



# PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL-SIZED PROJECT

TYPE OF TRUST FUND: GEF TRUST FUND

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## PART I: PROJECT INFORMATION

Project Title:	Integrated Water Resources Management in the Titicaca-Desaguadero-Poopo-Salar de Coipasa (TDPS) System		
Country(ies):	Bolivia, Peru	GEF Project ID: <sup>1</sup>	
GEF Agency(ies):	UNDP	GEF Agency Project ID:	4383
Other Executing Partner(s):	Ministry of Foreign Affairs of the Plurinational State of Bolivia; Ministry of Environment and Water (MMAyA) of the Plurinational State of Bolivia; Ministry of Environment (MINAM) of Peru; Ministry of Foreign Affairs of Peru.	Submission Date:	7 March 2014
GEF Focal Area (s):	International Waters(select)	Project Duration (Months)	48
Name of parent program (if applicable): • For SFM/REDD+ <input type="checkbox"/> • For SGP <input type="checkbox"/> • For PPP <input type="checkbox"/>		Project Agency Fee (\$):	623,556

### A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK<sup>2</sup>:

Focal Area Objectives	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
IW-3(select) (select)	GEFTF	6,563,750	33,460,000
Total Project Cost		6,563,750	33,460,000

### B. INDICATIVE PROJECT DESCRIPTION SUMMARY

<b>Project Objective:</b> To promote the conservation and sustainable use of water resources in the Titicaca-Desaguadero-Poopo-Salar de Coipasa (TDPS) transboundary system, through the updating the Global <sup>3</sup> Binational Master Plan.						
Project Component	Grant Type <sup>4</sup>	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Cofinancing (\$)
1. Strengthening of the binational and national management tools of the TDPS system: Updating of the Global Binational Master Plan of the TDPS system, and preparation of the Strategic Action Programme (SAP)	TA	Outcome 1.1: Knowledge on the TDPS system improved and updated: Development of an assessment of the TDPS system in terms of socioeconomic, biophysical and environmental variables	Output 1.1.1 Evaluation of the implementation of the Global Binational Master Plan between 1998 and 2013.  Output 1.1.2: Comprehensive assessment of the TDPS system updated	GEFTF (select)	3,300,000	16,015,000

<sup>1</sup> Project ID number will be assigned by GEFSEC.

<sup>2</sup> Refer to the reference attached on the [Focal Area Results Framework and LDCE/SCCF Framework](#) when completing Table A.

<sup>3</sup> Global is translated from the Spanish, which in this case refers to overall or comprehensive.

<sup>4</sup> TA includes capacity building, and research and development.

			<p>Output 1.1.3: Updated study on the water balance including erosion and sedimentation / biophysical profile of the system;</p> <p>Output 1.1.4: Assessment of the aquatic ecosystems: aquatic biological resources, vulnerability.</p> <p>Output 1.1.5: Profile of water users and stakeholder analysis: water uses and demand for different scenarios and time horizons</p> <p>Output 1.1.6: Analysis of the sustainability of the indicators in the TDPS system</p> <p>Output 1.1.7: Assessment of the profile / hydrometeorological vulnerability of the TDPS system completed.</p> <p>Output 1.2.1: Consensus on vision, mission, objectives, courses of action: Adoption of the updated regional master plan “Global Binational Master Plan”</p> <p>Output 1.2.2: Definition of the national or binational scope of the projects / cost estimate / implementation schedule.</p> <p>Output 1.3.1: Transboundary</p>			
		<p>Outcome 1.2: Updating of the binational management framework: Global Binational Master Plan updated.</p>				
		<p>Outcome 1.3: Strategy for the implementation of the Global Master Plan through the Strategic Action Programme</p>				

		<p>(SAP) of policy, legal and institutional reforms, and investments, developed and approved</p> <p>Outcome 1.4: Institutional capacity for IWRM in the TDPS system strengthened in the countries</p>	<p>Diagnostic Analysis (TDA) consolidated and validated by the countries</p> <p>Output 1.3.2: Meetings, events and workshops with stakeholders at the national and binational levels</p> <p>Output 1.3.3: Systematization and adjustment of the SAP</p> <p>Output 1.3.4: Technical validation and political endorsement of the SAP.</p> <p>Output 1.4.1: Institutional mapping the universe of relevant stakeholders in the two countries, based on information from the countries.</p> <p>Output 1.4.2: Mapping of the decision-making process and institutional responsibilities for the management of the TDPS system, based on information from the countries.</p> <p>Output 1.4.3: Identification of institutional strengthening and stakeholder training needs, based on information from the countries.</p> <p>Output 1.4.4: National inter-sectoral/ministerial coordination mechanisms operational by end of the Project.</p>			
2. Evaluation of	TA	Outcome 2.1:	Output 2.1.1:	GEFTF	1,500,000	11,750,000

interventions on a pilot scale	(select)	<p>Feasibility and costs of specific measures to address unsustainable practices and to promote IWRM and environmental conservation demonstrated through the implementation of 4 pilot projects (2 in each country)</p> <p>Outcome 2.2: Systematization of the results of the pilot projects and analysis of their applicability to the TDPS system.</p> <p>Outcome 2.3: Pre-feasibility studies inform the finalization and implementation of the Strategic Action Programme.</p>	<p>Pilot projects deliver results and proposals for interventions on issues of relevance for the TDPS system, such as land degradation and desertification, water pollution, restoration of aquatic ecosystems, water management, solid waste management, mitigation and treatment of domestic waste water, recovery of areas degraded by mining.</p> <p>Output 2.2.1: Proposed interventions and/or strategic actions, evaluated and defined.</p> <p>Output 2.3.1: Pre-feasibility studies on critical investment needs identified in the SAP</p>	(select)		
3. Monitoring support system for the TDPS System and SAP implementation.	TA (select)	<p>Outcome 3.1: Monitoring of the comprehensive evolution of the TDPS system: Definition of the parameters of the Monitoring System</p> <p>Outcome 3.2: Data and information on the TDPS system, accessible: Development and operationalization of the Monitoring and Evaluation System.</p>	<p>Output 3.1.1: Systematization of available historical data and information on the TDPS System.</p> <p>Output 3.1.2: Definition of the structure of indicators for the TDPS and SAP Monitoring System</p> <p>Output 3.2.1: Design of a "Territorial Observatory" for the TDPS system</p> <p>Output 3.2.2: Implementation of the TDPS and SAP implementation Monitoring and Evaluation System</p>	GEFTF (select)	500,000	2,470,000
4. Improvement of communication,	TA (select)	Outcome 4.1: Capacities for	Output 4.1.1: Internet-based	(select)	700,000	1,400,000

