Lavalleja and west of Cerro Largo). -	They are affected by the environmental problems addressed by the project and will therefore be beneficiaries.	Affected by: ? The use of inputs during the production process (use of agrochemicals and pesticides used in soil preparation, fertilisation and combating fungi, insects and pests) has an impact on the living conditions of the workers. On the other hand, the irrigation infrastructure (canals and sluice gates) is handled by the workers.	Risk-free They would benefit from project interventions to the extent that the project proposes more sustainable practices.	Risk-free This group can be an ally in creating better conditions for project activities, although their low associativity may represent an extra challenge.	<u>In Uruguay</u> ? SUTAA (Sindicato ?nico de Trabajadores del Arroz y Afines) ? INC for the link to the Colonia Daniel Viglietti project in Cerro Largo <u>In Brazil:</u> <u>Unknown</u> They have no representation in the Council. There was no consultation.	Efforts will be made to involve them through consultation with the union in the planning and implementation of activities.	Interest: HIGH. They are a large population group affected by one of the types of production with the greatest impact on HR in the Basin. May require adjustments towards better conditions (decent work). Impact: positive, insofar as the project enables the implementation of actions aimed at efficient water use, protection of the environment and the population that sustains it.

Stakeholder category And type of stakeholder	Characteristics,	Relevance to the project				Groupings, unions, associations, and/or networks representing their interests	Project responses	Interest in the project/ Impact of the project
		Role in environmental issues	How affected they are by the issues that the project aims to address.	Potential risks of the project to their interests	Potential risks they pose to achieving project outcomes			
Tourism Workers Uruguay and Brazil INDIRECT BENEFICIARIES	Population dependent on tourism as a livelihood for at least part of the year. Totalling more than 10,000 people.	Tourism and the influx of tourists can lead to ecosystem degradation and incremental pressure on water resources. At the same time, the population is affected due to the high vulnerability of the sector to the sanitary restrictions of Covid-19 and its economic impact on neighbouring countries that make up an important part of the origin of tourism.	In coastal areas, both in Uruguay and Brazil, there are currently conflicts associated with the pressure of urban and infrastructure development linked to tourism, such as increased beach sealing, the presence of waste, and the extinction of species, among others. The greater dynamism of the zone also puts real estate pressure on land prices.	Low risk The scenarios proposed for the basin should consider the development of tourism activity as a factor that generates pressure on ecosystems, and it is generally believed that the sector will benefit from the development of sustainable tourism and a common framework for tourism and food routes based on fisheries and water.	Risk-free	<u>In Uruguay</u> ? Single Union of Tourism Workers (SUTTU) ? Sindicato ?nico Gastronmico y Hotelero (Single Gastronomic and Hotel Union) <u>In Brazil</u> <u>Unknown</u> ? There were no consultations. There were registrations for the Pelotas Secretary of Development, Tourism and Innovation's Start-up Workshop, but they were not attended.	Efforts will be made to involve representatives of the sector and state institutions (Ministries of Tourism) of each country in the field of tourism, and agro-ecotourism, in order to articulate the project activities with state support programmes and instruments for the recovery of the sector.	Interest: HIGH. They generate negative impacts on NR as well as being affected by management decisions. They suffer more than other economic sectors from the impacts of Covid-19. Impact: positive, to the extent that the region is positioned as an area of natural, sustainable tourism and common routes are developed.

Stakeholder category And type of stakeholder	Characteristics,	Relevance to the project				Groupings, unions, associations, and/or networks representing their interests	Project responses	Interest in the project/ Impact of the project
		Role in environmental issues	How affected they are by the issues that the project aims to address.	Potential risks of the project to their interests	Potential risks they pose to achieving project outcomes			
Women's associations / groups DIRECT BENEFICIARIES	Women living in the Basin area in Uruguay and Brazil, particularly in rural areas. They represent 42% of the target population in Uruguay and 47% on the Brazilian side.	They are affected by gender inequalities . They would be beneficiaries. No consultation was achieved. A number of representative organisations were invited to participate in the Inception Workshop and later to respond to a consultation but did not attend.	They are affected by gender inequalities in all productive sectors in the following areas: access to public policies, technical assistance, training, access to land ownership and productive resources, paid labour market, participation in decision-making, inequalities in the economy of time. In addition, as producers, they are exposed to the impacts of climate change.	No risk They would benefit from Gender Action Plan activities.	Risk-free	In Uruguay: ? Rural Women's Association (AMRU). ? Daily Woman In Brazil: ? Movement of Rural Women Workers of Rio Grande do Sul ? FETAG/R S State Commission of Women Workers Several groups from Uruguay were invited to the inception workshop and to participate in the subsequent consultation but there was no participation. In the case of Brazil, the team in charge did not provide names of	The situation of women is taken into account in the project's Gender Action Plan. They will be involved in ensuring that all project activities incorporate a gender perspective.	Interest: HIGH. Women represent approximately half of the Basin's population while being affected by inequalities in all areas including the level of participation in decision-making and governance. Women are also more affected by the impacts of Covid, both economically and in terms of increased paid and unpaid workload. Impact: potentially positive, considering the recommendations set out in the Gender Plan.

Large private sector companies

Stakeholder category And type of stakeholder	Characteristics,	Relevance to the project				Groupings, unions, associations, and/or networks representing their interests	Project responses	Interest in the project Impact of the project
		Role in environmental issues to be addressed:	How affected they are by the environmental (or other) issues that the project will address.	Potential risks of the project to their interests	Potential risks posed by these actors to the achievement of project outcomes			
Large livestock producers Exchange Agent, Direct Stakeholder	Group of producers owning approximately 20% of the livestock holdings and 80% of the area.	The sector may generate environmental pressures: erosion and diffuse pollution of watercourses.	This sector has been affected by pronounced drought events, a situation that may worsen as a result of climate change.	The project can establish the need to move towards better production practices, and establish restrictions on water allocation.	Resistance to the changes proposed by the project and conflicting interests with other sectors.	<u>In Uruguay</u> ? Rural Association of Uruguay (ARU) ? Rural Federation of Uruguay (RUF) <u>In Brazil</u> ? Pelotas Rural Association ? Association of Users of the Caiuba-Flores Lagoons Water Basin (AUCAF) ? FARSUL In Uruguay they are represented in the River Basin Council.	The sector should be involved early in the project both in the environmental and socio-economic assessments, as well as in the consultative processes of the TDA-SAP. In addition, through demonstration activities, involve the sector in good practices and efficient water use.	Interest: HIGH. They are users and widely affect the Basin's water resources. Impact: Potentially positive, if the project generates capacities for producers to move towards better agricultural practices, more efficient water use, as well as tools for climate change adaptation.

Stakeholder category And type of stakeholder	Characteristics,	Relevance to the project				Groupings, unions, associations, and/or networks representing their interests	Project responses	Interest in the project Impact of the project
		Role in environmental issues to be addressed:	How affected they are by the environmental (or other) issues that the project will address.	Potential risks of the project to their interests	Potential risks posed by these actors to the achievement of project outcomes			
Large rice producers Exchange Agent, Direct Stakeholder	Business production complex that consumes a high proportion of water from the area.	The sector could generate environmental pressures on ecosystems. It is also the largest user of water in the basin through surface abstractions and dams. Impacts of regulation and protection works should be assessed at the micro-basin level.	? It has been affected by pronounced droughts (e.g. having to reduce planting area due to lack of water in dams), a situation that may be aggravated by climate change. ? It is the largest consumer of water, generating peak demand during irrigation periods (Oct-Mar). ? Drainage works, flow regulation and retaining walls modify the natural runoff in the basin and can lead to conflicts. ? They express concern about: - bi-national asymmetry in terms of production	? The project can establish the need to move towards better production practices, and establish restrictions on water allocation. ? The project also proposes to strengthen regulations and controls for water catchment works and retaining walls. ? They believe that the regulation should create greater obligations for the sector to demonstrate that it is producing in a sustainable way.	Resistance to the changes proposed by the project and conflicting interests with other sectors.	<u>In Uruguay</u> ? Rice Growers' Association (ACA) <u>In Brazil</u> ? Rice Institute of Rio Grande do Sul (IRGA) ? Associação Arrozeiros de Rio Grande? participated in the HOME Workshop. ? FARSUL In Uruguay they are represented in the River Basin Council. Participating in the Consultation Plan are: at producer level, the Association of Rice Growers, and the Water Commission	The sector should be involved early in the project both in the environmental and socio-economic assessments, as well as in the consultative processes of the TDA-SAP. In addition, through demonstration activities, involve the sector in good practices and efficient water use.	Interest: HIGH. They are the largest users of the Basin's water resources. Impact: Potentially positive, if the project generates capacities for producers to move towards better agricultural practices, more efficient use of water, as well as tools for climate change adaptation.

Stakeholder category And type of stakeholder	Characteristics,	Relevance to the project				Groupings, unions, associations, and/or networks representing their interests	Project responses	Interest in the project Impact of the project
		Role in environmental issues to be addressed:	How affected they are by the environmental (or other) issues that the project will address.	Potential risks of the project to their interests	Potential risks posed by these actors to the achievement of project outcomes			
Forestry Sector Indirect stakeholder	Business production complex with a high percentage of foreign owners that is advancing in land use. Eucalyptus in particular generates high water demand.	Plantation forestry can decrease the amount of water available by increasing evapotranspiration. The increase in forestry plantations can put upward pressure on land prices, displacing smallholders.	The sector is not identified as being affected by the environmental issues addressed by the project.	The project could establish restrictions on the allocation of water resources, limiting the area allocated to afforestation through a micro-watershed analysis.	Resistance to the changes proposed by the project and conflicting interests with other sectors.	<u>In Uruguay</u> ? Society of Forest Producers <u>In Brazil</u> ? Associação? do Ga?cha de Empresas Florestais The Society of Forest Producers in Uruguay is represented in the River Basin Council. Participate in the consultation following the Inception Workshop. They participate in the Consultation Plan.	The sector should be involved early in the project both in the environmental and socio-economic assessments, as well as in the consultative processes of the TDA-SAP.	Interest: Medium. They are users of the Basin's human resources but their crop development is incipient. Impact: Neutral, the project is not expected to introduce major changes for this sector.

Stakeholder category And type of stakeholder	Characteristics,	Relevance to the project				Groupings, unions, associations, and/or networks representing their interests	Project responses	Interest in the project Impact of the project
		Role in environmental issues to be addressed:	How affected they are by the environmental (or other) issues that the project will address.	Potential risks of the project to their interests	Potential risks posed by these actors to the achievement of project outcomes			
Tourism Sector (business-corporate) Direct stakeholder	Owners of tourism enterprises and agencies, particularly those operating in the coastal area, both in Uruguay and Brazil.	Increased tourist activity can generate environmental pressures on the coastal strip. For example, waterproofing of beaches, presence of waste, pressure from new port and road infrastructure developments. Socially, this can lead to the displacement of the lower-income population to areas less well served by urban services (irregular settlement in rural peri-urban areas or on land at risk of flooding).	This sector is affected by the degradation of ecosystems, as tourism activity is based on the exploitation of natural beauty. In turn, the intensification of tourism can generate impacts in particular on the coastal strip, deteriorating ecosystems (and also the livelihoods of fishermen).	Low risk The scenarios proposed for the basin should consider the development of tourism activity as a factor that generates pressure on ecosystems, and it is generally believed that the sector will benefit from the development of sustainable tourism and a common framework for tourism and food routes based on fisheries and water.	Conflicting interests with other sectors.	<u>In Uruguay</u> ? CAMTUR? SUTUR? CRT <u>In Brazil</u> Unknown No specific consultations have been carried out in this sector.	Efforts will be made to involve representatives of the sector and state institutions (Ministries of Tourism) of each country in the field of tourism, and agro- and ecotourism, in order to articulate the project activities with state support programmes and instruments for the recovery of the sector.	Interest: HIGH. The sector generates negative impacts on NR as well as being affected by management decisions. They suffer more than other economic sectors from the impacts of Covid-19. They represent an important source of income, particularly on the Uruguayan side. Impact: positive, to the extent that the region is positioned as an area of natural, sustainable tourism and common routes are developed.

Civil society

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
Barra de Valizas Neighbours' Commission	Direct stakeholder	They participate in the Rocha Coastal Brackish Lagoons Basin Committee. They are considered key to the design of a participatory agenda for the project. They can contribute information and local knowledge.	In 2014 they began the process of creating the Basin Commission given the serious problems of cyanobacteria.	They have information on Laguna de Castillos (technical reports, local knowledge). They have developed local Ecological Sanitation courses and Guided Pathway Projects. They participated in the Inception Workshop and the subsequent consultation.	HIGH due to their level of involvement on behalf of organised citizens to advocate for water quality.	Potentially positive if joint management of NRM addresses the concerns of the community regarding water quality.	They will be contacted to gain involvement with the project. Their participation in all socio-economic and environmental assessments for the TDA will be promoted.

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
Pind? Azul Civil Association	Direct stakeholder	Develops research and participatory agroecological practices to promote social justice, food sovereignty, biological and cultural diversity, and the common good. It carries out actions for responsible local development linked to Ecotourism and Rural Tourism, Environmental Education, social participation and inter-institutional articulation. Influence: Treinta y Tres.	They do not indicate specific problems to be considered.	They consider it feasible to promote knowledge and learning from the process that has taken place since the creation of the Quebrada de los Cuervos Protected Area until today. They participated in the consultation following the Inception Workshop.	HIGH due to their interest in environmental issues in the Basin area.	Potentially positive if the joint management of NRM addresses the concerns of the community related to organic production and its social aspects.	They will be contacted to gain involvement with the project. Their participation in all socio-economic and environmental assessments for the TDA will be promoted.

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
ECOS Civil Association	Direct stakeholder	A non-profit research and education centre that promotes Sustainable Development and focuses on raising public awareness of civil society participation in trade, investment and environmental negotiations through research, communication, information dissemination and dialogue.	They raise as a concern the need to make progress in the effective involvement of organised civil society.	They participated in the initial workshop, and the possibility of advancing jointly in a work that allows for the deepening of the participation of Organised Civil Society Organisation is being considered.	HIGH due to its experience with civil society at regional level (Mercosur).	Potentially positive impact for the project if it can increase civil society involvement and participation in the project.	The Project maintains contacts in order to achieve involvement with the project.

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
REDES (Social Ecology Network) - Friends of the Earth	Direct stakeholder	It carries out: campaigns to denounce socio-environmental problems, participatory research, in coordination with universities and social movements, communication and dissemination, workshops, training and institutional strengthening, formulation of alternative policies with social movements, non-governmental organisations and technicians.	No consultation.	Although they have not been consulted, they could be actively involved both in terms of their specific knowledge of NRM in the Basin area from studies they have carried out (their publications were consulted) and their representation of civil society interests.	HIGH due to their interest and research in the Basin area.	Potentially positive impact if cooperation and knowledge-sharing links are established.	They will be contacted to gain involvement with the project. Their participation in all socio-economic and environmental assessments for the TDA will be promoted.
Wildlife-Uruguay	Direct stakeholder	A non-profit organisation that seeks practical solutions to environmental challenges from a scientific, social and pluralistic approach. It works with communities, national and municipal governments, educational institutions, businesses and other NGOs.	Emphasised the fact that the Basin of the Mer?n and Patos Lagoons contain many endemic species and wanted to know if the project would include a specific component on biodiversity conservation and protection, and surveys and plans.	No consultation.	HIGH due to its experience of participatory work with civil society and government at departmental and national level in the field of NRR conservation.	Potentially positive impact for the project if it can increase civil society involvement and participation in the project.	They will be contacted to gain involvement with the project. Their participation in all socio-economic and environmental assessments for the TDA will be promoted.

Name of the interested party	Type of stakeholder	Stakeholder profile		Problems encountered		Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
AMB? Uruguay	Direct stakeholder	An interdisciplinary group motivated by the intension of conserving and regenerating the biodiversity of the Sierras of the East of Uruguay.	It raises concerns about the real estate and housing developments in the upper part of the basin, with some concern about the issue of sanitation and early support for land management plans and support to the municipalities in order to have a sustainable tourism development and thus avoid eutrophication, for example.	Contribution through feedback and evaluation of the actions proposed by the project	HIGH because of its interest and development in the basin area..	Potentially positive impact for the project if it can increase the involvement and participation of civil society in the project.	They will be contacted in order to involve them in the project. Their participation in all socio-economic and environmental assessments of the TDA will be promoted.		

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
AIDIS Uruguay Asociaci?n Interamericana de Ingenier?a Sanitaria y Ambiental (Inter-American Association of Sanitary and Environmental Engineering) URUGUAY AND BRAZIL	Direct stakeholder	Activities promoting research and technical dissemination, development of standards and advice on environmental engineering: drinking water, sanitation, solid and hazardous waste, environmental management, air quality, environmental education and health, natural disasters.	No indication.	Contribution through opinions and evaluations of the actions proposed by the project. It can facilitate contact with population groups in the area. Uruguay HQ participates in the Inception Workshop and Post Inception Workshop Consultation	MEDIUM. It has experience in the generation, dissemination and exchange of technical knowledge and advice on environmental engineering.	Potentially positive impact due to the capacity to develop environmental engineering standards related to drinking water, sanitation, solid waste, etc.	Their participation in all socio-economic and environmental assessments for the TDA will be promoted.
Uruguayan Environmental Network	Indirect stakeholder	It coordinates environmental NGOs and represents them at various levels.	No consultation.	It has not been consulted but could facilitate work with the range of environmental NGOs.	MEDIUM - LOW They are representatives of other institutions that will be directly involved.	Potentially positive if it acts as an intermediary and facilitates coordination with organisations of interest to the project.	They may be contacted if there is a need to increase the involvement of the institutions they represent.