education and public participation		environmental education, communication and public participation, strengthened	platform and a website established in ALT, with projects and studies for the dissemination of project results, maps and awareness material, including sharing experiences through IW LEARN and participation in IWCs.			
		Outcome 4.2: Greater involvement of stakeholders in the management of the TDPS system	Output 4.1.2: An environmental education strategy for the entire TDPS system is formulated and under implementation.  Output 4.1.3: The communication strategies at the TDPS system level are formulated and in use.  Output 4.2.1: Public participation strategies at the TDPS system level are formulated and being used, in accordance with the regulations of each country.			
Subtotal					6,000,000	31,635,000
Project Management Cost (PMC) <sup>5</sup>				(select)	563,750	1,825,000
Total Project Cost					6,563,750	33,460,000

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

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount (\$)
National Government	Government of Bolivia	Grant	14,725,000
National Government	Government of Bolivia	In kind	1,345,600
National Government	Government of Peru	Grant	13,560,000
National Government	Government of Peru	In kind	3,414,400
GEF Agency	UNDP	Grant	315,000
GEF Agency	UNDP	In kind	100,000
<b>Total Cofinancing</b>			<b>33,460,000</b>

**D. INDICATIVE TRUST FUND RESOURCES (\$) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY<sup>1</sup>**

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (\$) (a)	Agency Fee (\$) (b) <sup>2</sup>	Total (\$) c=a+b
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<sup>5</sup> To be calculated as percent of subtotal.

UNDP	GEFTF	International Waters	Bolivia, Peru	6,563,750	623,556	7,187,306
<b>Total Grant Resources</b>				6,563,750	623,556	7,187,306

<sup>1</sup> In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for

this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

<sup>2</sup> Indicate fees related to this project.

**E. PROJECT PREPARATION GRANT (PPG)<sup>6</sup>**

	<u>Amount</u> <u>Requested (USD \$)</u>	<u>Agency Fee</u> <u>for PPG (USD \$)<sup>7</sup></u>
• (upto)\$150k for projects up to & including \$6 million	<u>150,000</u>	<u>14,250</u>

**PART II: PROJECT JUSTIFICATION<sup>8</sup>**

**A. Project Overview**

**A.1. Project Description**

1. The Titicaca-Desaguadero-Poopó-Salar de Coipasa (TDPS) water system is an endorheic watershed found in the Andean Altiplano (high Andean plateau) shared by Bolivia and Peru. With an area of 143,900 km<sup>2</sup>, it is situated between 3.653m (Salar de Coipasa) and 6.542m (Monte Sajama) above sea level and includes four main hydrographic components: Lake Titicaca (catchment area: 56,270 km<sup>2</sup>, average area: 8,400 km<sup>2</sup>), Desaguadero River (average catchment area: 29,843 km<sup>2</sup>, longitude: 398 km), Poopó lake (average catchment area: 24,829 km<sup>2</sup>, average area: 3,191 km<sup>2</sup>) and the Salar de Coipasa (average drainage area: 32,958 km<sup>2</sup>, with an average area of 2,225 km<sup>2</sup>).

2. The main element of the system, Lake Titicaca, is the largest lake in South America, the highest navigable lake in the world, and according to indigenous cosmology, the origin of human life. Its extremely varied, complex and fragile ecosystem has been recognized as extremely important to the planet.

3. The TDPS system also includes the Altiplano which spans 92 municipalities in the department of Puno (Peru) and 87 municipalities in the departments of La Paz and Oruro (Bolivia). The area's population of a little over 2 million people, is mainly comprised of indigenous people, predominantly from the Aymara people, followed by Quechua and Urus communities.

4. The economic activities are highly concentrated in the agriculture and livestock grazing sectors, and these are primarily carried out on small family production units. In terms of the use of water resources, the exploitation of aquatic vegetation and fish still represents a source of income for a relatively small number of people, with the most exploited species being the pejerrey or Argentinian silverside, trout, the *tatora* rush and the *ilachu*. Industrial production, tourism, legal and illegal mining are also present in the region.

5. The main socio-economic indicators for the region such as indicators of poverty and access to health and basic services are below the national averages in both countries. This put the majority of the population of the TDPS area in conditions of structural vulnerability.

**Global environmental problems, underlying causes and barriers to be addressed**

6. This diverse, complex and unique ecosystem of lakes in the high mountains, which contains wetlands and globally important gene pools, is being negatively impacted by environmental degradation caused by natural and anthropogenic causes, including sediment runoff and soil salinization, untreated urban and mining effluents and unsustainable agriculture, fishing and aquaculture practices. The most recent challenges include:

<sup>6</sup> On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

<sup>7</sup> PPG fee percentage follows the percentage of the GEF Project Grant amount requested.

<sup>8</sup> Part II should not exceed 5 pages.

the impacts of climate variability and change, increased demographic growth, changes in soil use, mining activity and industrial production.