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
CEA Rio Grande do Sul- Brazil	Direct stakeholder	Ecological NGO in the south of Rio Grande do Sul with a focus on actions for the Laguna dos Patos, for its biological diversity and the presence of wetlands such as Banhado do Taim.	No consultation.	It has not been consulted but could provide expertise in protected areas of the project and in liaising with local communities.	HIGH for its interest and action in specific areas of the Basin with conservation objectives.	Potentially positive if acting as a representative of local communities in areas of key interest to the project.	Their participation in TDA process evaluations will be encouraged.
NEMA - Brazil	Direct stakeholder	Association with the mission to promote education, environmental conservation, culture; and to develop conservation awareness in coastal areas; etc.	No consultation.		HIGH for its specific interest and action in coastal areas.	positive	Their participation in TDA process evaluations will be encouraged.
AGAPAN- Brazil	Indirect stakeholder	The Gaucha Association for the Protection of the Natural Environment is a Brazilian NGO dedicated to the fight for the defence of the environment.	No consultation.	Civil society on the Brazilian side could provide expertise on the link.	MEDIUM	Potentially positive if it acts as a representative of civil society interests.	Their participation in TDA process evaluations will be encouraged.

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
APEDeM A- Rio Grande do Sul- Brazil	Indirect stakeholder	Articulates the ecological entities of Rio Grande do Sul. It groups non-governmental, ecological and non-profit organisations, legally constituted, whose main statutory objective is the defence of the environmental balance and the construction of an ecologically sustainable society.	No consultation.		MEDIUM - LOW They are representatives of other institutions that will be directly involved.	Potentially positive if it acts as an intermediary and facilitates coordination with organisations of interest to the project.	They may be contacted if there is a need to increase the involvement of the institutions they represent.
Daily Woman	Direct stakeholder	Feminist collective promoting women's rights. With its origins and headquarters in Uruguay, it has developed binational outreach through projects with border groups.	They raise difficulties in involving organised civil society when it is not specialised in the issues to be addressed.	Facilitate the involvement of local women's organisations in contributing to the success of the Gender Action Plan.	HIGH Interest in strengthening advocacy capacity and promoting new local perspectives on the exploitation of natural resources.	Potentially positive if it facilitates local coordination. Has strong links and capacity to influence project target groups in both countries.	Links and lines of action were established to initiate the work of involving local actors in Uruguay-Brazil border areas (Rio Branco-Yaguar?)

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
Association of Rural Women of Uruguay (AMRU)	Direct stakeholder	Non-profit civil association that brings together rural women and represents mostly family farmers.	Organisational difficulties that are accentuated by health restrictions.	Facilitate the involvement of local rural women's organisations in contributing to the success of the Gender Action Plan.	HIGH Interest in improving conditions for rural women producers in access to water and other resources.	Potentially positive if it facilitates local coordination. Among its partners there are 2 groups linked to the Cuenca area in Uruguay.	Links and lines of action were established to start the work of involving local groups in the Basin area.

Academia/research institutions

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
------------------------------	---------------------	---------------------	----------------------	--	---	--	-------------------

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
INIA	PARTNER	A public institution whose objectives are to formulate and execute agricultural research programmes aimed at generating and adapting technologies appropriate to the needs of the country and the socio-economic conditions of agricultural production. The Regional Treinta y Tres has an experimental station with two resident programmes: rice and pasture and forage.	They express the need for the project to highlight important developments in terms of varieties, productivity and sustainability of agricultural production.	Members of the Basin Council Participants in the Start-Up Workshop	HIGH for its role in building R&D for sustainable production and its influence on large producers.	Positive as an authorised interlocutor for all actors.	

Name of the interested party	Type of stakeholder	Stakeholder profile		Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
CURE	PARTNER	Network of training and research centres of the University of the Republic, with teaching staff based in the departments of Maldonado, Rocha and Treinta y Tres, with the priority thematic focus on Biodiversity Conservation and Sustainable Development.	They point to the difficulty of having a repository of information on ongoing and sometimes scattered research. Also consolidate work with other universities in the region.	Members of the Basin Council They participate in the Start-up Workshop, and there was also a specific exchange with the teaching staff to find out about the lines of research.	HIGH for its capacity and experience in building knowledge on the region's NRRs, their current state and historical evolution.	Positive insofar as resources are exchanged on the basis of scientific knowledge that facilitates evidence-based decision-making.		

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
UFPEL	PARTNER	Public higher education institution, based in Pelotas. It also has a campus in the city of Capão do Leão. It has 1 research group in Hydrology and Hydrological Modelling in Hydrographic Basins. Its activities address R&D lines related to hydrological monitoring, geotechnologies applied to water resources, hydrological modelling and simulation and computational hydrology. Within its structure operates the Agency for the Development of the Merquin Lagoon Basin.	It participates in the process of drawing up the PIF. It is represented on the San Gonçalo Canal and Merquin Lagoon Basin Committee.		HIGH for their involvement in the creation of specific HR knowledge in the Basin and their participation in its governance.	Positive insofar as resources are exchanged on the basis of scientific knowledge that facilitates evidence-based decision-making.	

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
FURG	PARTNER	Federal University historically linked through teaching, research and extension activities to coastal and oceanic ecosystems. They have several laboratories linked to the Institute of Oceanography .	They participate in the Inception Workshop as well as in the subsequent consultation, instances in which they express a high interest in the scientific-technical contribution to the project through their laboratories and postgraduate courses, mentioning in particular the Postgraduate Course in Biology of Continental Aquatic Environments .		HIGH for their involvement in the creation of specific HR knowledge in the Basin and their willingness to participate.	Positive insofar as resources are exchanged on the basis of scientific knowledge that facilitates evidence-based decision-making.	

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
EMPRABA	PARTNER	Federal public state institution linked to the Ministry of Agriculture, Livestock and Food Supply. Its objectives are to develop technologies, knowledge, technical and scientific information for agriculture and livestock to create solutions for sustainability. It coordinates the National Agricultural Research System (SNPA), made up of federal public institutions, state institutions, universities, private companies and foundations, which cooperatively carry out research.	Expresses strong interest in scientific-technical contribution through research on agriculture and sustainable regional development, conservationist use of soil and water and ecosystem services, as well as prospective studies. They formulate proposals for the implementation of production certification actions.	EMBRAPA Clima Atemporado participated in the Inception Workshop and in subsequent consultation. It is represented on the San Gonçalo Canal and Merú Lagoon Basin Committee.	HIGH for their involvement in the creation of specific HR knowledge in the Basin and their willingness to participate. They have research and have developed specific knowledge in the project's area of action.	Positive insofar as resources are exchanged on the basis of scientific knowledge that facilitates evidence-based decision-making.	

Name of the interested party	Type of stakeholder	Stakeholder profile	Problems encountered	Role in project implementation and/or consultation methodology	Interest in the project (high, moderate, low)	Project impact (positive, potentially positive, neutral, negative)	Project responses
UNIPAMPA	Indirect stakeholder	Public education institute. Two of its branches are located in the territory of the basin, where it has some training courses related to the project's themes, such as Production Engineering in Bage and Tourism Management in Jaguarao.	They have not been consulted.	It has a "Binational Higher Education Project" as an area of cooperation for the creation of cross-border cooperation projects. Its representatives include UDELAR, UTU Uruguay, Universidade Estadual do Rio Grande do Sul, Centro Regional de Profesores del Norte, Instituto Federal de Educa??o, Ci?ncia e Tecnologia Sul-Rio-Grandense, among others.	MEDIUM. They are aimed at fostering links with the productive environment and promoting the social and cultural development of the country. They have bi-national programmes.	Positive if an adequate articulation is achieved for the creation of binational training programmes according to the cross-border needs of the Basin area based on the capacity-building needs arising from the TDA.	Involve them in the consultation process for the ADD.
Federal Institute of Education, Science and Technology of Sul-Rio-Grandense (IF-Sul)	Indirect stakeholder	Federal public institution for tertiary education, linked to the Ministry of Education. It has branches in Bag?, Jaguarao and Pelotas.	They have not been consulted.	It promotes binational courses with Uruguay, some of them related to the borders of the Basin. Such as the Rice and Pastures technical course.	MEDIUM. They promote links with the productive environment. They have bi-national programmes.	Positive if an adequate articulation is achieved for the creation of binational training programmes according to the cross-border needs of the Basin area based on the capacity-building needs arising from the TDA.	Involve them in the consultation process for the ADD.

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor;

Co-financier;

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor;

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

189. Detailed Gender Analysis and Action Plans are provided in Annexes I.1 and I.2.

190. The project has the potential to contribute to reducing gender gaps in the following dimensions:

i) **Reduce the gender gap in women's access to and control of natural resources: through** environmental and social assessments of key weaknesses and barriers that include a gender perspective and are carried out with the participation of qualified women and women's organisations; transboundary diagnostic analysis formulated on the principles of the water/food/energy nexus for the integrated and participatory management of the Basin and its natural resources, which considers women as agents of change and recognises their role as water managers.

ii) **Improve women's participation in decision-making spaces:** through their programmed inclusion in the project's consultation activities; the review of regulations on equal opportunities and rights between men and women linked to water management to identify weaknesses and to propose measures aimed at greater participation of women in governance and decision-making bodies, as well as to identify public policies, programmes and clauses favourable to gender equality; the creation of institutional arrangements and bi-national agreements to achieve participatory management with gender equity in decision-making in the framework of an IWRM in application. This objective is also supported by awareness-raising and training activities on the gender perspective for the technical team involved in the coordination and management of the project, as well as for decision-makers involved in the binational management of water resources.

iii) **Generate socio-economic benefits or services for women:** through agreements that consider the needs, interests and aspirations of men and women gathered in all field consultation processes; management tools capable of addressing and analysing information disaggregated by areas and population groups affected in them, in order to target women, men, boys and girls according to the type of vulnerability of each segment; training system in management tools with the participation of women and men in means and channels accessible to each segment; equal participation in IW LEARN training and partnership events.

191. In this context, based on the activities proposed in Annex I.2, the measurement of which will be based on the indicator matrix designed for this purpose, it is understood that the project will

contribute to the achievement of the SDG targets, in particular SDG 5: "Gender Equality". The most direct contributions will be made by limiting the forms of discrimination against women, by generating guarantees for their participation in decision-making in the management of the Basin's water resources and at all levels of governance of the Basin; and by promoting their autonomy by considering women as agents of change for the achievement of sustainable development.

192. Gender aspects will be considered in a systemic and integrated manner throughout the project. During the development of the TDA (Component 1 of the project), an analysis of the existing situation will be carried out, where differences in conditions, opportunities, barriers, etc. for women and men will be identified in terms of food security, poverty, rural productivity, access to technologies, access to markets, education, differences in employment patterns, etc. This analysis will also include (*inter alia*):

- Identification of gaps in gender equality and development of strategies and policies to close those gaps;
- Incorporation of gender issues as they relate to the use of water resources;
- Collection of water data disaggregated by sex, following the methodology promoted by IW LEARN.
- Promotion of women's participation in public consultation activities;
- Promotion of the participation of agencies and organizations involved in gender issues, noting that although the responsibility for implementing a gender approach does not rest solely with women's organizations, they are natural vehicles for promoting gender equality both locally and nationally;

193. In the later stages of the project, the following will be considered:

- The development and harmonization of regulatory frameworks and institutional capacity building aimed at ensuring that gender perspectives are successfully incorporated into the governance of natural resources;
- Gender considerations incorporated into the design of policies and plans in order to avoid perpetuating gender gaps;
- Recognition of the knowledge and practices of women and their sustainable use of resources, and how to ensure that women are full participants in the plans and value chains that the project will promote;
- Ensuring the participation of women in all training programs for sustainable management of natural resources, in order to promote the sustainability of the gender actions proposed by the project;
- Ensuring that specialists hired by the project have knowledge, skills, responsibilities and experience that will contribute to adequate gender mainstreaming;
- Incorporating gender analyses and gender specific information and data into lessons learned generated by the project;
- Promoting gender-balanced participation in the work of the Joint Commission and any ad hoc/subsidiary mechanisms established during the Project, and in project implementation activities such as decision making mechanisms, working groups, the project management unit, and monitoring activities, in order to promote women's involvement and to identify and mitigate any potential negative impacts on women from project activities.

194. During the monitoring and evaluation of the project under Component 4, the results will be analysed from a gender perspective, as well as the lessons learned in the area of gender, which will be systematized and published in reports.

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

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

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

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

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

195. Through the elaboration of the Strategic Action Programme, the project will promote a framework with clear rules for the participation of the private sector in the socioeconomic development of the basin, through the joint view of the national governments. This will create a better connection between private sector investments and formal basin planning processes. This will provide the planning process with up-to-date information on investment strategies, more detailed data than those currently available, and opportunities for dialogue between private basin actors.

196. Actions will be taken to improve agricultural practices, through a more efficient use of the resources what will encourage greater competitiveness in the sector, while implementing more sustainable environmental practices. In this regard, the development of infrastructure to mitigate the effect of droughts and floods will leverage private sector investment in the region.

197. A programme for the development of tourism, fishery and aquaculture will encourage new investments and the development of small and medium size undertakings, creating jobs and allowing the settlement of populations that would otherwise move to urban centres.

198. The development of maritime transport through the implementation of port development and adequate infrastructure, in harmony with the preservation of ecosystems, will attract not only direct investment, but will also boost the regional trade, and the possibility to become a route to connect important urban centres in both countries.

199. Detailed information on the types of private sector actors of relevance to the binational management of the Basin is provided in Annex H3.1 (Stakeholder Analysis and Engagement). These actors, their interests in the project and strategies for engaging them in the project are summarized in :

Table 4. Principal forms of private sector engagement in the project

Private sector group	Relevance to the project	Engagement
-----------------------------	---------------------------------	-------------------

<p>Large livestock producers, owning approximately 20% of the livestock holdings and 80% of the area.</p> <p>Represented by organizations including the Rural Association of Uruguay (ARU), the Rural Federation of Uruguay (RUF) and the River Basin Council; in Brazil, Pelotas Rural Association, the Association of Users of the Caiuba-Flores Lagoons Water Basin (AUCAF), and FARSUL.</p>	<p>May generate environmental pressures in the form of erosion and diffuse pollution of watercourses.</p> <p>This sector has been affected by pronounced drought events, a situation that may worsen as a result of climate change.</p>	<p>The sector should be involved early in the project both in the environmental and socio-economic assessments, as well as in the consultative processes of the TDA-SAP. In addition, through demonstration activities, the sector will be involved in identifying and promoting good management practices and efficient water use.</p>
<p>Large rice producers: business production complex that consumes a high proportion of water from the area.</p> <p>Represented in Uruguay by the Rice Growers' Association (ACA) and in Brazil by the Rice Institute of Rio Grande do Sul (IRGA)</p>	<p>The sector could generate environmental pressures on ecosystems. It is also the largest user of water in the basin through surface abstractions and dams. Impacts of regulation and protection works should be assessed at the micro-basin level.</p> <p>It has been affected by pronounced droughts (e.g. having to reduce planting area due to lack of water in dams), a situation that may be aggravated by climate change.</p> <p>Drainage works, flow regulation and retaining walls modify the natural runoff in the basin and can lead to conflicts.</p> <p>The sector has expressed concerns about issues including:</p> <ul style="list-style-type: none"> - Bi-national asymmetry in terms of production intensity. - The risk of cyanobacterial blooms. - Decision making regarding the improvement of the Cana San Gonçalo locks (Uruguay does not participate and does not know the criteria). - The image of the sector in Uruguay: they understand that society is unaware of the sector's good practices and interest in environmental sustainability. 	<p>The sector should be involved early in the project both in the environmental and socio-economic assessments, as well as in the consultative processes of the TDA-SAP. In addition, through demonstration activities, the sector will be involved in identifying and promoting good management practices and efficient water use.</p>

<p>Forestry Sector: business production complex with a high percentage of foreign owners that is advancing in land use. Eucalyptus in particular generates high water demand.</p> <p>Represented in Uruguay by the Society of Forest Producers, and in Brazil by the Associação Gaúcha de Empresas Florestais. The Society of Forest Producers in Uruguay is represented in the River Basin Council.</p>	<p>Plantation forestry can decrease the amount of water available by increasing evapotranspiration.</p> <p>The increase in forestry plantations can put upward pressure on land prices, displacing smallholders.</p>	<p>The sector should be involved early in the project both in the environmental and socio-economic assessments, as well as in the consultative processes of the TDA-SAP.</p>
<p>Tourism Sector (business-corporate): owners of tourism enterprises and agencies, particularly those operating in the coastal area, both in Uruguay and Brazil.</p>	<p>Increased tourist activity can generate environmental pressures on the coastal strip. For example, presence of waste, pressure from new port and road infrastructure developments.</p> <p>Socially, this can lead to the displacement of the lower-income population to areas less well served by urban services (irregular settlement in rural peri-urban areas or on land at risk of flooding).</p> <p>This sector is affected by the degradation of ecosystems, as tourism activity is based on the exploitation of natural beauty.</p> <p>In turn, the intensification of tourism can generate impacts in particular on the coastal strip, deteriorating ecosystems (and also the livelihoods of fishermen).</p>	<p>Efforts will be made to involve representatives of the sector and state institutions (Ministries of Tourism) of each country in the field of tourism, and agro- and ecotourism, in order to articulate the project activities with state support programmes and instruments for the recovery of the sector.</p>

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

200. The following faced by the project may limit its success:

201. **Risks to the Project:**

Risks	Risk classification	Assessment	Mitigation Measures
-------	---------------------	------------	---------------------

Risks	Risk classification	Assessment	Mitigation Measures
Lack of permanent political support to establish transboundary cooperation frameworks.	Low	<p>This risk is assessed as low for the following reasons:</p> <ul style="list-style-type: none"> - The existence of the Brazilian-Uruguayan Joint Commission for the Development of the Laguna Merín Basin (CLM), for dealing with binational issues - The existence of a long-lasting cooperation regime, structured upon the 1977 Treaty and the CLM, with both National Sections that form the Commission demonstrating interest in, and commitment to, the project. - The existence of a Regional Water Resources Council for the Merín Lagoon in Uruguay and, in Brazil, the State Committee. Both the council and committee have ongoing processes to develop basin management plans for their respective portions of the basin, which offers the Project the opportunity to integrate such processes. - The full participation of the different ministries of Uruguay in project development, and in Brazil strong commitment by the Ministries of Regional Development and Foreign Affairs and by the RS Water Authority demonstrated during consultations on project design. - The existence of a general understanding and appreciation among institutional stakeholders, evidenced during PPG, of the opportunity offered by the project to strengthen cooperation for achieving integrated water resources management across the entire basin. - The approval of the National Water Plan in 2017 in Uruguay, which identifies the catchment as the unit for territorial management and established the bases for the National Water Policy. 	The project will take a step-by-step approach to building mutual trust based on joint fact-finding and consultation processes. It will build on the previous experience of the CLM, and on compliance with treaties already in place.