7. These processes are leading to threats to fragile ecosystems, which are manifested primarily in the following environmental problems: insufficient water availability for multiple uses; pollution of water bodies; erosion and land degradation; and extreme phenomena.

**8. Water quantity.** Based on hydrological and environmental studies carried out by the Lake Titicaca Authority (Spanish acronym: ALT), the potential water demand in the TDPS system is almost four times greater than the calculated water supply to ensure the sustainability of the system. Exceeding this limit of exploitation of water resources could lead to irreversible changes in the TDPS ecosystem and even to an uncontrolled regression due to changes in regional precipitation indices. The environmental situation in the TDPS is serious, as there are a number of environmental problems and needs, in addition to insufficient water resources and their inefficient use. As a result, an analysis on the efficiency of water resource use in the system should be considered in order to identify actions that would ensure greater sustainability.

**9. Water pollution:** Organic, chemical and bacterial pollution of the water in the TDPS system is primarily a result of untreated or insufficiently treated wastewater and of industrial discharges from urban centres (Puno, El Alto, Viacha, Oruro and Juliaca) as well as uncontrolled mining processes taking place in the headwaters of the Suches and Ramis rivers. Chemical pollution has been detected both in the water and in the sediments, based on the latest study of the National Water Authority (ANA/ Peru, 2013). According to the Global Binational Master Plan, the Desaguadero river (after the La Joya) and the Poopó and Uru Uru lakes have high concentrations of heavy metals<sup>9</sup>, while the sediments in the Coata river and the Puno Bay are equally polluted. The pollution caused by heavy metals represents an increasing threat to the principal habitat of native fish species and ecosystems, as well as causing serious impacts on health and human well-being. This situation is not very different from the Cohana Bay, which has been declared to be in a state of environmental emergency.

10. The main underlying/ root causes of water pollution problem include: i) mining practices without environmental protection measures; ii) insufficient public investment and insufficient treatment plants for wastewater and for the management of solid wastes; iii) insufficient means of enforcing existing environmental legislation; iv) low level of environmental awareness and effective access to information.

**11. Erosion and soil degradation.** The deterioration of soil resources in the TDPS system is a process of significant concern, as it paves the way to the desertification of extensive areas of the region. This is leading to the progressive deterioration of the ecosystems and affecting agrobiodiversity, the food security of the local indigenous population, and the biological productivity of the native vegetation and the habitat of Andean flora and fauna.

12. Erosion has always been one of the most serious problems taking place in the highlands. Natural erosion is compounded by erosion caused by human intervention (agricultural, excessive grazing and vegetation removal). According to ALT, 26.6% of the land in the TDPS system is highly susceptible to erosion. A direct consequence of this process is the transport of solid material to the rivers of the system, affecting the flow, equilibrium and morphology of the rivers. Erosion levels have recently been exacerbated by illegal mining activity, which involves the indiscriminate removal of soil from the river beds in the search for gold, leading to the sedimentation of the headwaters of the Ramis and Suches rivers and an increase in the alluvial cone/alluvial fan with presence of metals. This situation is not very different from what is developing south of the TDPS system in Poopo and Uru Uru lakes.

13. The main underlying causes of this problem are: i) insufficient capacity to implement the environmental regulations and norms on land use and management; ii) lack of measures, incentives and sanctions for the prevention and control of pollution; iii) insufficient enforcement of norms for the protection of the

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<sup>9</sup> Cd, As, Co, Pb, Ni, Mn, Cr, Sb, Cu, Zn and Fe.

environment, particularly in the management of hazardous substances; iv) unsustainable agricultural practices.

14. **Climate change.** Can be considered an additional cross-cutting problem that has an impact on the transboundary problems previously mentioned and one that needs to be addressed in terms of adaptation. The natural variability in the climatic system leads to an increase in flooding, loss of glaciers, drought, storms and frost, which have an effect on the availability of water and on ecosystems, as well as causing significant stress on Andean and Subandean species, while jeopardizing food security and human health in both countries, whose poorest communities depend directly on natural resources.

15. The proposed project aims to establish the long-term basis to tackle and resolve the main environmental problems that affect the TDPS system in order to ensure the conservation, restoration and integrated and participatory management of water resources and ecosystems, including the maintenance of ecological flows associated with the hydrological cycle in the system. This process will be focused on overcoming the following barriers:

a) The need to update and systematize the information, knowledge and data on the water resources of the TDPS system, their environmental status and the threats in the context of climate variability and change, in order to feed into the establishment of a framework of coordinated policies and associated government norms and regulations.

b) The variable institutional capacity for the Integrated Management of Water Resources (IMWR) in both countries, which has recently been modified in Peru, means that a process to update the technical cooperation frameworks is needed to ensure that they are clear and specific in order to integrate concerns about IMWR in the regional/local development plans.

c) The need for broad and updated binational strategic planning that incorporates the principles of IMWR and environmental protection in the joint management of the system and that ensures the development of binational strategies to address the impact of human activities in the areas of fishing, tourism and mining.

d) Emerging practices related to knowledge management and exchange of best practices in terms of the Integrated Management of Water Resources (IMWR).

#### **The baseline scenario and associated baseline projects**

16. In the last two decades, Bolivia and Peru have made progress on negotiations and cooperation in the joint management of the TDPS water system, based on the concept agreed upon in 1957 of a "Bolivian and Peruvian indivisible and exclusive ownership over the waters of Lake Titicaca". In 1992, both governments agreed to the creation of the Binational Autonomous Authority for the Water System of Lake Titicaca, Desaguadero River, Lake Poopó and Salar de Coipasa (ALT), which is politically dependent on the Ministry of External Relations of both countries and charged with implementing the Binational Master Plan, launched in 1991.

17. Among other elements, the Master Plan envisages actions to tackle the environmental degradation being experienced by the TDPS system. In this respect, it provides for: a) hydraulic control works and irrigation projects with their respective environmental impact studies; b) drainage systems and sustainable agricultural practices; c) reforestation activities, replanting of *titora* (reeds), the rational use of water and biological resources, aquaculture, treatment of domestic and industrial wastewater and water decontamination, among others. The Plan also includes provisions for follow-up on relevant issues, such as erosion control, the level of groundwater, water quality and the biomass of Lake Titicaca.

18. In a concerted fashion, Bolivia and Peru promoted the joint study of the entire hydrological system, which was carried out in order to understand the hydrologic dynamics of the system and to understand and agree upon possibilities for shared usage. Another important step was the registration of Titicaca, Poopó and Uru Uru lakes as Wetlands of International Importance under the Ramsar Convention.

19. ALT has carried out the following actions since its creation in accordance with the Global Binational Master Plan. Binational works include: i) Mechanism to regulate Lake Titicaca, ii) Controlling locks at the International Bridge (built) and Aguallamaya (pending), iii) Dredging of the initial section of the Desaguadero River (built). National works commissioned for the operational units (PELT - UOB) include: i) Lagunillas irrigation system (under construction), ii) Irrigation system for Huenque-Ilave (under study), iii) Chilahualla irrigation system (under study, partially implemented), iv) Choro irrigation system (under study, partially implemented), v) Bifurcation work on la Joya (under study, partially implemented).

20. In addition, different important actions were carried out on environmental issues (environmental diagnosis, TDPS-OEA Environmental Management Project), biodiversity (TDPS biodiversity conservation project), environmental zoning (environmental macro-zoning of TDPS), monitoring of the TDPS system (UNDP), assessment of water uses (agreement with MINAGRI), promotion of fish aquaculture, proposals for fisheries management in Lake Titicaca, and support for the development of projects for the processing of trout.

21. In the context of national and binational efforts (ALT), the technical tools to support the management of the water resources of the TDPS system include the establishment of a Water Quality Monitoring Network for the entire system, designed and implemented with the technical support of the project entitled "*Integrated Management of the Water Resources of the Lake Titicaca, Desaguadero River, Poopó River and Salar de Coipasa System*". As part of this project, the report "*Environmental Outlook for the Lake Titicaca, Desaguadero River, Poopó River, Salar de Coipasa Water System (TDPS)- GEO Titicaca*" presents an evaluation of the state of the ecosystem in both Bolivian and Peru.

22. Another important action that was driven by national authorities and institutions of both countries and complements projects sponsored by different agencies was the identification and characterization of the main sources of pollution and the provision of technical support for the implementation or improvement of wastewater treatment plants in the main urban centers that discharge into the system of watersheds.

23. In addition to these actions, both national governments have carried out various initiatives on land use planning, irrigation and potable water provision, as well as wastewater treatment and solid waste management, among other activities.

24. In the context of the National Watershed Plan and at a national level, Bolivia has developed a Project Master Plan for the Katari Watershed, which forms part of the TDPS System. This Plan aims to develop and implement joint actions at the regional level on IWRM and Integrated Watershed Management, which would result in a geo database and a geophysical and socio-economic diagnosis. In addition, the Program for the Sustainable Management of the Natural Resources of the Poopó Lake Watershed is being implemented, with the goal of achieving the sustainable management of the natural resources of the afore-mentioned watershed, focusing on environmental aspects.

25. In Peru, MINAM has established the *Eco-Efficient Municipalities Program* to promote land use planning, wastewater treatment and elimination of solid waste as the bases for local governments to promote the development of their communities in terms of economic growth, social justice, and environmental sustainability. In addition, the Congress of the Republic passed Law 29906, which declared preventive actions and the environmental recovery of Lake Titicaca as public necessities and created a Multisectoral Commission comprised of centralized and decentralized institutions to come to agreement on the needs for strategic public investment in the control of environmental pressures on the lake (Multisectoral Commission for Prevention and Environmental Rehabilitation of the Watershed of Lake Titicaca and its Tributaries).

26. The project is also based on the support provided by GEF in the biodiversity and climate change focal areas, through the following projects: *Biodiversity Conservation in the Watershed of Lake Titicaca-UNDP/GEF* (Bolivia and Peru), which concluded in 2005, and the *Adaptation to the Impact of Rapid Glacial Retreat in the Tropical Andes - GEF/ World Bank* (Bolivia, Ecuador).

27. In addition, the project will benefit from recent initiatives supported by UNDP in the areas of water governance, management of natural resources and adaptation to climate change.

28. Interventions through the Joint Program *"Integrated and Adaptive Management of Environmental Resources to Minimize Climatic Risks in High Andean Micro-watersheds"* of the MDG Fund, implemented in Peru by UNDP and by two other UN agencies, led to increased awareness about climate change, its impacts and its links with the sustainable use of water, soils and ecosystems. This Program will inform and guide the field-based interventions and pilot projects (2008-2012, USD 3.9 million).

29. The "Adaptation Program for Mountain Ecosystems" project, co-executed by UNDP, is focused on the economic and environmental aspects of adaptation based on ecosystems involved in pilot initiatives in Peru (2012-2015, USD 3 million). In addition, in cooperation with the Ministry of Environment and the regional governments of Piura and Tumbes, UNDP is implementing the "Territorial Approach to Climate Change: Toward Low-Carbon Development and Climate Change Resilience" project, which seeks to integrate the climate change variable in territorial planning (2013-2014 USD 1.4 million). The UNDP Project "Integrated Management of Climate Change in Community Reserves of the Amazon" (EBA Amazonia, 2013-2017, EUR 6,000,000) seeks to reduce the vulnerability of local communities to climate change and increase their adaptation capacity, taking into consideration the economic, cultural and social characteristics of the communities involved. It is projected that the EBA Amazonia project will contribute to sustainable livelihoods and effective management of 500,000 ha of high value conservation areas.