Risks	Risk classification	Assessment	Mitigation Measures
<p>Limited interest or involvement of target stakeholders, local communities and inhabitants of the two basins.</p>	<p>Medium</p>	<p>- Private sector actors, water users and CSOs in both countries were involved in the design process as set out in Annex H3, and expressed a high level of buy-in.</p>	<p>Over the project implementation, risks will be addressed throughout systematic communication with local communities, and other stakeholders, and through participation in Annual Review Meetings.</p>

Risks	Risk classification	Assessment	Mitigation Measures
Climate change increases hydrological risks, such as floods and droughts.	Medium	<p>A Climate Risk Screening was undertaken at PIF stage. According to the Köppen scale, the climate in the Coastal Lagoons is characterized for having hot and humid summers, and cold to mild winters. The precipitation throughout the year is homogenous with approximately 60-100 mm/month (Kötek, 2006). The natural hazard most affecting the Coastal Lagoons is flooding and resulted in the displacement of more than 86,000 people from 2015-2019 (SINAE, 2020). Other hazards such as coastal floods and wildfires have been observed in the project's location (GFDRR, 2020). Precipitation patterns show an increase of more than 300 mm in the last 50 years, with an increasing number of days with rainfall above 10 mm (Rusticucci et al., 2009; Fanning 2014). The El Niño Southern Oscillation (ENSO) phenomenon further increases the inter-annual rainfall variability, with higher precipitation during ENSO years and severe droughts during La Niña years (UNDP, 2017).</p> <p>Furthermore, data from 20 GCMs for two climate scenarios (RCP 2.6 and RCP 8.5) suggest in both cases an increase in river discharges in the Merín and Pato's lagoon for the periods 2006-2035 and 2051-2080 (Schuster, 2020). Overall, precipitation is expected to increase by 10-20% on average with an increase in inter-annual rainfall variability (UNDP, 2017).</p> <p>While the hazard risk in the project area is high, the exposure of agricultural systems is moderate and the vulnerability is low. These risks are attenuated by the high adaptive capacity of the people and agricultural systems living in the project area. For these reasons, there is not an urgent need to carry out an in-depth climate analysis at the PPG phase.</p>	<p>The project design includes activities recommended in the climate risk screening to improve the planning for climate change impacts, increase resilience to climate change, and reduce GHG emissions. These activities include: Under Components 1 (TDA) and 2 (SAP), the project will strengthen the exchange of meteorological data between Uruguay and Brazil in order to strengthen Early Warning Systems, early action and emergency response in the project's location, with a focus on hazards such as flooding & sea level rise; the project also will develop an Impact Assessment Toolbox for the monitoring of different trans-boundary hazards currently affecting the lagoons (e.g. flooding and sea level rise). Under Component 3 (SAP implementation), the project will promote climate smart agricultural practices for rice plantations and will develop a hydrodynamic model of the Lagoon and tributaries, including: i) a preliminary flood risk assessment of the project area, flood hazard maps and flood risk maps; ii) the preparation and implementation of flood risk management plans for achieving certain levels of protection; iii) early warning systems for floods and droughts; iv) analysis of minimum flows to ensure the functioning of the ecosystem; and v) social, economic and environmental development diagnosis.</p>

Risks	Risk classification	Assessment	Mitigation Measures
Some project activities will be implemented in the vicinity of two Ramsar wetlands, Ba?ados del Este and Laguna de Rocha	Medium	The potential negative environmental and social impacts are site-specific, are not irreversible, and can easily be corrected by appropriate mitigation measures and will not gear to cause adverse impacts to legally protected areas.	The project will include the strengthening of decision-support and regulatory frameworks, which, alongside the SAP itself, will result in specific provisions being in place to ensure that any activities in the context of the project or the SAP (including the pilots to be supported by the project) are fully compatible with the maintenance and promotion of the conservation values of the protected areas, and are in accordance with their management plans.
Limited participation from indigenous people	Medium	As detailed in Annex J, there are only 16 families of indigenous people in the Basin (located at the easternmost extremity of the Brazilian portion). Due to the restrictions on travel and meetings resulting from the COVID-19 pandemic, it was not possible to meet with these families during project preparation.	At project inception consultations will be held with these families to explain the project to them in detail, and consult them on any concerns they may have and on the mechanisms and procedures to be used to ensure their effective participation, as appropriate, in accordance with principles of Free, Prior and Informed Consent (FPIC) and the requirements of national legislation.

Risks	Risk classification	Assessment	Mitigation Measures
<p>COVID19 pandemic related impacts on the internal and international travel, operation of government/ partners/ project; health impacts on general population as well as economic impacts nationally and locally</p>	<p>Medium</p>	<p>Potential implications:</p> <ol style="list-style-type: none"> 1. Reduced financial (co-financing) support from Government and development partners, due to limited overall funding availability resulting from the COVID-19-related economic downturn, and/or the reorientation of available funding to actions directly related to COVID-19 2. Government expenditure and prioritization of different programs and sectors, including agriculture, food security and natural resources might change. 3. Closure of offices, transport etc. may delay launch of project and its implementation. 4. Potential or partial disruption of target sectors (agriculture, livestock, tourism, fisheries) due to COVID-related impacts on supply chains and disruption of demand for products and markets. 5. Higher dependence on natural ecosystems, as people who lose employment and income from other sectors depend more on them for their livelihoods, thereby increasing pressures on them 	<ol style="list-style-type: none"> 1. If there are changes in cofinance, partners will work closely to seek alternative options for co-financing and ensure continuity of resource allocation to ongoing initiatives in project target areas. In Brazil, there is already an agreement on obtaining co-financing from other sources, if the current ones are not complied with (e.g. reserved resources for future projects). 2. It is anticipated that the project scope will help support the participating Governments' responses to COVID-19 through its attention sustainable and diverse livelihood options in vulnerable communities. However, project activities will be further discussed with participating Governments and other stakeholders to be involved in the processes of selection of issues to be included in the pilots, to ensure that emerging priorities and responses, as a result of the pandemic, are well reflected in the project's target areas during implementation. 3. It is possible that periodic closures of transport and offices as well as restrictions on organizing meetings/ training with large number of people will impact project implementation. The project will institute local mechanisms such as local facilitators, and work with local partners to ensure that some work can continue on the ground. Detailed planning will be done with government operational partners to mobilize their field offices and others and the project will ensure that all recommended safe practice are followed by the project team and by communities where the project is working.

The models for sustainable production and management, proposed by the project, will contribute to the processes of 'building back better' by supporting robust, environmentally sustainable and diversified options that will be better able to cope with external 'shocks' such as those presented by crises (e.g. COVID-19 pandemic). The criteria for the selection of the production and management models to be included in the pilots will also include their feasibility, competitiveness and sustainability in agronomic, economic and social terms, taking into account for example considerations of availability of attractive, stable and robust markets, and of factors of production (including labour given the current trends of rural-urban migration and potential disruption to labour supply from crises such as COVID-19).

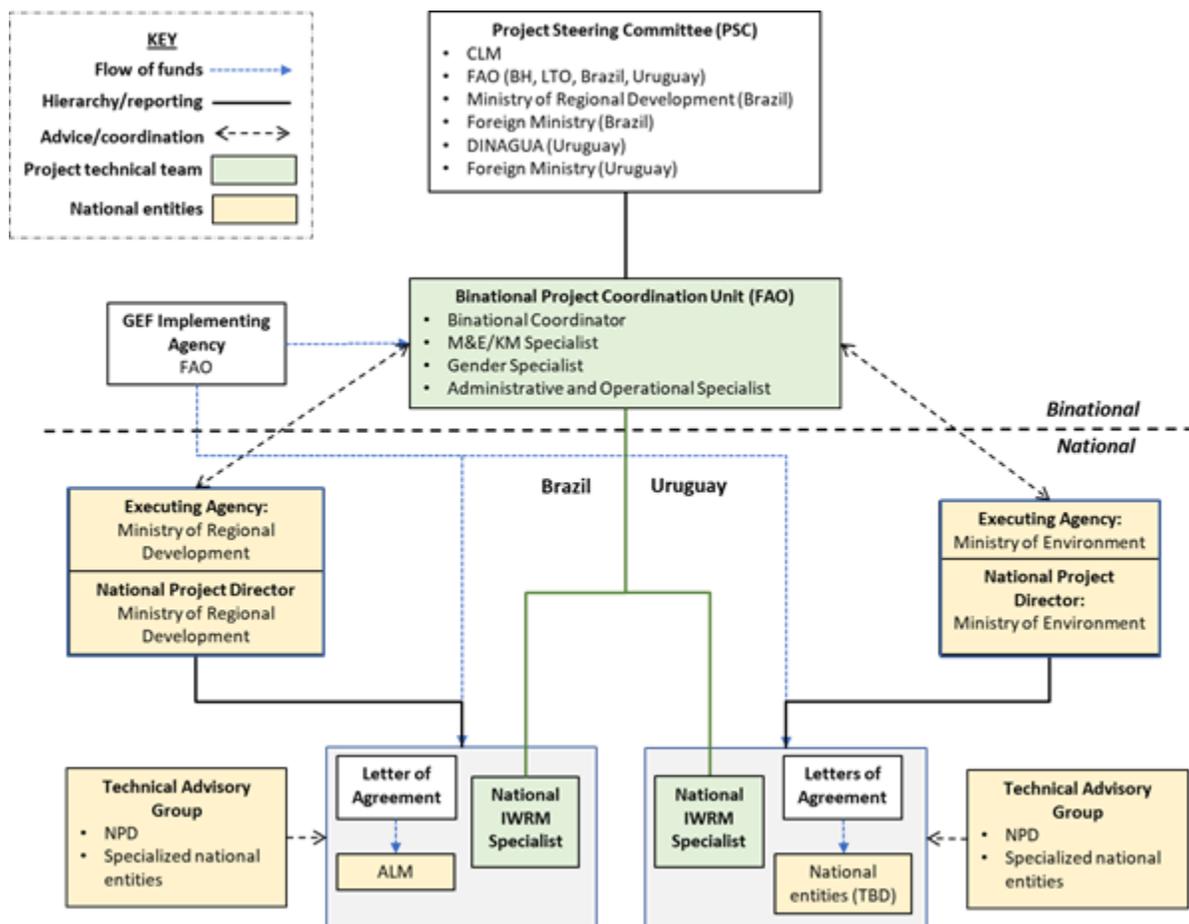
6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

6.a Institutional arrangements for project implementation.

202. The organizational structure of the project is shown in Figure 5.

Figure 5. Organizational structure of the project



203. The main governing body of the project will be the **Project Steering Committee (PSC)**. The PSC will be responsible for approving Annual Work Plans and Budgets on a yearly basis and will providing

strategic guidance to the project management team and to all executing partners. It will meet at least twice per year to ensure:

- Oversight and assurance of technical quality of outputs;
- Close linkages between the project and other ongoing projects and programmes relevant to the project;
- Sustainability of key project outcomes, including up-scaling and replication;
- Effective coordination of government partner work under this project;
- Approval of the six-monthly Project Progress and Financial Reports, the Annual Work Plan and Budget;
- Making by consensus, management decisions when guidance is required by the Chief Technical Advisor ? Binational (CTA-B).

204. The PSC will be chaired by the **Brazil-Uruguay Joint Commission for the Development of the Mer?n Lagoon Basin (CLM)**. Other PSC members will be as follows:

- **FAO**, as GEF Implementing Agency;
- The **Ministries of Foreign Affairs** (*Canciller?as*) of Brazil and Uruguay, by virtue of the transboundary nature of the project;
- The national Executing Agencies (**Ministry of Regional Development** in Brazil and **Ministry of Environment-DINAGUA** in Uruguay).

205. The members of the PSC will each assure the role of a Focal Point for the project in their respective agencies. Hence, the project will have a Focal Point in each concerned institution. As Focal Points in their agency, the concerned PSC members will: (i) technically oversee activities in their sector; (ii) ensure a fluid two-way exchange of information and knowledge between their agency and the project; (iii) facilitate coordination and links between the project activities and the work plan of their agency; and (iv) facilitate the provision of co-financing to the project.

206. A **Project Coordination Unit (PCU)** will be set up in order to ensure project coordination and execution across the whole project area, through rigorous and efficient implementation of AWP/Bs, following PSC guidance and decisions.

207. The PCU will be advised by a **Chief Technical Advisor ? Binational (CTA-B)**, who will be Secretary of the PSC. The CTA-B will be supported by an Administrative/Operational Specialist (see below), and complemented by a National Watershed Expert in each country (see below). The CTA-B will be responsible for the technical supervision of all project activities, including the following:

- Leading the technical planning, coordinate and monitor the technical delivery of project outcomes, outputs and activities;
- Providing technical guidance to the executing partner(s), technical service providers and experts to ensure that the activities are implemented using relevant International Waters and Integrated Water Resources Management approaches, tools and methodologies and best practices.
- Providing technical guidance, assess, review and approve the deliverables of the GEF-financed national technical specialists, and the technical outputs of the executing partners/service providers, short-time consultants, and other technical teams financed by projects funds, in close consultation with FAO and the national partners.
- Ensuring technical alignment of this GEF project?s objectives and the programs implemented by partner institutions and organizations at binational, national and local levels. Promote technical synergies with related GEF and non-GEF initiatives, in particular IW projects and programmes, and other connected initiatives financed by the international cooperation in the project intervention area.
- Ensuring a high level of collaboration between participating institutions and organizations at the national and local levels;
- Supervising the project?s M&E and communications plans.
- Preparing the first draft of the Project Implementation Review (PIR), for FAO LTO?s review. Discuss technical findings with binational and national partners and FAO technical Project Task Force.

- Informing the Project Steering Committee (PSC) and FAO of any technical bottlenecks, delays and difficulties that arise during implementation to ensure timely corrective action and support. Discuss and find the best technical solutions for unexpected challenges.

208. Furthermore, the CTA-B shall ensure a close relationship and collaboration on project activities with other relevant regional and binational activities and partners. Finally he/she shall contribute to the effective dissemination of lessons learned at the national and regional levels (see detailed draft TORs for the CTA-B in Annex M).

209. The **PCU Administrative/Operational Specialist** will have the following responsibilities:

- Ensuring compliance with all LOA provisions during implementation, including on timely reporting and financial management;
- Approving and managing requests for provision of financial resources using provided templates in LOA annexes;
- Monitoring financial resources and accounting to ensure accuracy and reliability of financial reports;
- Ensuring timely preparation and submission of requests for funds, financial and progress reports to FAO as per LOA reporting requirements;
- Maintaining documentation and evidence that describes the proper and prudent use of project resources as per LOA provisions, including making available this supporting documentation to FAO and designated auditors when requested;
- Organizing the logistics of project workshops and meetings to monitor progress;
- Preparing the Annual Budget and Work Plan for the PSC approval.
- Preparing Project Progress Reports (PPRs) and annual reports on invested co-financing;
- Supporting the organization of the mid-term review (MTR) and terminal evaluation (TE) in close coordination with the FAO Budget Holder, FAO Uruguay and FAO Brazil, and the FAO Independent Office of Evaluation (OED);
- Informing the PSC and FAO of any delays and difficulties as they arise during the implementation to ensure timely corrective measure and support.

210. The TORs of the project staff will be reviewed, discussed and endorsed by the Project Steering Committee (in the 1st semester of project implementation).

211. The **Executing Agencies** (EAs) of the project at national level will be the Ministry of Regional Development in Brazil and the Ministry of Environment-DINAGUA in Uruguay, each of which will designate a **National Project Director (NPD)** who, on behalf of the EAs, will be responsible for ensuring and reporting project results to the respective Governments, partners and the Implementing Agency, and will be ultimately responsible for ensuring the sustainability and institutional ownership of project results. The NPDs will be responsible for coordinating project activities with all the national bodies related to the different project components, as well as with the project partners; they will also be responsible for advising the CTA-B and the National Watershed Experts (see below) on government policies and priorities.

212. In addition to participating in the PSC (see above), the Executing Agencies will support FAO in the identification of sub-executing entities with which LoAs will be signed and, given their responsibility for ensuring the delivery and sustainability of project results, will (with FAO) jointly supervise the execution of the LoAs in accordance with the AWPB approved by the PSC, and review and approve the quality of deliverables in accordance with the LoAs.

213. The EAs will also be responsible for monitoring the delivery of co-financing, and providing follow-up as necessary to ensure its timeliness and effectiveness in accordance with the commitment letters submitted at the time of CEO Endorsement.