30. Cap-Net UNDP, a delivery mechanism established by UNDP to strengthen national capacities in the field of integrated water resources management (IWRM), has supported both countries, in the case of Peru since 2002 and in the case of Bolivia since 2003. The mechanism has provided training on the principles of IWRM, plans and water management, water and sanitation, and conflict resolution, among others. (2003-2012: USD 500,000).

31. Finally, various non-governmental organizations have been working in the area of the TDPS system, focusing primarily on presenting reports, information and training.

32. Despite the substantial progress made on environmental management and IWRM in the TDPS system, the actions taken to prevent, mitigate and remediate the impacts of natural and anthropogenic phenomena affecting the quality of water resources in the watershed have not been sufficient thus far to address all the existing problems.

### **Proposed alternative scenario**

33. This brief overview of the current environmental problems and socio-economic and institutional context associated with the TDPS highlights the urgent need to support the two countries in the strengthening of their institutional capacity to improve the integrated transboundary management of their water resources in the TDPS system. This is important both from the perspective of human health and ecosystems as well as in terms of the possibilities of sustainable socio-economic development and poverty reduction.

34. Increased and improved communication between the two countries in the field of water resource management should contribute to preventing potential problems from worsening and to limit environmental degradation, a particularly important challenge in the context of climate change.

35. As an alternative scenario, following the TDA-SAP methodology, the project proposes an intervention directed at addressing the important structural causes of environmental degradation in the TDPS system, such as policy and institutional problems, and will facilitate the development of, and agreement on, a broad binational instrument of policies based on the principles of IWRM.

36. The proposed intervention seeks to cover the incremental costs of joint binational actions, in coordination

with the national activities that each country is implementing. In this context, the project is structured into four components:

**37. Component I: Updating of the Global Binational Master Plan of the TDPS system and development of the Strategic Action Programme (SAP)** will strengthen the existing tools for binational management of the TDPS system through the updating of the Global Binational Master Plan, and the definition and agreement on a strategy and mechanism for its implementation with the development and adoption of a Strategic Action Programme (SAP). The component will lead to a comprehensive, updated, strategic and systematic analysis of the transboundary situation in TDPS, with a focus on the biophysical, socioeconomic and environmental aspects of the system as well as its vulnerability in the face of extreme events. In this context, a technical and scientific document- the Transboundary Diagnostic Analysis (TDA) will be developed and will seek to achieve the following main results: i) improved knowledge on scientific, technical and socio-economic issues identified for the TDPS system; ii) improved understanding of the vulnerability of the system to climate variability and change and the associated risks; and iii) a consensus on the priority problems, barriers and underlying transboundary causes, which need to be addressed through strategic actions. Based on the comprehensive assessment and the agreements reached between the countries, the Global Binational Master Plan will set out the consensus on the vision, mission, objectives and main lines of action for the TDPS system, while also defining the priority projects, costs and implementation timeline. The SAP will provide a negotiated strategy and a tool for the implementation of strategic actions and projects proposed in the Global Master Plan. Finally, the component will strengthen capacities for the integrated management of water resources in the TDPS system, through the institutional mapping of the decision-making process and the institutional responsibilities in the two countries and at a binational level, as well as the identification of institutional strengthening and stakeholder training needs.

38. The main outcomes of this component will be: i) a strengthened binational and national management framework for transboundary cooperation and for the management of the TDPS; ii) strategic responses to the main transboundary concerns identified, agreed upon and endorsed in the TDPS system through a binational program; and iii) national and local capacities for the implementation of the Global Master Plan increased.

**39. Component II: Evaluation of the pilot scale interventions** will demonstrate the viability of a range of proposed measures to address unsustainable practices (related to water pollution, land degradation and desertification and mining) and will promote the sustainability of the system (recovery of water systems, water management and recovery of areas degraded by mining activity), as well as options for adaptation to climate change (including flood control, hydrometeorological monitoring and traditional practices) in the TDPS system. During the project preparation phase, four pilot projects will be defined (two in each country). As part of this component and based on priority interventions defined in the Strategic Action Programme, pre-feasibility studies will be carried out on critical actions identified for the TDPS system, aimed at preparing the ground for the future implementation of the SAP. The main expected outcomes are: i) coherent, viable and replicable IWRM strategies to address unsustainable practices support the implementation of the SAP in the TDPS system; and ii) pre-feasibility studies on critical interventions agreed upon between both countries support the implementation of the SAP in the TDPS system.

**40. Component III: Support system for the monitoring of the TDPS system** is designed to systematize the available data and information on relevant parameters in the TDPS system to ensure: i) the monitoring of the comprehensive progress of the system in accordance with indicators that have been agreed upon and prioritized by the countries; ii) the periodic evaluation of the level of achievement of the project objectives; iii) accessible data to feed into the decisions made by the relevant stakeholders at all levels of the national governments and civil society in the TDPS system; and iv) active learning and adaptive management. The main outcomes include: i) definition and agreement on a binational structure of indicators for the monitoring system; ii) design and operationalization of a "Territorial Observatory" for the TDPS system; and iii) implementation and functioning of the Binational Monitoring and Evaluation System of the TDPS System within the scope of the ALT.

**41. Component IV: Improvement in communication, education and public participation** will facilitate increased visibility and dissemination of the project results and will promote increased environmental awareness among the actors and the population of the TDPS system, including the regional, national and local levels. At the same time, the component will seek the greater involvement and participation of the institutional actors of both countries, in accordance with the national norms on water resource management. As part of this component, learning and exchange of experiences, the twinning of projects, and the exchange of notes on the experiences (IW:LEARN) will be carried out. It is expected that this component contribute to i) accessible lessons learned for informing stakeholder decisions at all levels of government and civil society in the TDPS system; and ii) active learning and adaptive management.