214. Project activities in the participating countries will largely be carried out through **Letters of Agreement** (LoAs) signed between FAO (as Implementing Agency) and sub-executing entities identified jointly by FAO and the EAs. Technical and administrative oversight of the application of the LoAs will be carried out jointly by the EAs and FAO (represented in practice by the CTA-B and PCU Administrative/Operational Specialist, and technically advised at the national level by the National Watershed Specialists).

In the case of Brazil, LoAs will be signed with the the Funda??o Delfim Mendes da Silveira, representing the Merin Lagoon Agency (ALM) following FAO rules (MS507); in the case of Uruguay, the parties participating in LoAs are expected to be as follows (subject to confirmation at project start):

Letter of Agreement	Entity
LOA 1 Uruguay: Inputs for the TDA	Eastern Regional University Centre (CURE)
LOA 1A Uruguay: Capacity building for IWRM	Ricaldoni Foundation - UDELAR ? Engineering Faculty ? UDELAR
LOA 2 Uruguay: Inventory of hydraulic infrastructure, decision-making (hydrological modelling/scenarios), and early warnings system.	Ricaldoni Foundation - UDELAR ? Engineering Faculty ? IMFIA
LOA 3 Uruguay: Development of strategies for the financial sustainability of the SAP (Uruguay)	To be defined (candidates include CERES, CEUTA and CINVE)
LOA 4 Uruguay: Monitoring of water quantity/quality and pilots of fisheries management	Eastern Regional University Centre (CURE)
LOA 5 Uruguay: Monitoring of wetlands and biodiversity	Programme for Biodiversity Conservation and Sustainable Development of the Eastern Wetlands (PROBIDES)
LOA 6 Uruguay: Pilots of sustainable production, management and conservation of natural resources with transboundary focus	National Institute of Agricultural Research (INIA)
LOA 7 Uruguay: Environmental education programme	To be defined (candidates include ECOS, CURE, PROBIDES)

215. Under the overall supervision and guidance of the CTA-B, technical leadership and oversight to project operations at national level will be provided by a **Watershed Expert** in each country, financed by the project. The roles and responsibilities of the two Watershed Experts are set out in Annex M.

216. At the request of the OFPs of the two host Governments, the activities of the PCU will be executed directly by FAO, for the following reasons:

- 1) As a key element of this International Waters project, the PCU is necessarily binational in scope and cannot therefore be assigned to an Executing Agency specific to either of the two participating countries;
- 2) The CLM does not at this moment in time have the institutional capacities necessary to allow it to function as binational Executing Agency (although project resources will be used, especially under Output 2.1.3, to address this situation by strengthening the capacities of the CLM in its role of binational coordination of the management of the Basin).

217. Project execution at national level will be supported by **Technical Advisory Groups (TAGs)**, which will be established in each country. These will provide technical advice and orientation on the implementation of the project, including the non-binding review of AWPBs, ToRs for major consultancies, the provisions and deliverables of LoAs, and project progress reports. The TAGs will be composed of technical representatives of Government departments/directorates of relevance to, and with interests in, the project: in Brazil these will include the National Water Agency, the Government of Rio Grande do Sul, the Mineral Resources Research Company, the National Department of Transport Infrastructure, and others; and in Uruguay they will include the National Directorate of Territorial Planning (DINOT), the National Directorate of Aquatic Resources (DINARA), the General Directorate of Natural Resources (DGRN) the

National Directorate of Biodiversity and Ecosystem Services (DINABISE), the National Directorate of Environmental Quality and Evaluation (DINACEA), the National Water Director (DINAGUA) and DU-CLM.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

Uruguay:

218. **National Bio Strategy Action Plan:** According to the National Strategy for the Conservation and Sustainable Use of Biodiversity for the period 2016-2020, the project in question will contribute at least through the following components: (i) Conservation and sustainable use of biodiversity: Conserve and efficiently manage the territories whose components make them particularly strategic to maintain biodiversity (ii) Incorporation of biodiversity considerations into sectors: Promote and ensure the sustainable use of biodiversity. Establish policies for the integration of biodiversity conservation with the development of productive activities.

219. **CBD National Report:** The project will contribute at least to the following objectives i) Advance in knowledge generation regarding ecosystems capacity to absorb impacts from production; ii) Adopt measures to move towards sustainable production and consumption models, in line with national regulations and the promotion of biodiversity initiatives; iii) Establish best agricultural practices (institutionally fostered) where guidelines are specifically developed for the articulation between production activities and biodiversity conservation; iv) Develop baselines on pollution levels for the country's main basins; v) Adopt measures to reduce pressures on the ecosystems vulnerable to climate change, particularly the coastal and marine areas, forests and grasslands. The integration of the climate change dimension in planning instruments involving ecosystems and natural resources will be promoted.

220. **UNCCD Reporting:** The project will contribute at least to the following strategic objectives: i) To improve the condition of affected ecosystems, fight against desertification or land degradation, promote sustainable land management and contribute to neutrality in land degradation. ii) To improve the living conditions of affected populations through access to adequate drinking water services. iii) To mitigate, adapt to and manage the effects of drought in order to leverage resilience of vulnerable populations and ecosystems.

221. **National Adaptation Programme of Action Update:** The Project will contribute to building adaptive capacity and resilience and improving the livelihoods of rural populations through the adoption of sustainable plant and animal production systems, technology development and transfer, information systems, resilient infrastructure, fostering best practices, support networks and farmers' organizations, and strengthening institutional adaptation capacities.

222. **Gender commitments:** the gender-positive approach of the project, as set out in Annexes I.1 and I.2, is in full accordance with policies and commitments at national and international levels. Uruguay is a signatory to international commitments assumed in the framework of the Regional Gender Agenda (ECLAC); the 2030 Agenda (UN); the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and the recommendations issued to the Uruguayan State by its Follow-up Committee (2016); the International Convention on the Elimination of All Forms of Racial Discrimination (CERD), and the recommendations issued to the Uruguayan State by its Follow-up Committee (2017); the International Covenant on Economic, Social and Cultural Rights (ESCR) and the recommendations to Uruguay issued by its Committee (2017); the Montevideo Strategy for the Implementation of the Regional Gender Agenda in the Framework of Sustainable Development towards 2030 and the "agreed conclusions" adopted by the Commission on the Status of Women (CSW) at its sixty-first session (2017) on the empowerment of women in the changing world of work.

223. The **National Water Plan** (Executive Decree N° 205/017): the project will contribute to the implementation of the following programmes defined in the National Water Plan:

- 01: Water for Sustainable Development;
- 02: Water for human use;
- 03: Water and its associated risks;
- 04: Waterworks Management;
- 05: Specific Management Instruments;
- 06: Integrated Water Resources Management Plans;
- 07: Information Systems and Models;
- 08: Quantity and Quality Monitoring;
- 09: Interinstitutional Strengthening and Coordination;
- 10: Water Education, Communication, Research and Capacity Building; .

224. **National Environmental Plan for Sustainable Development** (Executive Decree No 222/019): the project will contribute to the following objectives of the Plan:

- 1.3: Preserve water quality, conserve continental aquatic ecosystems, and maintain hydrological processes through models for sustainable basins and aquifers management;
- 1.4: Conserve and manage coastal areas in a sustainable manner;
- 1.5: Increase resilience of socio-ecological systems to climate change and variability and other global changes, contributing to the protection of the regional and global environment. Objective
- 2.2: To promote sustainable production practices that reduce the environmental impact of agricultural activities.

225. The **National Response Plan to Climate Change** (PNRCC, acronym in Spanish) is the main instrument of the national government and the Congress of Mayors to incorporate climate change into the country's long-term sustainable development strategy. The project is in line with Uruguay's **Second National Communication to the UNFCCC**, which prioritises adaptation in coastal areas and in the agriculture sector.

226. **Agrointelligent Uruguay Strategy** (MGAP) prioritises the promotion of sustainable agricultural production, reducing climate vulnerability of production systems through adaptation, supporting innovation and ensuring the inclusion of all producers in value chains. Strategic line 2, which focuses on promoting intensive production with economic, environmental and social sustainability, has two relevant items for this project: a) land use planning and basin protection and b) best agricultural practices and agrochemicals control.

227. The National Directorate of Aquatic Resources (DINARA) is committed to planning **fishery policies founded in the Ecosystem Based Management of the aquatic environments**. To this end, it formulates and executes research programs in the area of aquatic resources, aimed at generating and adapting technologies adapted to the needs of the country and the socio-economic conditions around the production and commercialization. It also promotes the development of the national scientific and technological heritage in the area, through research and studies carried out by DINARA itself in coordination with research programs that are carried out at public or private level. Also, DINARA is committed with the Agreement on Port State Measures to prevent, deter and eliminate illegal, unreported and unregulated fishing[1].

Brazil:

228. **National Bio Strategy Action Plan:** According to the National Strategy for the Conservation and Sustainable Use of Biodiversity for the period 2011-2020, the project will contribute at least through the following components: i) Addressing the root causes of biodiversity loss by making biodiversity concerns permeate government and society. ii) Reducing direct pressures on biodiversity and promoting its sustainable use. iii) Enhancing the benefits of biodiversity and ecosystem services for everyone.

229. **CBD National Report:** The project will contribute at least to the following objectives: (i) Governments, the private sector and stakeholders at all levels have taken actions or have implemented sustainable production and consumption plans to mitigate or prevent negative impacts of the use of natural resources. (ii) All stocks of any aquatic organism are managed and harvested sustainably, legally and using

ecosystem based approaches, so that overexploitation is avoided, recovery plans and measures for depleted species are implemented, fisheries do not have significant adverse impacts on threats to vulnerable species and ecosystems, and the impacts of fishing on stocks, species and ecosystems are within safe ecological boundaries, when scientifically established. (iii) The incorporation of sustainable management practices has been disseminated and promoted in agriculture, livestock production, aquaculture, forestry, extractive activities and forest and wildlife management, ensuring the conservation of biodiversity. (iv) Pollution, including excess nutrients, has been brought to levels that are not detrimental to ecosystems and biodiversity. (v) The National Strategy on Invasive Alien Species is fully implemented, with the participation and commitment of States and the development of a National Policy, ensuring continuous and updated diagnosis of species and effective Action Plans for prevention, containment and control. (vi) Ecosystems that provide essential services, including water-related services that contribute to health, livelihoods and welfare are restored and protected, taking into account the needs of women, traditional peoples and communities, indigenous peoples and local communities, and the poor and vulnerable.

230. **UNCCD Reporting:** The project will contribute at least to the following strategic objectives: i) Improve the condition of affected ecosystems, fight against desertification or land degradation, promote sustainable land management and contribute to neutrality in land degradation. ii) Improve the living conditions of affected populations through access to adequate drinking water services. iii) Mitigate, adapt to and manage the effects of drought in order to increase the resilience of vulnerable populations and ecosystems.

231. **National Adaptation Programme of Action Update:** The project contributes to the overall objective of the Plan which is to promote climate risk reduction and management in Brazil and to consider the effects of climate change, taking full advantage of emerging opportunities, avoiding losses and damages, and building instruments to enable adaptation of natural, human and productive resources and infrastructure systems. This is done through inter-governmental and intra-governmental coordination, the incorporation of climate change adaptation into government planning, the implementation of adaptation actions with scientific and technical knowledge, and the promotion of regional cooperation.

232. **Gender commitments:** the gender-positive approach of the project, as set out in Annexes I.1 and I.2, is in full accordance with policies and commitments at national and international levels. Brazil is committed to pursuing gender-sensitive sustainable development through its adherence to several international policy documents, including the 2030 Agenda and the 2020 Santiago Commitment and related documents (Montevideo Strategy for the Implementation of the Regional Gender Agenda in the Framework of Sustainable Development towards 2030 & Regional Gender Agenda) (as a member of ECLAC). In addition, Brazil is a party to the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and its optional protocol, International Convention on the Elimination of All Forms of Racial Discrimination (CERD), Convention on the Rights of the Child, International Covenant on Economic, Social and Cultural Rights, and International Covenant on Civil and Political Rights, and ILO Convention 169 on Indigenous and Tribal Peoples.

233. In the environmental field, Brazil is a party to the CBD and the UNFCCC and its Paris Agreement, all of which have incorporated gender issues into the implementation process. In addition, Brazil's updated NDC do Brazil recognizes the special needs of women and indigenous peoples.?

234. At the national level, the Brazilian Constitution contains several provisions dealing with equality in general and, specifically, in relation to gender issues. In addition, the Ministry of Women, Family and Human Rights has been active in various international gender equality forums and, domestically, has promoted the participation of women in decision-making and leadership positions in public and private entities.

[1] <https://oceanconference.un.org/commitments/?id=20089>

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

235. Specific areas and strategies of knowledge management in the context of the project will be as follows:

- Collation of existing knowledge resources on socioeconomic, biophysical, governance and institutional conditions in the Basin in support of the TDA process. Existing knowledge was subject to extensive review during PPG: the results of this process are summarized in Section II. 1a. 1 (Project Description/Context) of this Project Document, and also as stand-alone thematic consultancy reports which will be used as reference resources for the TDA process.

- These knowledge resources will be shared with the intended participants in the TDA process, and then presented to them in summarized and digestible formats through the multi-stakeholder workshops/working groups that will constitute the main medium for the realization of the TDA process, as proposed under Component 1 of the project, as the basis for the negotiated definition of shared visions/understandings of the situation of the Basin and the issues to be addressed.

- These knowledge resources will be expanded and complemented as needed during the TDA, to fill in identified gaps, through specific additional studies. These will be carried out either by individual consultants or, preferably, by universities and research institutions (governmental or otherwise) from the region: this will contribute to the capitalization and institutional ownership of the knowledge that is collated or generated, maximizing the potential for the knowledge to be used constructively outside of the specific context of this project and this specific TDA/SAP (e.g. in other projects/programmes/initiatives or in educational curricula).

- The knowledge collated and generated through the TDA process will be fed into the SAP process through the formulation, dissemination and presentation of synthesis materials and multi-stakeholder workshops, as described under Component 2.

- The basin twinning proposed under Output 2.1.3 will also provide a valuable opportunity for knowledge exchange in relation to diverse aspects of binational basin management[1].

- Project actions under Outcome 2.2 will in particular focus on knowledge management, ensuring that the processes of both formulating and implementing the SAP are adequately supported by knowledge inputs generated through, for example, hydrological, hydrodynamic and climate impact modelling, and that the institutions involved are equipped with the tools and capacities needed to manage and interpret knowledge in an objective and balanced manner, such as Natural Capital Accounting and Targeted Scenario Analysis, and other tools such as those set out in the GEF Guidance Document for Economic Valuation in IW Projects[2].

- As proposed under Output 2.2.1, the project will as appropriate follow guidance generated by UNECE on methodologies for communicating the benefits of transboundary cooperation.

- The data, information and knowledge management and exchange mechanism proposed under Output 2.2.2 will constitute a core element of the project's legacy in ensuring that knowledge is effectively managed in the long term. This mechanism, fed in part by the results of the harmonized and joint monitoring of multiple variables to be supported by the project, will help to ensure that data, information and knowledge are effectively captured and made available to relevant actors on both sides of the frontier in support of harmonized and coordinated management.

- Project actions under Outcome 3.2, focused on the implementation of pilot projects to demonstrate the benefits of integrated basin management, will be supported by knowledge management mechanisms and procedures that will allow the lessons learned in the pilots to be communicated effectively to feed into the SAP process at both formulation and implementation stages. These knowledge management tools will include participatory workshops in which the stakeholders involved in the pilots will reflect on results and lessons learned; technical studies of processes and results; the generation of technical/policy guidance documents based on these reflections and studies, aimed at SAP participants and policy/decision makers more generally; field visits by SAP participants and other policy/decision makers to the pilots; and visual presentations to the SAP workshops synthesizing pilot results.

- Under Output 4.1.3, a website will be established, based on updated IW:LEARN guidelines, with integrated environmental and socio-economic information, including sex-disaggregated data and gender-sensitive indicators based on the gender section of IW:LEARN.
- Under Output 4.3.3, the project will produce at least one experience note and one results note in IW:LEARN[3].
- Under Output 4.3.4, the project will share knowledge based on lessons learned through the project, and gain knowledge from other IW initiatives worldwide for potential application in the project, through participation in global GEF IW Conferences.
- The project will hold Annual Review Meetings that will be the main regional events with the aim of establishing synergistic interactions between countries, with other relevant initiatives and stakeholders. The meetings will have a dual purpose: 1) to provide a forum for peer learning among project stakeholders, and 2) to catalyse regional attention on progress towards water and environmental security.

[1] <https://iwlearn.net/learning/twinning>

[2] <https://iwlearn.net/valuation>

[3] <https://iwlearn.net/documents/experience-notes>

9. Monitoring and Evaluation

Describe the budgeted M and E plan

236. The project results, as outlined in the project results framework (Annex A.1), will be monitored regularly, reported annually and assessed during project implementation to ensure the project effectively achieves these results. Monitoring and evaluation activities will follow FAO and GEF's policies and guidelines for monitoring and evaluation. The M&E system will also facilitate learning, replication of the project's results and lessons which will feed the project's knowledge management strategy

Monitoring Arrangements

237. Project oversight and supervision will be carried out by the Budget Holder with the support of the PTF, LTO and FLO and relevant technical units in FAO headquarters. Oversight will ensure that: (i) project outputs are produced in accordance with the project results framework and leading to the achievement of project outcomes; (ii) project outcomes are leading to the achievement of the project objective; (iii) risks are continuously identified and monitored and appropriate mitigation strategies are applied; and (iv) agreed project global environmental benefits are being delivered.

238. The FAO-GEF Coordination Unit and HQ Technical units will provide oversight of GEF financed activities, outputs and outcomes largely through the annual Project Implementation Reports (PIRs), periodic backstopping and supervision missions.

239. Day-to-day project monitoring will be carried out by the Project Management Unit. Project performance will be monitored using the project results matrix, including indicators (baseline and targets) and annual work plans and budgets. At inception phase, the results matrix will be reviewed to finalize the identification of i) outputs ii) indicators iii) targets and iv) any missing baseline information

240. A detailed M&E System, which builds on the results matrix and defines specific requirements for each indicator (data collection methods, frequency, responsibilities for data collection and analysis, etc) will also be developed during project inception by the M&E and Knowledge management specialist The project will also address monitoring and evaluation (M&E) at the following levels:

1. **Internal results-based adaptive management:** the project's results framework (see Annex A1) sets out SMART indicators at outcome and output level. These will be monitored in accordance with the M&E plan in Table 5.

2. **GEF-7 Core Indicators** (see Annex F), which are linked to and reconciled with selected indicators in the results framework, will be used for reporting progress to GEF at project mid-term and end, in support of programmatic monitoring and adaptive management across the GEF portfolio.

Table 5. Monitoring Plan

Indicator		Frequency
GEF-7 core indicators		
7.1 Level of Transboundary Diagnostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation - <i>Results framework indicator for Outcome 2.3</i>		- Annual
7.2 Level of Regional Legal Agreements and Regional Management Institutions to support its implementation - <i>Results framework indicator at objective level</i>		- Annual
7.3 Level of National/Local reforms and active participation of Inter-Ministerial Committees - <i>Results framework indicator for Outcome 2.3</i>		- Annual
7.4 Level of engagement in IWLEARN through participation and delivery of key products - <i>Results framework indicator for Outcome 4.3</i>		- Annual
11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment		- Annual
Results framework (RF) indicators for internal project results-based adaptive management		
Element of vertical logic	Indicator	
Outcome 1.1	Progress with TDA formulation.	Annual
Output 1.1.1	Progress with identification and characterization of environmental, social, governance and economic issues, including ecosystem services valuations	Annual
Output 1.1.2	Status of TDA and consultation processes	Annual
Outcome 2.1	Effectiveness of coordination mechanisms in Basin management <i>(indicator to be finalized during TDA process)</i>	Annual
	Effectiveness of participation mechanisms in Basin management <i>(indicator to be finalized during TDA process)</i>	Annual
	Number of short-term governance reforms, identified by key institutional stakeholders and agreed by competent Governments, that are underway at the binational, national and state levels	Annual
Output 2.1.1	Numbers of documents formulated and agreed among key stakeholders setting out proposals of technical strategies, policy reforms and joint regulations.	Annual
Output 2.1.2	Numbers of framework thematic management plans formulated	Annual
Output 2.1.3	Levels of capacity among key stakeholders on priority issues related to IWRM and SAP implementation, as defined by Knowledge, Attitudes and Practice (KAP) assessment.	Baseline, mid-term and end
Outcome 2.2	Number of decisions taken using the decision-support tools and accessing reliable shared information	Annual
Output 2.2.1	Progress with establishment of decision-support system	Annual
Output 2.2.2	Progress with establishment of data exchange mechanism	Annual
Outcome 2.3	<i>Level of Transboundary Diagnostic Analysis and Strategic Action Programme (TDA/SAP) formulation and implementation (Indicator IW 7.1)</i>	Annual
Output 2.3.1	Progress with process for formulation and socialization of SAP	Annual
Output 2.3.2	Progress with development and agreement of SAP	Annual

Output 2.3.3	Progress with development of financial sustainability strategy and action plan developed and agreed	Annual
	Numbers of documents formulated and agreed among key stakeholders setting out proposals of technical strategies, policy reforms and joint regulations.	Annual
Outcome 3.1	Access by local decision makers and planners to IWRM tools	Annual
Output 3.1.1	Progress with establishment of joint monitoring programme	Annual
Output 3.1.2	Progress with establishment of protected area monitoring programme	Annual
Outcome 3.2	Numbers of pilot projects established, accompanied by effective knowledge management and outreach mechanisms	Annual
Output 3.2.1	Scale of implementation of pilots (numbers of practices, area covered, people participating by gender)	Annual
Output 3.2.2	Scale of implementation of tourism and fishery development programme (numbers of practices, area covered, people participating by gender)	Annual
Outcome 4.1	Numbers of stakeholders with knowledge of benefits of pilot activities and integrated basin management	Baseline, mid-term and end
Output 4.1.1	Progress with formulation and implementation of plan	Annual
Outcome 4.2	Percentage of targets set out in annual work plans and budgets that are based on the results of M&E	Annual
Output 4.2.1	Percentage of indicators measured in accordance with M&E plan	Annual
Output 4.2.2	Number of key decision-making and planning processes that are informed by M&E results	Annual
Outcome 4.3	<i>Indicator IW 7.4: level of engagement in IW LEARN through participation and delivery of key outputs</i>	Annual
Output 4.3.1	<i>Indicator IW 7.4: level of engagement in IW LEARN through participation and delivery of key outputs</i>	Annual
Output 4.3.2	Number of training/twinning events	Annual
Output 4.3.3	Number of experience and results notes	Annual
Output 4.3.4	Number of IW conferences attended by project staff	Biannual

Table 2. Monitoring and Evaluation Budget

M&E activity	Responsible Party	Time frame / Periodicity	Budgeted costs (USD)
Inception workshop	BH, CTA-B; FAO-Brazil and FAO-Uruguay (with support from LTO, and the FAO-GEF Unit)	Two months after starting the project	--

Project inception report	BH, CTA-B, M&E and Knowledge Management Specialist, and FAO-Brazil and FAO-Uruguay with the approval of the LTO, BH and the FAO-GEF Unit	Immediately after the inception workshop	--
Impact monitoring "on the ground"	BH, CTA-B; project partners, local organizations	Continuous	USD 145,000
Monitoring visits and assessment of progress in PPR and PIR	BH, CTA-B; FAO (FAO-Brazil, FAO-Uruguay, LTO). The FAO-GEF Unit can participate in the visits if necessary.	Annual, or as required	FAO visits will be covered by GEF agency fees. Project coordination visits will be borne by the project travel budget
Project Progress Reports (PPR)	BH, CTA-B, with contributions from stakeholders and other participating institutions	Biannual	-
Annual Project Execution Review Reports (PIR)	BH, Prepared by the CTA-B, with the supervision of the LTO and BH. Approved and submitted to the GEF by the FAO-GEF Coordination Unit	Annual	FAO staff time is funded by GEF agency fees. PIU time covered by the project budget.
Meetings: National Steering Committee and Project Management Committee	BH, CTA-B with contributions from other co-financiers	Annual or more	--
Co-financing reports	BH, CTA-B, FAO (LTO, FAO-Brazil, FAO-Uruguay)	Annual	--

Technical reports	BH, FAO-Brazil, FAO-Uruguay, External Consultant, consultations with the project team, including the FAO-GEF Unit and others.	As required	PCU time covered by the project budget.
Mid-term review (MTR)	BH, decentralized Regional Evaluation Specialist (RES), in consultation with the project team, including the FAO-GEF Unit and others.	Midway through project implementation	USD 50,000 for an external consultancy, managed by the BH.
Final Evaluation	The FAO Office of Evaluation (OED) will be responsible for the independent terminal evaluation of this project in consultation with the BH, project team, FAO-GEF Unit and others.	To be launched 6 months prior to terminal review meeting	USD 80,000 for an external evaluation team. FAO staff time and travel expenses will be funded from GEF agency fees.
Terminal report	BH, CTA-B; FAO-Brazil, FAO-Uruguay (with support from LTO, and the FAO-GEF Unit)	Two months before the project completion date	14,000
Total budget			USD 289,000

Monitoring and Reporting

241. In compliance with FAO and GEF M&E policies and requirements, the PCU, in consultation with the PSC and PTF will prepare the following i) Project inception report; (ii) Annual Work Plan and Budget (AWP/B); (iii) Project Progress Reports (PPRs); (iv) annual Project Implementation Review (PIR); (v) Technical Reports; (vi) co-financing reports; and (vii) Terminal Report. In addition, the Core Indicators will be used to monitor Global Environmental benefits and updated regularly by the PCU.

242. Project Inception Report. A project inception workshop will be held within two months of project start date and signature of relevant agreements with partners. During this workshop the following will be reviewed and agreed:

- the proposed implementation arrangement, the roles and responsibilities of each stakeholder and project partners;

- an update of any changed external conditions that may affect project implementation;
- the results framework, the SMART indicators and targets, the means of verification, and monitoring plan;
- the responsibilities for monitoring the various project plans and strategies, including the risk matrix, the Environmental and Social Risk Management Plan, the gender strategy, the knowledge management strategy, and other relevant strategies;
- finalize the preparation of the first year AWP/B, the financial reporting and audit procedures;
- schedule the PSC meetings;
- prepare a detailed first year AWP/B,

243. The PCU will draft the inception report based on the agreement reached during the workshop and circulate among PSC members, BH, LTO and FLO for review within one month. The final report will be cleared by the FAO BH, LTO and the FAO GEF Coordination Unit and uploaded in FAO's Field Program Management Information System (FPMIS) by the BH.

244. Results-based Annual Work Plan and Budget (AWP/B). The draft of the first AWP/B will be prepared by the PCU in consultation with the FAO Project Task Force and reviewed at the project Inception Workshop. The Inception Workshop inputs will be incorporated and subsequently, the PCU will submit a final draft AWP/B to the BH within two weeks after the workshop. For subsequent AWP/B, the PCU will organize a project progress review and planning meeting for its progress review and adaptive management. Once PSC comments have been incorporated, the PCU will submit the AWP/B to the BH for non-objection, LTO and the FAO GEF Coordination Unit for comments and for clearance by BH and LTO prior to uploading in FPMIS by the BH. The AWP/B must be linked to the project's Results Framework indicators to ensure that the project's work and activities are contributing to the achievement of the indicators. The AWP/B should include detailed activities to be implemented to achieve the project outputs and output targets and divided into monthly timeframes and targets and milestone dates for output indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring and supervision activities required during the year. The AWP/B should be approved by the Project Steering Committee, LTO, BH and the FAO GEF Coordination Unit, and uploaded on the FPMIS by the BH.

245. Project Progress Reports (PPR): The PPRs are used to identify constraints, problems or bottlenecks that impede timely implementation and to take appropriate remedial action. PPRs will be prepared based on the systematic monitoring of output and outcome indicators identified in the Project Results Framework indicate annex number, AWP/B and M&E Plan. Each semester the indicate as appropriate Project Coordinator (PC) or Project Manager will prepare a draft PPR, will collect and consolidate any comments from the FAO PTF. The PC / PM will submit the final PPRs to the FAO Representation in indicate country every six months, prior to 31 July (covering the period between January and June) and before 31 December (covering the period between July and December). The July-December report should be accompanied by the updated AWP/B for the following Project Year (PY) for review and no-objection by the FAO PTF. The Budget Holder has the responsibility to coordinate the preparation and finalization of the PPR, in consultation with the PCU, LTO and the FLO. After LTO, BH and FLO clearance, the FLO will ensure that project progress reports are uploaded in FPMIS in a timely manner.

246. Annual Project Implementation Report (PIR): The PIR is a key self-assessment tool used by GEF Agencies for reporting every year on project implementation status. It helps to assess progress toward achieving the project objective and implementation progress and challenges, risks and actions that need to be taken. Under the lead of the BH, the Project Coordinator / Project Manager will prepare a consolidated

annual PIR report covering the period July (the previous year) through June (current year) for each year of implementation, in collaboration with national project partners (including the GEF OFP), the Lead Technical Officer, and the FLO. The PC/PM will ensure that the indicators included in the project results framework are monitored annually in advance of the PIR submission and report these results in the draft PIR.

247. BH will be responsible for consolidating and submitting the PIR report to the FAO-GEF Coordination Unit for review by the date specified each year after each co-implementing agency's review for each respective output under their responsibilities (to be included for joint implementation only). FAO - GEF Funding Liaison Officer review PIRs and discuss the progress reported with BHs and LTOs as required. The BH will submit the final version of the PIR to the FAO-GEF Coordination Unit for final approval. The FAO-GEF Coordination Unit will then submit the PIR(s) to the GEF Secretariat as part of the Annual Monitoring Review of the FAO-GEF portfolio

248. Technical Reports: Technical reports will be prepared as part of project outputs and to document and share project outcomes and lessons learned. The LTO will be responsible for ensuring appropriate technical review and quality assurance of technical reports. Copies of the technical reports will be distributed to project partners and the Project Steering Committee as appropriate.

249. Co-financing Reports: The PCU will be responsible for tracking co-financing materialized against the confirmed amounts at project approval and reporting. The co-financing report, which covers the GEF fiscal year 1 July through 30 June, is to be submitted on or before 31 July and will be incorporated into the annual PIR. The co-financing report needs to include the activities that were financed by the contribution of the partners.

250. Tracking and reporting on results across the GEF 7 core indicators and sub-indicators: As of July 1, 2018, the GEF Secretariat requires FAO as a GEF Agency, in collaboration with recipient country governments, executing partners and other stakeholders to provide indicative, expected results across applicable core indicators and sub-indicators for all new GEF projects submitted for Approval. During the approval process of the (insert short project title) expected results against the relevant indicators and sub-indicators have been provided to the GEF Secretariat. Throughout the implementation period of the project, the PCU, is required to track the project's progress in achieving these results across applicable core indicators and sub-indicators. At project mid-term and project completion stage, the project team in consultation with the PTF and the FAO-GEF CU are required to report achieved results against the core indicators and sub-indicators used at CEO Endorsement/ Approval. Methodologies, responsibilities and timelines for measuring core-indicators will be outlined in the M&E Plan prepared at inception.

251. Terminal Report: Within two months before the end date of the project, and one month before the Final Evaluation, the PCU will submit to FAO RLC a draft Terminal Report. The main purpose of the Terminal Report is to give guidance at ministerial or senior government level on the policy decisions required for the follow-up of the project, and to provide the donor with information on how the funds were utilized. The Terminal Report is accordingly a concise account of the main products, results, conclusions and recommendations of the project. The target readership consists of persons who are not necessarily technical specialists but who need to understand the policy implications of technical findings and needs for insuring sustainability of project results.

MTR and Evaluation provisions

252. **Mid-Term Review**

As outlined in the GEF Evaluation Policy, Mid-Term Reviews (MTRs) or mid-term evaluations (MTEs) are mandatory for all GEF-financed full-sized projects (FSPs), including Enabling Activities processed as full-sized projects. It is also strongly encouraged for medium-sized projects (MSPs). The Mid-Term review will (i) assess the progress made towards achievement of planned results (ii) identify problems and make recommendations to redress the project (iii) highlight good practices, lessons learned and areas with the potential for upscaling. The Mid-Term Review will be under the responsibility of the BH and will be managed by the FAO Regional Evaluation Specialist (RES), in coordination with the MTR focal points designated by FAO Uruguay and FAO Brazil.

253. The Budget Holder is responsible for the conduct of the Mid-Term Review (MTR) of the project in consultation with the FAO-GEF Coordination Unit halfway through implementation. He/she will contact the FAO-GEF Coordination Unit about 3 months before the project half-point (within 3 years of project CEO Endorsement) to initiate the MTR exercise.

254. To support the planning and conduct of the MTR, the FAO GEF CU has developed a guidance document 'The Guide for planning and conducting Mid-Term Reviews of FAO-GEF projects and programmes'. The FAO-GEF CU will appoint a MTR focal point who will provide guidance on GEF specific requirements, quality assurance on the review process and overall backstopping support for the effective management of the exercise and for timely the submission of the MTR report to the GEF Secretariat.

255. After the completion of the Mid-Term Review, the BH will be responsible for the distribution of the MTR report at country level (including to the GEF OFP) and for the preparation of the Management Response within 4 weeks and share it with national partners, GEF OFP and the FAO-GEF CU. The BH will also send the updated core indicators used during the MTR to the FAO-GEF CU for their submission to the GEF Secretariat.

256. **Terminal Evaluation**

The GEF evaluation policy foresees that all Medium and Full sized projects require a separate terminal evaluation. Such evaluation provides: i) accountability on results, processes, and performance ii) recommendations to improve the sustainability of the results achieved and iii) lessons learned as an evidence-base for decision-making to be shared with all stakeholders (government, execution agency, other national partners, the GEF and FAO) to improve the performance of future projects.

257. As per the FAO Policy on Evaluation, the FAO Office of Evaluation (OED) will conduct a Terminal Evaluation (TE) of the project, to be launched within six months prior to the actual completion date (NTE date). The TE will aim at identifying project outcomes, their sustainability and actual or potential impacts. It will also have the purpose of indicating future actions needed to assure continuity of the process developed through the project. FAO Office of Evaluation will conduct the evaluation in

consultation with project stakeholders and the donor, and share with them the evaluation report, which is a public document.

258. After the completion of the Terminal Evaluation, the BH will be responsible to prepare the management response to the evaluation within 4 weeks and share it with national partners, GEF OFPs, OED and the FAO-GEF Coordination Unit.

259. **Disclosure**

The project will ensure transparency in the preparation, conduct, reporting and evaluation of its activities. This includes full disclosure of all non-confidential information, and consultation with major groups and representatives of local communities. The disclosure of information shall be ensured through posting on websites and dissemination of findings through knowledge products and events. Project reports will be broadly and freely shared, and findings and lessons learned made available.

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCE/SCCF)?