42. The main outcomes will be: i) Internet-based platform and a website established in ALT, with projects and studies for the dissemination of project results, maps and awareness material, including sharing experiences through IW LEARN and participation in IWCs; ii) an environmental education strategy for the regional, national and local levels; iii) a communication strategy at the TDPS system level; and iv) a public participation strategy to support the implementation of the Global Master Plan and the SAP.

**Incremental cost reasoning and the expected contributions of the baseline, GEFTF, and co-financing.**

43. Different specific issues that are directly or indirectly related to human development, poverty reduction, and the conservation and management of water resources in the TDPS system, have been addressed by the countries in their national territories. However, the medium- and long-term impact and sustainability of these actions can only be ensured by incorporating them in a framework of work involving the integrated transboundary management of the water system, as proposed in this project.

44. Moreover, crucial concerns, such as water quality (associated with anthropogenic factors), the amount and availability of water (associated with the hydrological regime and water management), the growing challenges posed by climate variability and change in the entire system, as well as the need to update the framework and binational instruments for management, among others, can only be properly addressed through joint and closely coordinated binational interventions in the context of IWRM.

45. Building on the national progress made in terms of different sectoral policies and plans affecting the management of water resources in the TDPS system, the existing binational institutional framework for cooperation and management of shared resources, and the joint activities that are already ongoing, such as a water quality monitoring system and hydrological cycle regulatory mechanisms, among others, the proposed project will have the incremental value of: i) promoting a coordinated, strategic and institutionalized intervention for the integrated and sustainable management of the TDPS system at the binational level; ii) supporting the coordination, harmonization and mainstreaming of IWRM principles into regulations and plans; iii) facilitating the incorporation of concerns about climate variability and soil degradation; and iv) strengthening the involvement and participation of stakeholders in the formulation and testing of binational planning and management tools.

**Global environmental benefits (GEFTF, NPIF) and adaptation benefits (LDCF/SCCF)**

46. Along with the Amazon and Rio de la Plata watersheds, the TDPS system is considered one of the three main water systems of the South American continent.

47. The proposed project will implement actions that will contribute to global environmental benefits related to the maintenance of the interconnections of the global hydrological cycle. At the same time, it will expand the portfolio of experiences and learning of GEF on capacity building for governance and IWRM in the water systems of the high mountains of the Andes within a geographic area that has a strong incidence of the ENSO phenomenon.

48. In addition, the integrated management of the freshwater and saline lakes and of the wetlands of the TDPS transboundary system will contribute to ecosystem integrity and to biodiversity conservation, particularly in terms of the preservation of gene pools and of a wetland of international importance.

**Innovativeness, sustainability and potential for scaling up**

49. The project will complement and adapt the Global Master Plan to the current challenges of Peru and Bolivia, and to the legal and institutional advances in both countries. In addition, it will identify and compile the local experiences that demonstrate the contribution of expertise, knowledge, technologies and ancestral practices.

50. The project preparation phase will specifically address the topic of sustainability, with special emphasis on: i) the broad and meaningful participation of the main stakeholders involved in the policy framework of each country from the PPG phase; ii) the strengthening of the ALT and the competent national authorities in the project area, including increased institutional and technical capacities; iii) assimilation of the project by the relevant national execution agencies and in their respective policy instruments; iv) an environmental education campaign that is mainstreamed and v) ancestral practices and traditional sustainable knowledge.

51. In terms of replicability, the design and implementation of the demonstration projects and the pilot adaptation projects aim to test and disseminate relevant practices, adaptation strategies and knowledge, both in the context of the TDPS system as well as in the countries and in the Andean region as a whole. Furthermore, the dissemination of lessons learned, the public education and extension initiatives and the transboundary linkages will facilitate the continuous and effective exchange of the experience gained in terms of water management and adaptation.

**A.2. Stakeholders.**

<b>Stakeholders</b>	<b>Country</b>	<b>Project preparation responsibilities</b>
Ministries of Foreign Affairs*	Bolivia/Peru	The Ministries of Foreign Affairs are the institutions responsible for coordinating bilateral relations and managing the national approval of international cooperation projects. In Bolivia and Peru, the Ministries of Foreign Affairs will carry out the National Project Coordination.
Ministry of Environment and Water *(MAyA) and Ministry of Environment (MINAM) National Water Authority (ANA-Peru)*	Bolivia/Peru	Technical and coordinating role in the project preparation phase, coordination with relevant competent sectoral agencies/ executing partners responsible for the formulation and implementation of policies for the integrated management of water resources.
Lake Titicaca Binational Authority (ALT)*/ Bolivian Operating Unit (UOB)/ and Lake Titicaca Special Program (PELT)	Binational Authority (Bolivia and Peru)	ALT will support national and technical coordination bodies in the implementation of their activities. UOB and PELT will participate in the project preparation process and will provide technical information and data on water-related aspects in their respective areas of competence.
Competent national agencies	Bolivia/Peru	In coordination with, and at the request of the National Coordination bodies, the government institutions will provide technical information and data on water-

		related aspects in their respective areas of competence.
Departmental, regional and local governments	Bolivia/Peru	They are responsible for the coordination of national and departmental-level environmental policies, the formulation of environmental action plans, and development and protection of the environment in their respective jurisdictions.
Relevant civil society organizations operating in the TDPS region.	Bolivia/Peru	They will participate in the regulatory frameworks of the countries and in the process of project implementation, through workshops and proposals for pilot/demonstration projects.
National and local universities (Universidad Nacional del Altiplano de Puno-UNO, Universidad Mayor de San Andrés, Bolivia, Universidad Técnica de Oruro, Universidad de Juliaca)	Bolivia/Peru	Institutions of higher education will support the formulation and implementation of the project's training and capacity building components, in addition to their contribution to research and to the water quality control labs.