260. In addition to the Global Environmental Benefits of the project, set out in section II. 1a. 6, the project will generate social and economic benefits, which will be of fundamental importance in ensuring the long-term social sustainability of its impacts, and buy-in to the project and the TDA/SAP processes by the stakeholder groups present in the Basin. These include the following:

- Increased medium- and long-term sustainability of the livelihoods of fishery-dependent families in both Uruguay and Brazil as a result of the implementation of the framework plan for sustainable fisheries management and location-specific community-based fisheries management plans, and binationally-coordinated actions to address watershed management impacts (from urban, forestry, agricultural and livestock sectors) with potential to undermine fisheries resources .
- Increase resilience of the livelihoods of fishery-dependent families due to integration between fisheries and tourism activities (resulting in livelihood diversification) and the inclusion of measures to respond adaptively to the effects of climate change in fisheries management plans at framework and community levels.
- Increased sustainability of tourism livelihoods due to binational planning of the natural resources of the Basin in order to avoid negative impacts on landscape and other tourism values.
- Increased sustainability of livelihoods among people involved in agriculture (including rice), forestry and livestock sectors as a result of the application of sustainable, resilient and climate-smart practices.
- Improved resilience of livelihoods and production sectors to disaster risks and climate change impacts, due to improved binationally coordinated protection of ecosystems capable of generating resilience functions (nature-based solutions) and the inclusion of these factors in the criteria for the selection of productive and resource management options.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification *

PIF	CEO Endorsement/Approva I	MTR	TE
Medium/Moderate			

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

Risks from the Project:

According to the FAO Environmental and Social Management Guidelines, the project risks have been assessed during full project preparation. The risk category is Moderate. The Environmental and Social Safeguards (ESS) will be monitored as follows:

Environmental and Social Safeguard (ESS) identified	Risk Description	Risk Classification	Mitigation Action (s)	Indicator / Mean(s) of Verification	Progress on mitigation action

Environmental and Social Safeguard (ESS) identified	Risk Description	Risk Classification	Mitigation Action (s)	Indicator / Mean(s) of Verification	Progress on mitigation action
ESS 2.1 Would this project be implemented within a legally designated protected area or its buffer zone?	The project area includes two Ramsar sites: Ba?ados del Este and Laguna de Rocha. The project is reclassified from high to moderate risk, as its activities will contribute to the integrated management of a transboundary basin through sustainable use of terrestrial freshwater ecosystems and associated services. The potential negative environmental and social impacts are site-specific, are not irreversible, and can easily be corrected by appropriate mitigation measures and will not gear to cause adverse impacts to legally protected areas.	Moderate	Any pilots (under Component 3) will be designed in full accordance with the management plans of the protected areas and on the basis of site-specific technical and participatory feasibility studies.	Conformity with protected area management plans; monitoring of PA conditions through PA monitoring mechanisms to be established under Output 3.1.2.	
ESS 7.2 Would this project operate in sectors or value chains that are dominated by subsistence producers and other vulnerable informal agricultural workers, and more generally characterized by high levels of working poverty??	The agriculture and fisheries sectors have significant levels of working poverty	Moderate	The pilots will be designed with the full participation of local stakeholders, with full attention to their potential for benefiting the rural poor.	Social profiles of pilot participants: interviews/focus groups on social implications and inclusiveness of pilots.	

Environmental and Social Safeguard (ESS) identified	Risk Description	Risk Classification	Mitigation Action (s)	Indicator / Mean(s) of Verification	Progress on mitigation action
ESS 7.3 Would this project operate in situations where youth work mostly as unpaid contributing family workers, lack access to decent jobs and are increasingly abandoning agriculture and rural areas?	There are significant levels of young people employed in the agriculture sector, and high levels of rural-urban migration	Moderate	The pilots will be designed with the full participation of local stakeholders, with full attention to their potential for including and benefiting rural youth.	Social profiles of pilot participants: interviews/focus groups on social implications and inclusiveness of pilots.	
ESS 7.4 Would this project operate in situations where major gender inequality in the labour market prevails?	There are significant levels of gender equality in the labour market. See gender analysis in Annex I.1.	Moderate	Please see Gender Plan in Annex I.2.	Please see Gender Plan in Annex I.2.	
ESS 8.1 Could this project risk reinforcing existing gender-based discrimination, by not taking into account the specific needs and priorities of women and girls?		Moderate			

Environmental and Social Safeguard (ESS) identified	Risk Description	Risk Classification	Mitigation Action (s)	Indicator / Mean(s) of Verification	Progress on mitigation action
ESS 8.2 Could this project not target the different needs and priorities of women and men in terms of access to services, assets, resources, markets, and decent employment and decision-making?		Moderate			
ESS 9.2 Are there indigenous peoples living in the project area where activities will take place?	There are very small numbers of indigenous people in the Brazilian part of the project area.	Moderate	Please see Indigenous Peoples Assessment and Plan in Annex J.	Please see Indigenous Peoples Assessment and Plan in Annex J.	

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
Merin Lagoon Environmental and Social Risk Assessment Matrix	CEO Endorsement ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<p>Objective: To strengthen public and private sector capacities in Brazil and Uruguay for joint and integrated water resource management (IWRM) in the Mer?n Lagoon Basin, with emphasis on the sustainable and efficient use of water, preservation of ecosystems and their services, and adaptation to climate change, through the development of a Transboundary Diagnostic Analysis and Strategic Action Programme</p>							
<p>Component 1. Transboundary Diagnostic Analysis (TDA) of the Mer?n Lagoon basin</p>							
<p>Outcome 1.1. Main transboundary environmental problems, causes, drivers and impacts (including governance issues), identified and agreed upon by both countries in the Mer?n Lagoon Basin, through a Transboundary Diagnostic Analysis, with particular emphasis on the Yaguar?n River and its catchment.</p>	<p>Progress with TDA formulation.</p>	<p>Significant data exist in both countries but little transboundary commonality of understanding, and gaps in knowledge</p>	<p>TDA formulated and agreed among all key institutional stakeholders.</p>		<p>Review of TDA and written agreements by stakeholders on its findings</p>	<p>-</p>	<p>Project M&E specialist</p>

Output 1.1.1 Environmental, social (gender, ethnicity and youth), governance and economic assessments, including ecosystem services valuation.	Progress with identification and characterization of environmental, social, governance and economic issues, including ecosystem services valuations	No systematic assessments of joint management and environmental issues	Weakness and barriers identified and options identified to address them	Review of results of analysis/assessment workshops	-	Project M&E specialist	
Output 1.1.2. Transboundary Diagnostic Analysis document based on collective and public consultation processes, and best available science and data	Status of TDA and consultation processes	No TDA exists	TDA has been formulated on the basis of consultations with CLM, Basin Committees and Regional Council and their members.	Review of TDA document	-	Project M&E specialist	
Component 2. Design of a Strategic Action Programme (SAP) for the Mer'n Lagoon Basin, and consolidation of capacities for its application							
Outcome 2.1. Existing mechanisms and institutions for integrated management and coordination are strengthened to enable integrated, better coordinated and effective joint governance, cooperation	Progress with legal agreements and regional management institutions, at binational, national and subnational levels, to support SAP implementation (Indicator IW-7.2)	3 = Regional (binational) legal agreement ratified and RMI functional, but legal/institutional basis underdeveloped and underutilized in making strategic decisions with basin-wide implications	3 = Regional (binational) legal agreement ratified and RMI functional, with legal basis and RMI (CLM) undergoing strengthening	4 = Regional (binational) <i>legal agreement ratified and RMI functional</i> , with legal basis strengthened, detailed and more effectively implemented, under the umbrella of a fully operational RMI (CLM).	Review of legal instruments, discussions with Basin institutions on RMI (CLM) effectiveness	-	External reviewers/project M&E specialist

and management of the Mer?n Lagoon Basin. - Brazil-Uruguay Joint Commission for the	Progress with national/local reforms and active participation of Inter-ministerial Committees (Indicator IW 7.3)	<i>1 = Neither national/local reforms nor IMCs</i>	<i>2 = National/local reforms in preparation, IMCs functional</i>	<i>4 = National/local reforms/policies implemented, supported by IMCs and supplemented by governance reforms at binational level.</i>	Review of reforms/policies, review of IMC functioning	Institutional commitment to policy reforms and IMCs	Project M&E specialist
Development of the Mer?n Lagoon Basin (CLM) - Participatory national organs (Regional Water Resources Council for the Mer?n	Effectiveness of coordination mechanisms in Basin management <i>(indicator to be finalized during TDA process)</i>	Basin institutions operate with limited coordination or harmonization <i>(baseline situation to be defined in more detail during TDA process)</i>	Priorities and strategies for enhancing coordination agreed among Basin institutions	Enhanced coordination on Basin management, with appropriate funding and staffing <i>(target to be defined in more detail during TDA process)</i> .	<i>To be defined during TDA process</i>	Institutional commitment to improving coordination	<i>To be defined during TDA process</i>
Lagoon Basin (Uruguay), - National secretariats of each CLM section (Mer?n Lagoon Agency, in Brazil), - Basin Management State Committee for the Mer?n Lagoon and S?o Gon?alo	Effectiveness of participation mechanisms in Basin management <i>(indicator to be finalized during TDA process)</i>	Mechanisms for participation of stakeholders have limited effectiveness <i>(baseline situation to be defined in more detail during TDA process)</i>	Priorities and strategies for enhancing participation agreed among Basin institutions	Mechanisms for the exercise of participation rights developed and/or strengthened and major stakeholders trained to exercise such rights <i>(target to be defined in more detail during TDA process)</i> .	<i>To be defined during TDA process</i>	Institutional commitment to improving participation	<i>To be defined during TDA process</i>

Canal Basins (Rio Grande do Sul),	Number of short-term governance reforms, identified by key institutional stakeholders and agreed by competent Governments, that are underway at the binational, national and state levels	0	<i>Target to be defined during TDA process</i>	<i>Target to be defined during TDA process</i>	<i>To be defined during TDA process</i>	Institutional commitment to governance reforms	<i>To be defined during TDA process</i>
Output 2.1.1. Action plan/roadmap for strengthening the strategic, policy, legal and institutional basis for transboundary IWRM at all levels.	Numbers of documents formulated and agreed among key stakeholders setting out proposals of technical strategies, policy reforms and joint regulations.	Basin management initiatives, institutions, policies and laws lack clear and harmonized strategic directions	All strategy documents under preparation	Strategy documents on e.g. NBS, EAF, sustainable tourism and clean energy - Recommendations on policy reform and harmonization - Recommendations of draft joint laws and regulations - Recommendations on strengthening the binational basis for cooperation	Review of strategy documents	-	Project M&E specialist

Output 2.1.2. Planning instruments to implement priority normative frameworks and good governance principles	Numbers of framework thematic management plans formulated	0	All framework management plans under preparation	Framework management plans for: - Transboundary fisheries management in Mer?n Lagoon - Sustainable tourism - Transboundary BD conservation - Water resource management - Infrastructure development - Energy - Nature-based solutions	Review of management plans	-	Project M&E specialist
Output 2.1.3. Capacity strengthening programme developed for relevant stakeholders in national and regional governments and other relevant actors to plan and develop prioritized actions (supported by IW- LEARN)	Levels of capacity among key stakeholders on priority issues related to IWRM and SAP implementation, as defined by Knowledge, Attitudes and Practice (KAP) assessment.	<i>Detailed capacity assessment per institution to be carried out at project start.</i>	<i>KAP targets to be set at project start.</i>	<i>KAP targets to be set at project start.</i>	KAP results	Receptiveness to capacity assessment and enhancement among Basin institutions	Project M&E specialist

<p>Outcome 2.2. Implementation of mechanisms and tools for supporting joint decisions based on reliable shared information under an integrated water resource management (IWRM) framework</p>	<p>Number of decisions taken using the decision-support tools and accessing reliable shared information</p>	<p>Binational decisions are taken under the CLM umbrella with inadequate access to decision-making and planning support tools.</p>	<p>Application of information management and decision-support tools being validated by participating institutions.</p>	<p>All decisions in relation to IWRM and the implementation of the SAP are taken on the basis of reliable shared information, taking into account synergies and trade-offs among stakeholders and sectors</p>	<p>Discussion/forums groups with Basin institutions to review processes of decision making</p>	<p>-</p>	<p>Project M&E specialist</p>
<p>Output 2.2.1. Decision-support system (DSS) established</p>	<p>Progress with establishment of decision-support system</p>	<p>DSS system does not yet exist.</p>	<p>Design of DSS agreed on by participating institutions</p>	<p>DSS fully established based on participation, integration and dissemination of data and information, their analysis and planning</p>	<p>Interviews with institutions using DSS</p>	<p>-</p>	<p>Project M&E specialist</p>
<p>Output 2.2.2: Data, information and knowledge management and exchange mechanism, with agreed rules and procedure and a shared database.</p>	<p>Progress with establishment of data exchange mechanism</p>	<p>Other than the annual CLM meetings, where all major actors are represented, albeit some only indirectly, there are no mechanisms or procedures on the topic that are formally established, adequately representative and jointly employed.</p>	<p>Data management and exchange mechanism endorsed by participating Governments</p>	<p>Data management and exchange mechanism, fully established and functioning, with at least the CLM, the Regional Council (Uruguay), and the Basin Committee (Rio Grande do Sul) receiving data and participating in data exchanges as a result</p>	<p>Interviews with institutions using data management and exchange mechanism</p>	<p>-</p>	<p>Project M&E specialist</p>

<p>Outcome 2.3. Strategic Action Programme (SAP) for the Mer?n Lagoon Basin has been socialized with stakeholders, agreed with national governments, signed and endorsed at ministerial level</p>	<p>Level of Transboundary Diagnostic Analysis and Strategic Action Programme (TDA/SAP) formulation and implementation (Indicator IW 7.1)</p>	<p>1 = No TDA/SAP developed</p>	<p>2 = TDA finalized</p>	<p>4 = SAP under implementation</p>	<p>Review of SAP endorsement documents</p>	<p>Binational and inter-institutional agreement on focus of SAP</p>	<p>Project M&E specialist</p>
<p>Output 2.3.1. Multi-sectoral process for formulation and socialization of the SAP designed, agreed and implemented</p>	<p>Progress with process for formulation and socialization of SAP</p>	<p>No process exists</p>	<p>Process designed and agreed</p>	<p>Process has been effectively implemented</p>	<p>Interviews with SAP participants</p>	<p>-</p>	<p>Project M&E specialist</p>
<p>Output 2.3.2 SAP developed and agreed among stakeholders, and signed at ministerial level</p>	<p>Progress with development and agreement of SAP</p>	<p>No SAP</p>	<p>SAP under formulation</p>	<p>SAP produced, agreed and validated among all key stakeholders</p>	<p>Review of SAP document and validations</p>	<p>Binational and inter-institutional agreement on focus of SAP</p>	<p>Project M&E specialist</p>
<p>Output 2.3.3 Financial sustainability strategy and action plan for implementation of SAP developed and agreed</p>	<p>Progress with development of financial sustainability strategy and action plan</p>	<p>No strategy or plan in place</p>	<p>Plan under formulation</p>	<p>Strategy and action plan produced, agreed and validated among key stakeholders</p>	<p>Review of strategy and action plan document and validations</p>	<p>Binational and inter-institutional agreement strategy and plan</p>	<p>Project M&E specialist</p>
<p>3. Tools and demonstrations to support implementation of IWRM</p>							

Outcome 3.1. Integrated Water Resource Management tools established	Access by local decision makers and planners to IWRM tools		Local authorities are involved in the development of monitoring tools	Local authorities, including protected area managers, are receiving and using the results of monitoring tools	Interviews with members of local authorities		Project M&E specialist
Output 3.1.1. Joint monitoring program and system in place	Progress with establishment of monitoring programme	Some monitoring activities are being conducted in the Basin by national actors (e.g., ALM) and some examples of binational cooperation (e.g., between ANA and DINAGUA), but a binational and basin-wide monitoring system does not exist.	Joint monitoring system under development based on agreements with key institutions	Joint monitoring system established and fully operational	Interviews with members of key institutions	Binational and inter-institutional commitment to joint monitoring	Project M&E specialist
Output 3.1.2 Protected area monitoring system in place	Progress with establishment of monitoring programme		Monitoring system under development	Monitoring system established and fully operational	Interviews with members of key institutions	Binational and inter-institutional commitment to monitoring	Project M&E specialist
Outcome 3.2. Benefits of integrated basin management demonstrated as the first stage of SAP through the implementation of pilot projects	Numbers of pilot projects established, accompanied by effective knowledge management and outreach mechanisms	None	All pilots agreed by SAP participants designed, including knowledge management and outreach mechanisms	All pilots agreed by SAP participants generating knowledge inputs for the SAP process	Review of knowledge inputs generated by pilots for the SAP process	-	Project M&E specialist

Output 3.2.1 Pilot(s) of sustainable approaches to production and natural resource management to address transboundary issues	Scale of implementation of pilots (numbers of practices, area covered, people participating by gender)	None	SAP participants and local stakeholders have agreed on the nature and locations of pilots	All pilots agreed by SAP participants have been established, with full participation from local stakeholders	Field inspection of pilots Interviews with local stakeholders	Buy-in by pilots by local stakeholders	Project M&E specialist
Output 3.2.2. Pilot of ecosystem-based approach to management and governance of integrated fisheries and tourism development, including community-based management plans	Status of implementation of tourism and fishery development programme	None	Programme has been established	Programme fully operational and generating knowledge inputs to the SAP process	Field inspection of programme Interviews with local stakeholders Review of knowledge products	Buy-in by pilots by local stakeholders	Project M&E specialist
Component 4. Project Monitoring, Communication and Evaluation							
Outcome 4.1. Relevant project stakeholders are aware of the benefits of the pilot projects and integrated basin management	Numbers of stakeholders with knowledge of benefits of pilot activities and integrated basin management	To be determined through KAP survey at project start	To be determined on the basis of baseline KAP survey	To be determined on the basis of baseline KAP survey	Knowledge, attitude and practice (KAP) survey	Receptiveness of stakeholders	Project M&E specialist
Output 4.1.1. Communication, education and awareness plan	Progress with formulation and implementation of plan	None	Plan developed and under implementation		Review of plan Interviews with target stakeholders	-	Project M&E specialist
Outcome 4.2. The project is subject to effective RBM	Percentage of targets set out in annual work plans and budgets that are based on the results of M&E	N/A	100%	100%	Review of annual work plans and budgets	-	Project M&E specialist

Output 4.2.1. M&E programme is developed and implemented	Percentage of indicators measured in accordance with M&E plan	N/A	100%	100%	Review of M&E reports	-	Project M&E specialist
Output 4.2.2: System for adaptive results-based management (RBM) of the project	Number of key decision-making and planning processes that are informed by M&E results	N/A	100% of project board meetings and annual work planning processes	100% of project board meetings and annual work planning processes	Review of minutes of board meetings and annual work planning processes	-	Project M&E specialist
Outcome 4.3 Knowledge shared between Brazil, Uruguay, other countries and GEF IW projects in partnership with IW-LEARN	Level of engagement in IW LEARN through participation and delivery of key outputs (Indicator IW 7.4)	1 = No participation	2 = Website in line with IW:LEARN guidance active	4 = Website in line with IW:LEARN guidance active, plus strong participation in training/twinning events and production of at least one experience note and one results note, plus active participation of project staff and country representatives at International Waters conferences and the provision of spatial data and other data points via project website.	Review of website, records of training/twinning events, and experience and results notes	-	Project M&E specialist
Output 4.3.1 Website in line with IW:LEARN guidance updated, with integrated governance, environmental and socio-economic information	Indicator IW 7.4: level of engagement in IW LEARN through participation and delivery of key outputs	1 = No participation	2 = Website in line with IW:LEARN guidance active		Review of website	-	Project M&E specialist

Output 4.3.2 IW LEARN training / twinning events with participation from officials of both governments	Number of training/twinning events	None	Twinning agreement reached and at least one training/ twinning event has occurred	At least one training event based on twinning per year, with participation from officials in both governments	Review of training records	-	Project M&E specialist
Output 4.3.3 Production of at least one experience note and one results note in IW- LEARN	Number of experience and results notes	None	Themes of experience and results notes provisionally agreed	At least one experience note and one results note produced and shared through IW-LEARN	Review of experience and results notes	-	Project M&E specialist
Output 4.3.4 International Waters conferences attended by project staff and country representatives, and spatial data and other data points provided via project website	Number of IW conferences attended by project staff	N/A	Participation (in person or virtually) in 2022 and 2024 IW conferences	Participation (in person or virtually) in 2026 IW conference	Review of conference proceedings	█	Project M&E specialist

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Secretariat Comment at PIF/Work Program Inclusion

	Secretariat Comment at PIF/Work Program Inclusion	Agency response at PIF/Work Program Inclusion	Agency response at CEO Endorsement
--	--	--	---

	Secretariat Comment at PIF/Work Program Inclusion	Agency response at PIF/Work Program Inclusion	Agency response at CEO Endorsement
<p>1. Is the project/program aligned with the relevant GEF focal area elements in Table A, as defined by the GEF-7 Programming Directions?</p>	<p>27th of March 2020 (cseverin): Partly. The agreement was that this investment would be including Laguna Mer?n and the main river that feeds it, namely River Yaguron. The latter is missing. Instead, the river has been replaced with other coastal lagoons. that is not the intend of the investment envisioned.</p>	<p>13th of April 2020 The project partners confirm that the geographic scope of the project is the Mer?n Lagoon basin in its entirety, including all of its tributaries and sub-basins. In the PIF, the term Mer?n Lagoon refers to the actual water body of the lagoon, while the term Mer?n Lagoon basin encompasses the entire surface that drains into the Lagoon (including all the tributary water courses and in particular the Yaguar?n river). At the request of the national government partners, two coastal lagoons that are considered ecosystems closely linked to the river dynamics of the basin have been included, since there are hydrologic linkages between the Mer?n Lagoon basin and these other coastal lagoons. To more clearly explain the project?s geographic scope, the first paragraph of subsection 1a.The global environmental problem... has been revised.</p>	<p>As explained at the time of PIF review, the geographic scope of the project encompasses the Mer?n Lagoon Basin in its entirety. This includes both the coastal lagoon of Lago Mangueira, which has a high degree of biological, hydrological and social connectivity with the main body of Mer?n Lagoon; and the Yaguar?n River, which is the sole binational river in the Basin and also the most important tributary of the Lagoon. The ?whole basin? approach of the project means that, while significant emphasis is placed on the Yaguar?n River its catchment, this is not carried out at the expense of attention to the rest of the overall Basin.</p>
	<p>13th of April 2020 (cseverin): Addressed.</p>		

	Secretariat Comment at PIF/Work Program Inclusion	Agency response at PIF/Work Program Inclusion	Agency response at CEO Endorsement
	<p>14th of April 2020 (cseverin): The Yaguarun River is still not mentioned in the Objective, and in the outcomes or outputs. In order to formulate TDA/SAP that will be providing the countries with a joint management tool for the entire catchment, the river needs to be more centrally placed in the project and its deliverables. Further, Please note that this investment is supposed to be focusing on IWRM, which includes fisheries, but also food, energy, water and other economic sectors that are active in the basin and lagoon system</p>		<p>Please see response above. The specific locations of pilots will be confirmed during the TDA/SAP process itself, but it is probable that particular emphasis will be placed on locating these in the Yaguarun River catchment given its binational significance. The project as now developed does indeed strongly emphasize IWRM, and proposes to work on a range of economic sectors including agriculture (particularly irrigated), tourism, transport and potentially energy. This diversity of issues is reflected in the proposals under Outputs 2.1.1 and 2.1.2.</p>

	Secretariat Comment at PIF/Work Program Inclusion	Agency response at PIF/Work Program Inclusion	Agency response at CEO Endorsement
<p>2. Are the components in Table B and as described in the PIF sound, appropriate, and sufficiently clear to achieve the project/program objectives and the core indicators?</p>	<p>27th of March 2020 (cseverin): Partly, the agreed focus of the investment was the formulation of a TDA and SAP for the transboundary Laguna Mer?n and the main river that feeds it, River Yaguaron. The latter has not been included. Please add this important set of activities to the proposal. This change will have cascading impacts through out the components, which have not all be captured in the below comments, as many of them will be self explanatory when making this change to the scope of the investment.</p> <p>1) Please change the Objective so that it correctly reflects on the Mer?n and Yaguaron river as well as mentions the TDA that will be produced. Further, please ensure that the Strategic Action Programme is referenced properly.</p> <p>2) The cost of producing a TDA and the time needed for this process is often rather substantial, as the TDA is based on scientific input from local, national, regional and sometimes global scientific data, in order to identify the transboundary root causes of degradation. Laguna Mer?n is a fairly small transboundary water body, however, when combined with River Yaguaron, then impacts and underlying pressures will surely become more complex. Sub component 1.1.3, mentions that the TDA will be built on the</p>	<p>13th of April 2020: As explained above, the project was designed (i.e. the investment was formulated) for the entire Mer?n Lagoon basin. However, under Component 2, the Yaguaron River watershed will be prioritized as an area to develop and implement an integrated watershed management approach with transboundary elements, based on the fact that it is the most important river feeding into the Mer?n Lagoon and it is the only transboundary watershed in the project (see Output 2.3.1). In addition, some of the Pilot Projects under Component 3 will focus on specific areas within the basin, most notably Mer?n Lagoon itself and the Yaguaron River. For example, many of the fisheries activities (e.g. Outputs 3.1.3 and 3.1.9) will be concentrated in the Mer?n Lagoon. As for the Yaguaron River, activities to address the impacts of livestock and rice plantations on water quality and flows (e.g. from agrochemicals, nutrient loading, erosion) will focus on the Yaguaron River watershed (see Output 3.1.1), as will activities to reduce pollution from municipalities in the Yaguaron River watershed that severely impact the</p>	<p>1) The project objective refers to the Mer?n Lagoon Basin as a whole, which includes the Yaguar?n River, and specifically refers to the TDA as well as the SAP.</p> <p>2) PPG studies found that, compared to some other transboundary systems, the existing information resources on the Mer?n Lagoon Basin are relatively significant, albeit dispersed and lacking harmonization. The TDA process is not therefore expected to require as much time as might be the case in other such systems, despite the complexity of the system.</p> <p>In accordance with this observation, the text under Outcome 1.1 states that, ?regarding the coastal area included in the project, the TDA will incorporate an Integrated Coastal and</p>

	Secretariat Comment at PIF/Work Program Inclusion	Agency response at PIF/Work Program Inclusion	Agency response at CEO Endorsement
	<p>13th of April 2020 (cseverin): Addressed.</p>		<p>Watershed Area Management approach, as a coordinated strategy of natural, socio-cultural and institutional resource allocation for the conservation and sustainability of the multiple uses of the coastal zone?.</p> <p>3) The results framework clarifies (under Outcome 2.1) that the institutions to be involved in the TDA/SAP process will include:</p> <ul style="list-style-type: none"> - Brazil-Uruguay Joint Commission for the Development of the Mer?n Lagoon Basin (CLM) - Participatory national organs (Regional Water Resources Council for the Mer?n Lagoon Basin (Uruguay), - National secretariats of each CLM section (Mer?n Lagoon Agency, in Brazil), - Basin Management State Committee for the Mer?n Lagoon and S?o Gon?alo Canal Basins (Rio Grande do Sul). <p>It also refers throughout to multiple stakeholders being involved in the TDA/SAP process: these include NGOs and private sector actors, as described in the Stakeholder Analysis (Annex H.3) and the private sector engagement section (II.4).</p> <p>4) The indicator target for Outcome 2.3 is IW Indicator 7.1 level 4</p>

	Secretariat Comment at PIF/Work Program Inclusion	Agency response at PIF/Work Program Inclusion	Agency response at CEO Endorsement
3. Are the indicative expected amounts, sources and types of co-	27th of March 2020 (cseverin): Please note that cofinancing identified as Investment Mobilized, require that the project proponent will be able to detail how this was identified at the time of CEO Endorsement. For sources of co-financing, co-financing letters are of course required at the time of CEO Endorsement.	13th of April 2020: Point taken. By CEO endorsement, the Government of Brazil will provide more detailed informed on how the investment mobilized was identified and will issue the related co-financing letters. Preliminary information is still provided under Table C of the PIF.	Explanation of the investment mobilized is presented at the foot of Table C and in the attached cofinancing letters.
4. Is the proposed GEF financing in Table D (including the Agency fee) in line with GEF policies and guidelines? Are they within the resources available from (mark all that apply):	30th of March 2020 (cseverin): As the proposed investment is different from what was originally discussed and agreed on, it cannot be answered. The issue on scope of investment needs to be fixed, prior to discussing size of investment.	13th of April 2020: The Yaguaron river, which is of high concern for being a binational river shared by Uruguay and Brazil, is one main feature of the revised project scope. A better description of the Mer?n Lagoon <i>basin</i> has been included in Section 1: <i>The global environmental problem and adaptation, root causes and barriers</i> , as well as specific outputs to be delivered in the Yaguaron river /Table B and Section 3: <i>Proposed alternative scenario</i> .	The geographical scope of the project is the entire Mer?n Lagoon catchment.
	13th of April 2020 (cseverin): Please lower the financing envelope to \$5 mio plus fee, as originally agreed	14th of April 2020: The requested amount has been adjusted to USD 5 million plus fees, as required.	The budget remains as at PIF stage
	14th of April 2020 (cseverin): addressed		

	Secretariat Comment at PIF/Work Program Inclusion	Agency response at PIF/Work Program Inclusion	Agency response at CEO Endorsement
5. Is PPG requested in Table E within the allowable cap? Has an exception (e.g. for regional projects) been sufficiently substantiated? (not applicable to PFD)	30th March 2020 (cseverin): Yes, PPG is requested, considering the pending discussion on size and scope of investment, the size of the PPG may change too.	13th of April 2020: The project scope and size have been revised, clarifying that the Yaguaron river and the Mer?n Lagoon are the main project intervention areas, while addressing the whole Mer?n Lagoon <i>basin</i> through TDA and SAP design. Kindly consider the PPG amount as it was submitted.	N/A
	14th of April 2020 (cseverin): Addressed		
6. Are the identified core indicators in Table F calculated using the methodology included in the correspondent Guidelines? (GEF/C.54/11/Rev.01)	30th of March 2020 (cseverin): Yes, however, it is noted that the amount of beneficiaries seems to be a bit high, considering Lake Mer?n has a low density population.	13th of April 2020: The population of the Mer?n Lagoon basin has been confirmed at over 900,000 persons; citations for this have been added in a footnote in the PIF. In addition though, the number of direct beneficiaries has been revised at 4,000 (2,000 women and 2,000 men) in the PIF.	The number of direct beneficiaries remains as at PIF stage.
	14th of April 2020 (cseverin): Addressed		
7. Is the project/ program properly tagged with the appropriate keywords as requested in Table G?	30th of March 2020 (cseverin): No, please add Strategic Action Programme, river basin, fisheries, pollution and reassess if other IW tags could be relevant	13th of April 2020: The project taxonomy has been updated as suggested.	N/A
	13th of April 2020 (cseverin): Addressed.		
1. Has the project/program described the global environmental / adaptation problems, including the root causes and barriers that need to be addressed?	30th of March 2020 (cseverin): Partly, Please add the lack of a SAP, to the list of barriers for sustainable development of the Mer?n and Yaguaron River	13th of April 2020: A barrier identifying the lack of a SAP has been added to the PIF.	The lack of a SAP is also included in the current barrier analysis and theory of change.
	13th of April 2020 (cseverin): Addressed.		

	Secretariat Comment at PIF/Work Program Inclusion	Agency response at PIF/Work Program Inclusion	Agency response at CEO Endorsement
<p>3. Does the proposed alternative scenario describe the expected outcomes and components of the project/program?</p>	<p>30th of March 2020 (cseverin): Partly, Please add the lack of a SAP, to the list of barriers for sustainable development of the Mer?n and Yaguaron River. The lack of the Yaguaron river to the component descriptions also needs to be fixed. Please also elaborate on the identification of and/or establishment of an organisation, which has the mandate to manage the shared water and its resources. The current concept seems to suggest that all management of the transboundary water resource will be strictly happening through the national ministries. Further, it will also be essential to identify and establish a data sharing agreement and mechanism and find out where such a mechanism will be hosted.</p>	<p>13th of April 2020: This comment has been addressed above. References to activities in the Yaguaron river have been added to the component descriptions. Please see Table B and Section 3: <i>Proposed Alternative Scenario</i> of the PIF A paragraph has been added which clarifies that the already existing <i>Joint Commission</i> will be the body in charge of shared water management in the basin, in coordination with the relevant national ministries. Additional text has been added under Output 2.2.1 to specify that the data exchange system for decision-making will be administered by the existing Commission. Please see Table B and Section 3: <i>Proposed Alternative Scenario</i> of the PIF</p>	<p>The lack of a SAP is also included in the current barrier analysis and theory of change.</p> <p>The project will cover the entire Mer?n Lagoon Basin, which includes the Yaguar?n River.</p> <p>As explained in the response at PIF stage, the principal institutional actor in relation to transboundary natural resource management will be the binational CLM. This is emphasized throughout the ProDoc. The data, information and knowledge management and exchange mechanism, with agreed rules and procedure and a shared database, is proposed as Output 2.2.2. As stated at PIF stage, the mechanism will be hosted by the CLM, but it will include and benefit other institutions including at least the Regional Council (Uruguay), and the Basin Committee (Rio Grande do Sul), which will receive data and participate in data exchanges as a result</p>
	<p>13th of April 2020 (cseverin): Addressed.</p>		

	Secretariat Comment at PIF/Work Program Inclusion	Agency response at PIF/Work Program Inclusion	Agency response at CEO Endorsement
6. Are the project?/s/program?s indicative targeted contributions to global environmental benefits (measured through core indicators) reasonable and achievable? Or for adaptation benefits?	30th of March 2020 (cseverin): Yes, however, please consider reassessing Core Indicator 11, as the amount of inhabitants of the Mer?n Lagoon Area may have low inhabitant density	13th of April 2020: The population of the Mer?n Lagoon basin has been confirmed at over 900,000 persons; citations for this have been added in a footnote in the PIF. Please see changes in the <i>Global Environmental Benefits</i> section.	As explained above, the value for Core Indicator 11 is now 4,000 direct beneficiaries.
	13th of April 2020 (cseverin): Addressed.		
7. Is there potential for innovation, sustainability and scaling up in this project?	30th of March 2020 (cseverin): Please elaborate on this in the portal submission	13th of April 2020: The descriptions of innovation, sustainability and scaling up in this project have been revised and expanded in the PIF.	This section has been further expanded.
	13th of April 2020 (cseverin): Addressed.		
Stakeholders Does the PIF/PFD include indicative information on Stakeholders engagement to date? If not, is the justifi_cation provided appropriate? Does the PIF/PFD include information about the proposed means of future engagement?	30th of March 2020 (cseverin): Yes, however, please explain why local communities have not been included in the stakeholder engagement process??	During PPG, local validation workshops will be organized at grassroot level to include those communities who may not have representation in the above-mentioned basin offices. This will be particularly relevant to validate target field activities designed under Component 3. Please see changes made in section 2: <i>Stakeholders</i> .	Opportunities for consulting directly with local communities during PPG were severely curtailed due to COVID-19 restrictions. Despite this, a significant number of consultations were carried out, both in person and through on-line workshops, with institutions and civil society organizations representing a significant proportion of key stakeholders. The consultations carried out are listed in Annex H.3.2, and proposals for stakeholder engagement during project implementation are set out in Annex H.3.1.