\* These government institutions, among other parties, will be members of the Binational Project's Steering Committee

### A.3 Risk.

Risk	Level	Mitigation measures
1. Delays in the process of reaching consensus in a context of a high concentration of national institutions.	Low to medium	The project design includes activities that will lead to an updated institutional mapping and will promote participation, training and framework agreements between the National Project Coordination and the national institutions empowered to support IWRM in the TDPS system.
2. High level of distrust among water users and the public with regard to the implementation of measures and policies for water management.	Low	Project activities have been designed to address the needs and interests of the key stakeholders of the TDPS system, provide a strategy for stakeholder participation and promote access and exchange of information.
3. Low level of environmental awareness in the watershed.	Medium	The project will promote practical stakeholder participation through pilot projects and demonstration activities, and will strengthen environmental and community communication and educational programs.

### A.4. Coordination. Outline the coordination with other relevant GEF financed and other initiatives:

52. The project will coordinate with related GEF projects, as well as with other initiatives implemented at the national, bilateral or multilateral levels. A detailed process of identification, analysis and

determination of possible synergies will be undertaken during the PPG stage.

53. Among different initiatives funded by GEF, the project will share lessons learned and will coordinate with the regional GEF-WB project "*Design and Implementation of Pilot Adaptation Measures to Climate Change in the Andean Region*" and with the GEF-IDB project "*Conservation and Sustainable Use of Biodiversity and Land in Andean Vertical Ecosystems*". In addition, the project could coordinate activities with the proposed GEF-UNDP project on integrated management, entitled "Integrated Water Resources Management in the Puyango-Tumbes, Catamayo-Chira and Zarumilla Transboundary Aquifers and River Basins", particularly on common problems related to the institutional framework in Peru, and on learning and sharing of experiences.

54. Bolivia will also coordinate with initiatives associated with the National Watershed Plan, which serves as the watershed planning instrument using the IWRM and IWM approach and methodology and is funded by the European Union.

55. In Peru, the project will work in coordination with the Water Management Authority (AAA) XIV Titicaca, which has exclusive administrative jurisdiction in the development of management, oversight, control and surveillance actions to ensure the conservation and protection of water sources.

56. With this same Authority, synergies to establish coordination mechanisms with the Water Resources Council for Lake Titicaca Watershed will be identified..

57. The project will also coordinate with ALT initiatives that are currently underway, such as the binational project "*Improving the banks of Lake Titicaca*".

58. In terms of the activities coordinated by UNDP, the project will benefit from cooperation with Cap-Net, a UNDP delivery mechanism established to strengthen national capabilities in the field of IWRM.

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

### **B.1 National strategies and plans, or reports and assessments under relevant conventions**

59. The project is consistent with national development and the environmental strategies of the two participating countries.

60. In Bolivia, the National Development Plan entitled "Dignified, Sovereign, Productive and Democratic Bolivia to Live Well" (2006), establishes, among other issues, an environmental management policy that seeks a balance between development and the environment, as it prioritizes water for all people, water for food and agriculture (irrigation), water for nature, water for production and other uses. The Plan promotes holistic, diverse and inclusive development together with environmental sustainability and harmony with nature. Following the promulgation of the new Constitution of the State of 2009, which adopts the concept of *water for life* as a fundamental right, Bolivia has been adapting its national legislation, including environmental standards and natural resource management, to the new constitutional provisions.

61. The National Watershed Plan (2006) aims to promote and strengthen IWRM and Integrated Watershed Management (IWM), through participation and self-management, capacity building, institutional coordination and user organizations.

62. In Peru, the institutional framework for environmental and water resources management benefitted from significant strengthening in 2008, with the creation of the Ministry of Environment (MINAM) and the National Water Authority (ANA), and the formulation of the National Environmental Policy adopted in May 2009, and the creation of the National Water Resources Management System (SNGRH) with its associated Strategy and National Water Resources Plan. In this context, MINAM developed and

adopted the National Environmental Action Plan (PLANAA) Peru: 2011-2021, which provides an assessment of the environmental situation in terms of water, solid waste, air, climate change, biodiversity, mining and energy, environmental governance, while offering an environmental vision for Peru.

63. The GEF project intervention will directly support the national environmental and water resource management objectives in terms of multisectoral integration and coordination in water management, conservation and sustainable use of water for human consumption and ecosystems, water quality standards, environmental governance, institutional strengthening, research and training.

64. In the binational context, under the "Ilo Declaration" of 19 October 2010", both countries recognized the urgent need to update and modernize ALT's instruments for institutional management, including its organic statutes, and the need to adapt the obsolete Global Master Plan to new economic, environmental and social realities in the TDPS system, as well as to the needs and requirements of its human populations.

## **B.2 GEF focal area and/or fund(s) strategies, eligibility criteria and priorities**

65. This project is being presented under the GEF International Waters Focal Area, and will contribute to its long-term goal by promoting the joint management of the transboundary TDPS system and promoting the implementation of political, legal, and institutional reforms, as well as promoting investments for the sustainable use and maintenance of ecosystem functions. In this context, the project is consistent with the IW-3 GEF strategic objective: "To support foundational capacity building, portfolio learning, and targeted research needs for joint, ecosystem-based management of transboundary water systems".

66. The project will follow the TDA/SAP methodological approach, promoting a common understanding of the environmental and socio-economic status of the shared resources and their dynamics of change, the strengthening of the mechanisms of the institutional and cooperation framework between the two countries at the technical and political levels, and the dissemination of IWRM demonstration actions at specific sites with a high potential for upscaling and replication. Both countries are eligible for GEF funding.