	Secretariat Comment at PIF/Work Program Inclusion	Agency response at PIF/Work Program Inclusion	Agency response at CEO Endorsement
	<p>13th of April 2020 (cseverin): Please tick box with "indigenous Peoples and local communities?"</p> <p>14th of April 2020 (cseverin): Addressed</p>	<p>14th of April 2020: The indigenous peoples and local communities box has been checked as suggested.</p>	As at PIF stage.
<p>Gender Equality and Women's Empowerment Is the articulation of gender context and indicative information on the importance and need to promote gender equality and the empowerment of women, adequate?</p>	<p>30th of March 2020 (cseverin): Yes, however, please explain why the project will not be working towards "generating socio-economic benefits or services for women. "</p> <p>13th of April 2020 (cseverin): Yes</p>	<p>13th of April 2020: The PIF has been revised to show that the project will in fact be working towards "generating socio-economic benefits or services for women". In addition, the text in the Gender section has been completely revised. However, the box for "closing gender gaps in access to and control over natural resources" has now been unchecked because the project may not generate changes in the control of natural resources.</p>	As at PIF stage. A detailed gender analysis and action plan have been included in Annex I.1 and I.2.
<p>Coordination Is the institutional arrangement for project/program coordination including management, monitoring and evaluation outlined? Is there a description of possible coordination with relevant GEF-funded projects/programs and other bilateral/multilateral initiatives in the project/program area?</p>	<p>30th of March 2020 (cseverin): Partly. One of the essential factors for successful implementation of a transboundary project is that an organization with the mandate to manage the shared resource on behalf of the countries. If this does not exist, it will be essential to identify and potentially create such a mechanism. It will also, usually, be with in such a transboundary organizations mandate to manage and ensure access to the shared data gathered.</p> <p>13th of April 2020 (cseverin): Yes, addressed</p>	<p>13th of April 2020: The existing Brazil-Uruguay Joint Commission for the Development of the Mer?n Lagoon has the mandate to manage the shared resources on behalf of the two countries, and text explaining this has been added under Section 6: <i>Coordination.</i></p>	As at PIF stage,

STAP review at PIF/Work Program Inclusion

Issue		STAP review 17 May 2020	Agency response
Objective	Is the objective clearly defined, and consistently related to the problem diagnosis?	Yes	No action needed.
Project components	A brief description of the planned activities. Do these support the project's objectives?	Yes	No action needed.
Outcomes	A description of the expected short-term and medium-term effects of an intervention. Do the planned outcomes encompass important adaptation benefits?	Yes, clearly designed, following typical TDA-SAP process.	No action needed.
	Are the global environmental benefits/adaptation benefits likely to be generated?	Plausible based on design and existing binational framework.	No action needed.
Outputs	A description of the products and services which are expected to result from the project. Is the sum of the outputs likely to contribute to the outcomes?	Plausible based on design.	No action needed.
Part II: Project justification	A simple narrative explaining the project's logic, i.e. a theory of change.		
1. Project description. Briefly describe:	Is the problem statement well-defined?	Yes, with appropriate focus on participatory governance and binational cooperation.	No action needed.

Issue		STAP review 17 May 2020	Agency response
1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)	Are the barriers and threats well described, and substantiated by data and references?	Threats and barriers are addressed, though description of barriers is very brief, apart from dimensions of transboundary governance identified. Inclusion of 'no transboundary diagnostic analysis' as a barrier is questionable; instead, address describe something about the underlying lack of understanding of resource trends and socio-economic implications?	The barrier analysis has been expanded.
2) the baseline scenario or any associated baseline projects	Is the baseline identified clearly?	Adequate: good description of institutional background but less treatment of baseline indicators for monitoring change.	Extensive indicators have now been included in the results framework: some baseline values (e.g. capacity analyses) will be defined at project start.
	Does it provide a feasible basis for quantifying the project's benefits?	Yes, in relation to general IW targets; however, data is not provided to quantify in relation to ecosystem status or other objectives.	This foundational IW project will focus principally on formulating the TDA and SAP, complemented by field-level pilots. The detailed baseline status of ecosystem conditions, and corresponding indicators, will be defined as part of the TDA process, and indicators specific to the pilots will be defined and quantified once the specifics of the pilots are defined after project start.

Issue		STAP review 17 May 2020	Agency response
3) the proposed alternative scenario with a brief description of expected outcomes and components of the project	What is the theory of change?	Reflected in description of project strategy. Diagram described as theory of change (oddly placed in section 1a4) is simply a visual summary of the components in relation to barriers and general objectives and impacts anticipated. It does not communicate the logic of how the intervention will address the barriers to change identified, nor how the outcomes flow causally from areas of intervention.	A detailed theory of change and narrative, showing cause-effect relations, have been included in Section II. 1a. 3.
6) global environmental benefits (GEF trust fund) and/or adaptation benefits (LDCF/SCCF)	Are the benefits truly global environmental benefits/adaptation benefits, and are they measurable?	Yes, but basis for measurement is not well developed in the PIF. Useful linkages to SDG goals provided.	Please see explanation above.
	Are the global environmental benefits/adaptation benefits explicitly defined?	Yes, but additional indicators would be valuable.	
7) innovative, sustainability and potential for scaling-up	Is the project innovative, for example, in its design, method of financing, technology, business model, policy, monitoring and evaluation, or learning?		No action needed.
2. Stakeholders. Select the stakeholders that have participated in consultations during the project identification phase:	Have all the key relevant stakeholders been identified to cover the complexity of the problem, and project implementation barriers?	PIF identifies key agencies and indigenous groups, and preliminary indication of user groups. Additional detailing of stakeholders is merited, including private sector actors beyond the producer associations identified.	A detailed stakeholder analysis is included in Annex H.2.1 and summarized in Section II. 2.

Issue		STAP review 17 May 2020	Agency response
<p>Indigenous people and local communities; Civil society organizations; Private sector entities.</p> <p>If none of the above, please explain why.</p> <p>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.</p>	<p>What are the stakeholders? roles, and how will their combined roles contribute to robust project design, to achieving global environmental outcomes, and to lessons learned and knowledge?</p>	<p>Initial narrative description provided; would benefit from table detailing anticipated roles in relation to project objectives and outputs.</p>	<p>Detailed descriptions of the roles of the different categories stakeholder in relation to the areas of work of the project are presented in the Stakeholder Engagement Matriz in Annex H2.</p>

Issue		STAP review 17 May 2020	Agency response
<p>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</p>	<p>Are the identified risks valid and comprehensive? Are the risks specifically for things outside the project's control?</p> <p>Are there social and environmental risks which could affect the project?</p> <p>For climate risk, and climate resilience measures:</p> <p>? How will the project's objectives or outputs be affected by climate risks over the period 2020 to 2050, and have the impact of these risks been addressed adequately?</p> <p>? Has the sensitivity to climate change, and its impacts, been assessed?</p> <p>? Have resilience practices and measures to address projected climate risks and impacts been considered? How will these be dealt with?</p> <p>? What technical and institutional capacity, and information, will be needed to address climate risks and resilience enhancement measures?</p>	<p>Identified risks include political support for transboundary cooperation (classified as low risk); this merits additional attention as it is fundamental to the ambition for transboundary governance.</p> <p>Good data on climate risk included among description of mitigation measures.</p>	<p>Factors limiting the risk in relation to levels of political support are detailed in the Risks analysis section (Section II.5). These include the existence of national and binational bodies including the CLM, the Regional Water Resources Council in Uruguay and the State Committee in Rio Grande do Sul, together with the existence of a long-lasting cooperation regime, structured upon the 1977 Treaty, and the extensive participation of relevant institutions in both countries during PPG.</p>
<p>6. Coordination. Outline the coordination with other relevant GEF-financed and other related initiatives.</p>	<p>Are the project proponents tapping into relevant knowledge and learning generated by other projects, including GEF projects?</p>	<p>Initial list of related projects is provided, but areas for potential learning and exchange merit elaboration.</p>	<p>Outputs 4.3.1-4.3.4 refer specifically to learning and knowledge exchange, including the establishment of a website (based on IW-LEARN guidance), twinning/training events and participation in global IW conferences.</p>

Issue		STAP review 17 May 2020	Agency response
<p>8. Knowledge management. Outline the ?Knowledge Management Approach? for the project, and how it will contribute to the project?s overall impact, including plans to learn from relevant projects, initiatives and evaluations.</p>	<p>What overall approach will be taken, and what knowledge management indicators and metrics will be used?</p>	<p>The PIF indicates reasonable principles / objectives of KM but describes little in terms of approaches / mechanisms to achieve these.</p> <p>Integration of ?research-action processes? indicates appreciation of adaptive management.</p>	<p>As above.</p>

GEF Council Comments.

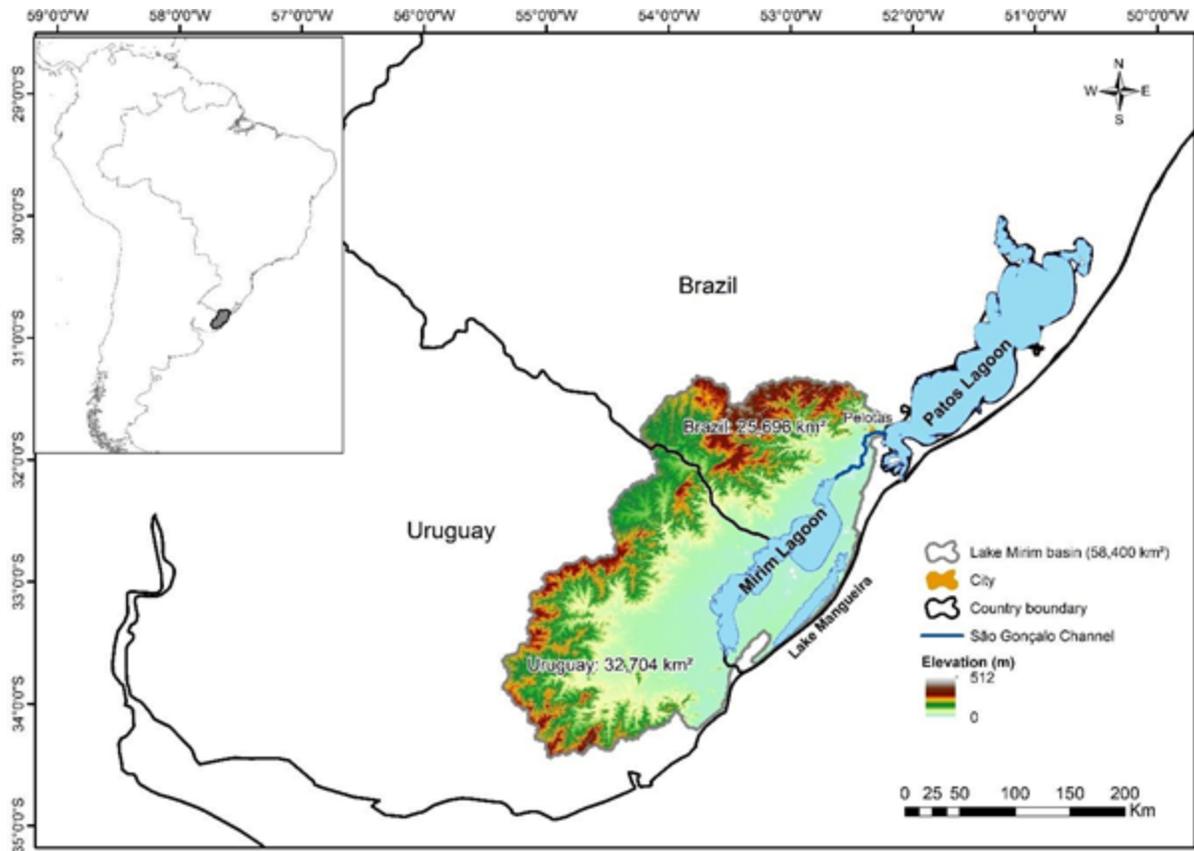
No comments were received (https://www.thegef.org/sites/default/files/work-program-documents/GEF_C.58_compilation_council_comments_v1.pdf).

**ANNEX C: Status of Utilization of Project Preparation Grant (PPG).
 (Provide detailed funding amount of the PPG activities financing status
 in the table below:**

PPG Grant Approved at PIF: 150.000			
	<i>GETF/LDCF/SCCF Amount (\$)</i>		
<i>Project Preparation Activities Implemented</i>	<i>Budget Amount</i>	<i>Amount Spent to date</i>	<i>Amount Committed</i>
Consultants	110,407	79,236	43,999
Travel	4,466	1,567	0
Contracts	18,000	8,877	9,123
Training	10,002	6,695	0
Salaries (BH)	7,125	0	0
General Operating Expenses	0	503	0
Total	150,000	96,878	53,122

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.



ANNEX E: Project Budget Table

Please attach a project budget table.

Oracle code and description	C1	C2	C3	C4	M&E	PMC	Total
5300 Salaries professionals							
Chief Technical Advisor (CTA)	20,000	30,000	45,000	45,000		100,000	240,000
5300 Sub-total salaries professionals	20,000	30,000	45,000	45,000	0	100,000	240,000
Interational consultants							
Intl expert in TDA	20,000	0	0	0			20,000
Intl expert in SAP	0	40,000	0	0			40,000

Sub-total international Consultants	20,000	40,000	0	0	0	0	60,000
National consultants							
Administrative and operations specialist				0		116,000	116,000
M&E and knowledge management specialist	0	0	0	0	145,000		145,000
Communication specialist	0	0	0	116,000			116,000
Gender specialist	15,000	22,500	15,000	22,500			75,000
Liaison and Strategic Processes Specialist (Uruguay)	22,330	33,495	22,330	33,495			111,650
Liaison and Strategic Processes Specialist (Brazil)	22,330	33,495	22,330	33,495			111,650
Technical specialist in IWRM Uruguay	33,000	33,000	50,000	0			116,000
Technical specialist in IWRM Brazil	33,000	33,000	50,000	0			116,000
Assistant in communication and participation processes (Uruguay)	35,000	10,000	15,000	15,000			75,000
Specialist in governance of transboundary watersheds (Uruguay)	12,000	36,000	0	0			48,000
Specialist in fisheries management with ecosystem focus (Uruguay)	0	6,000	50,000	0			56,000
Specialist in governance of transboundary watersheds (Brazil)	0	35,000	0	0			35,000

Specialist in IWRM planning instruments with emphasis in fisheries and aquaculture (Brazil)	0	30,000	0	0			30,000
Consultant for the development of strategies for the financial sustainability of the SAP (Brazil-based)	0	25,000	0	0			25,000
Sub-total national Consultants	172,660	297,490	224,660	220,490	145,000	116,000	1,176,300
5570 Sub-total consultants	192,660	337,490	224,660	220,490	145,000	116,000	1,236,300
5650 Contracts							
LOA 1 Uruguay: Inputs for the TDA	120,000	0	0	0			120,000
LOA 1A Uruguay: Capacity building for IWRM	60,000	169,200	0	0			229,200
LOA 2 Uruguay: Inventory of hydraulic infrastructure, decision-making (hydrological modelling/scenarios), and early warnings system.	0	320,000	0	0			320,000
LOA 3 Uruguay: Development of strategies for the financial sustainability of the SAP (Uruguay)	0	30,000	0	0			30,000
LOA 4 Uruguay: Monitoring of water quantity/quality and pilots of fisheries management	0	0	245,000	0			245,000
LOA 5 Uruguay: Monitoring of wetlands and biodiversity	0	0	135,000	0			135,000

LOA 6 Uruguay: Pilots of sustainable production, management and conservation of natural resources with transboundary focus	0	0	220,000	0			220,000
LOA 7 Uruguay: Environmental education programme	0	0	0	45,000			45,000
LOA Brazil (ALM) tbd	210,000	380,000	845,000	0			1,435,000
Mid-term review	0	0	0	0	50,000		50,000
Teminal Evaluation	0	0	0	0	80,000		80,000
Final report	0	0	0	0	14,000		14,000
5650 Sub-total Contracts	390,000	899,200	1,445,000	45,000	144,000	0	2,923,200
5900 Travel	0						
National travel (Uruguay)	12,500	12,500	12,500	12,500			50,000
National travel (Brazil)	12,500	12,500	12,500	12,500			50,000
IW LEARN - Learning Excahnge				24,250			24,250
5900 Sub-total travel	25,000	25,000	25,000	49,250	0	0	124,250
5023 Training and workshops							
Workshops for facilitation of TDA preparation	60,000	0	0	0			60,000
Workshops for facilitation of SAP process	0	75,000	0	0			75,000
IW LEARN - Learning Excahnge				24,250			24,250
Local IW training	0	0	0	50,000			50,000
5023 Sub-total training	60,000	75,000	0	74,250	0	0	209,250
6000 Expendable procurement							

Materials for communication plan	0	0	0	35,000			35,000
6000 Sub-total expendable procurement	0	0	0	35,000	0	0	35,000
6100 Non-expendable procurement							
Technical and informational equipment and supplies (computers and others)	3,500	5,000	4,000	1,500			14,000
6100 Sub-total non-expendable procurement	3,500	5,000	4,000	1,500	0	0	14,000
Website in line with IW-Learn	0	0	0	30,000			30,000
Miscellaneous including contingencies	4,608	6,915	4,610	6,915		14,952	38,000
6300 Sub-total GOE	4,608	6,915	4,610	36,915	0	14,952	68,000
TOTAL	695,768	1,378,605	1,748,270	507,405	289,000	230,952	4,850,000

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit a finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agency is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies' capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).