## **B.3 The GEF Agency's comparative advantage for implementing this project**

67. UNDP has as its primary focus the reduction of poverty through the improved management and governance of water resources. As highlighted in the new UNDP Strategic Plan 2014-2017, the norms, rules, regulations and institutions governing access to natural resources are now at the heart of the struggle to eliminate poverty and must receive the same attention in development thinking, policy and management, as economic growth.

68. The outcomes and outputs of the Strategic Plan's Integrated Results and Resources Framework (IRRF) address this specifically, including Output 2.5, "Legal and regulatory frameworks, policies and institutions, enabled to ensure the conservation, sustainable use, and access and benefits sharing of natural resources, biodiversity and ecosystems, in line with international conventions and national legislation" and Indicator 2.5.2, "Number of countries implementing national and local plans for Integrated Water Resources Management". Additionally, the project supports Strategic Plan Output 7.6, "Innovations enabled for development solutions, partnerships and other collaborative arrangements" and Indicator 7.6.2, "Number of pilot and demonstration projects initiated or scaled up by national partners" (e.g. expanded, replicated, adapted or sustained). These UNDP Strategic Plan outcomes, outputs and indicators are directly reflected in this project and will be strengthened by the guidance of UNDP.

69. As articulated in its 2013 "Contribution to the UNDP Strategic Plan 2014-2017", the vision of UNDP's Water and Ocean Governance is "to achieve integrated, climate-resilient, sustainable and equitable management of water and ocean resources, and universal access to safe water supply and sanitation, through improved water and ocean governance." Specifically UNDP Water and Oceans' three inter-linked thematic areas, strategic activities and strategic levels pertain directly to this project. These include UNDP's work with

climate resilient access to water supply and sanitation, integrated approaches to water resources and transboundary waters management. UNDP engages in capacity development, knowledge management, programme development and implementation and applies strategic activities and thematic priorities at different geographic levels – local, national, regional, and global - to connect the dots between these levels for better impacts on policy development and programme delivery.

70. UNDP's work on improving governance of shared water resources incorporates the important linkages between upstream water and land management and the health and integrity of downstream ecosystems. Of the GEF agencies, UNDP has the largest portfolio and associated experience in the development and implementation of TDAs and SAPs in a wide range of river, groundwater, lake and marine water bodies. UNDP's strong track record in facilitating improved transboundary waters governance has been further strengthened by the recent integration of UNDP's 'core' Water and Ocean Governance Programme (WOGP) with its GEF International Waters cluster, and the similar full integration of the UNDP Water Governance Facility at SIWI with UNDP's corporate water and ocean governance activities.

71. The proposed project is framed within the three main areas of WGP support:

1) [Integrated Water Resources Management \(IWRM\)](#)

This area aims to reduce [poverty](#) and [vulnerability](#), sustain and enhance [livelihoods](#) and protect [environmental resources](#) by helping countries to achieve equitable allocation and [efficient water resources management](#) through [adaptive water governance](#).

2) [Water Supply and Sanitation \(WSS\)](#)

This area focuses on helping countries strengthen [water governance](#) in order to achieve or exceed the [water supply and sanitation MDGs](#). Special attention is given to local conditions and the needs of [poor and marginalized groups](#).

3) [Regional & global cooperation](#)

This area focuses on enhancing regional and global [cooperation, peace, security](#) and [socio-economic development](#) through [adaptive governance](#) of [shared water resources](#). UNDP helps countries develop and implement multi-country agreements on priority concerns, [governance reforms](#), investments, legal frameworks, institutions and [strategic action programmes](#).

72. In terms of international promotion, UNDP has been an advocate in the worldwide water crisis and has highlighted the importance of water for life and water for livelihoods in its *Human Development Report 2006*, entitled "*Beyond scarcity, Power, poverty and the global water crisis*".

73. In managing its transboundary waters programmes, UNDP's Water and Ocean Governance Programme ([www.undp.org/water/ocean-coastal-governance.shtml](http://www.undp.org/water/ocean-coastal-governance.shtml)) draws on a wide range of staff experience in water resources management at HQ, in its Regional Centers, and through its network of Country Offices. In terms of implementing GEF International Waters projects, UNDP has consistently delivered results through a broad range of international transboundary water interventions, including the strengthening or establishment of 20 multilateral river and lake basin and marine/coastal management agencies or commissions.

74. UNDP also benefits both from its field presence in the two countries of the project – Bolivia and Peru, and its partner organizations in the two countries. In addition, the project will be directly supported by the UNDP Regional Technical Advisor based in the region and by the UNDP Principal Technical Advisor at UNDP Headquarters with responsibility for global oversight of the UNDP Water and Ocean Governance programme.

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

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

<b>NAME</b>	<b>POSITION</b>	<b>MINISTRY</b>	<b>DATE (MM/dd/year)</b>
Roberto Salvatierra	Vice-Minister, Vice Ministry of Environment, Climate Change and Forest Management and Development.	<b>MINISTRY OF ENVIRONMENT AND WATER (BOLIVIA)</b>	<b>19 FEBRUARY 2014</b>
Jose Antonio González Norris	Director of International Cooperation and Negotiations	<b>MINISTRY OF ENVIRONMENT (PERU)</b>	<b>27 FEBRUARY 2014</b>

**B. GEF AGENCY(IES) CERTIFICATION**

<b>This request has been prepared in accordance with GEF/LDCF /SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.</b>					
<b>Agency Coordinator, Agency name</b>	<b>Signature</b>	<b>DATE (MM/DD/YEAR)</b>	<b>Project Contact Person</b>	<b>Telephone</b>	<b>E-mail</b>
Adriana Dinu, UNDP-GEF Executive Coordinator and Director a.i.		7 March 2014	José Vicente Troya, Regional Technical Advisor, Waters & Oceans	+507-302-4636	Jose.troya@undp.org