Enabling concerted Source to Sea management in the Paz river watershed

Part I: Project Information

GEF ID
10074

Project Type
MSP

Type of Trust Fund
GET

CBIT/NGI
- ☐ CBIT
- ☐ NGI

Project Title
Enabling concerted Source to Sea management in the Paz river watershed

Countries
Regional, El Salvador, Guatemala

Agency(ies)
FAO

Other Executing Partner(s):

Ministry of Environment and Natural Resources of Guatemala, Ministry of Environment and Natural Resources of El Salvador, Ministry of Foreign Affairs of Guatemala (MINEX), Ministry of Foreign Affairs of El Salvador (RREE), International Boundary and Water Commission (CILA)

Executing Partner Type

Government

GEF Focal Area

Multi Focal Area

Taxonomy

Focal Areas, Chemicals and Waste, Persistent Organic Pollutants, Uninentional Persistent Organic Pollutants, Waste Management, Industrial Waste, Hazardous Waste Management, International Waters, Strategic Action Plan Implementation, Biomes, Mangrove, Acquaculture, Freshwater, River Basin

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 1

Submission Date

9/25/2018

Expected Implementation Start

5/1/2020

Expected Completion Date

4/30/2022

Duration

24In Months

Agency Fee($)

160,090

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
IW-3-5	Enhance water security in freshwater ecosystems through advance information exchange and early warning	GET	361,707	492,343
IW-3-6	Enhance water security in freshwater ecosystems through enhanced regional and national cooperation on shared freshwater surface and groundwater basins	GET	1,030,417	1,402,570
CW-1-2	Strengthen the sound management of agricultural chemicals and their wastes, through better control, and reduction and/or elimination	GET	293,035	398,870
		Total Project Cost($)	**1,685,159**	**2,293,783**

B. Project description summary

Project Objective

To develop a shared vision for source to sea management of the binational Paz transboundary watershed

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 1: Common knowledge base for source to sea (S2S) management	Technical Assistance	Outcome 1.1 Informed consensus between El Salvador and Guatemala on critical S2S and transboundary flows	Output 1.1.1: Transboundary Diagnostic Analysis (TDA) with agreement between all stakeholders including farmers, land users,fishermen, and all national institutions such as Governments research and private sector at basin level on the following: (i) identifying key flows of water and priority issues as sediments, pollutants, material, food that characterize the ecosystem services; and (ii) State of S2S segments and indicators of current conditions; defining an appropriate scale for analysis; analysing the existing governance and management systems through a governance baseline; engaging key stakeholders Output 1.1.2: Establishing and developing Transboundary S2S monitoring and information management system, that include a water economy model to support decision makers in the evaluation of their policy interventions	GET	738,707	742,818

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2: Enabling conditions and governance mechanisms for source to sea management	Technical Assistance	Outcome 2.1 Support to common objectives and to undertake priority reforms and investments in S2S management Outcome 2.2 Institutional mechanisms in place and enhanced stakeholder awareness of transboundary S2S management	Output 2.1.1: Agreed Strategic Action Programme (SAP) for the Paz basin Output 2.1.2: Partnership conference on sustainable financing of SAP implementation Output 2.2.1: Binational mechanism for S2S management in the Paz Watershed established Output 2.2.2: Inter-ministry committees for S2S management established in each country Output 2.2.3: Mechanism for public participation established: considering gender-balanced involvement of stakeholders, including indigenous peoples, at all levels and across S2S segments	GET	361,707	540,461

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 3: Demonstration of source to sea management approaches and practices	Investment	Outcome 3.1 On-the-ground benefits of S2S management demonstrated for selected flows	Output 3.1.1: Ecosystem flows: Co-management model for coastal lagoons supporting sustainable livelihoods and ecosystems	GET	288,000	570,682
			Output 3.1.2: Food and water flows: Improvement of diets based on the promotion of fish consumption and aquaculture			
			Output 3.1.3: Sediment and water quality flows: Improving the knowledge base on integrated SLM approach in the upper watersheds			
			Output 3.1.4: POPs and HHPs reduction of use: increasing awareness on environmental harm from POPs and HHPs use to avoid further introduction in the food chain by addressing different steps of the life cycle pesticide management approach such as prevention, disposal and testing alternatives			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 4: Adaptive and Results Based Project Management and Visibility	Technical Assistance	Outcome 4.1 Results and progress are assured based on monitoring measurable and verifiable indicators and implementation based on the principles of adaptive management Outcome 4.2 Project results and lessons documented and disseminated to stakeholders and a wider audience	Output 4.1.1: Results-based Monitoring and Evaluation strategy with objectively verifiable indicators and means of verification Output 4.1.2: Annual work-plans and budgets with progress indicators defined for each outcome Output 4.1.3: Midterm and final evaluations Output 4.2.1: Communication strategy in place Output 4.2.2: Web-based information platform based on IWLearn guidelines to document and disseminate project results and lessons to a variety of audiences and stakeholder groups at national and global levels	GET	143,549	252,961
			Sub Total ($)		**1,531,963**	**2,106,922**
Project Management Cost (PMC)						
				GET	153,196	186,861
			Sub Total($)		**153,196**	**186,861**

Project Management Cost (PMC)			
	Total Project Cost($)	**1,685,159**	**2,293,783**

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($)
Government	Ministry of Environment and Natural Resources of Guatemala	In-kind	Recurrent expenditures	236,000
Government	National Forest Institute (Guatemala)	In-kind	Recurrent expenditures	28,800
Private Sector	Private Institute on Climate Change Research (ICC)	In-kind	Recurrent expenditures	34,324
Government	Initiative for the Americas Fund (FIAES	In-kind	Recurrent expenditures	1,247,609
Private Sector	Salvadorian Sugar Company (CASSA)	In-kind	Recurrent expenditures	34,050
GEF Agency	FAO Guatemala	In-kind	Recurrent expenditures	158,000
GEF Agency	FAO Subregional Office for Mesoamerica	In-kind	Recurrent expenditures	555,000
			Total Co-Financing($)	**2,293,783**

Describe how any "Investment Mobilized" was identified

Not Applicable

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($)	Fee($)
FAO	GET	Regional	International Waters	International Waters	1,392,124	132,252
FAO	GET	Regional	Chemicals and Waste	POPs	293,035	27,838
				Total Grant Resources($)	**1,685,159**	**160,090**

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

☐

PPG Amount ($)

50,000

PPG Agency Fee ($)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)
FAO	GET	Regional	International Waters	International Waters	40,789	3,875
FAO	GET	Regional	Chemicals and Waste	POPs	9,211	875
				Total Project Costs($)	**50,000**	**4,750**

Core Indicators

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
0.00	1700.00	0.00	0.00

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

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

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

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

Type/Name of Third Party Certification

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
	1,700.00		

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

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

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

Title	Submitted

Indicator 5 Area of marine habitat under improved practices to benefit biodiversity (excluding protected areas)

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

Indicator 5.1 Number of fisheries that meet national or international third party certification that incorporates biodiversity considerations

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

Type/name of the third-party certification

Indicator 5.2 Number of Large Marine Ecosystems (LMEs) with reduced pollutions and hypoxia

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (achieved at MTR)	Number (achieved at TE)
0	1	0	0

LME at PIF	LME at CEO Endorsement	LME at MTR	LME at TE
	Pacific Central American Coastal		

Indicator 5.3 Amount of Marine Litter Avoided

Metric Tons (expected at PIF)	Metric Tons (expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

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		Paz		
Count	0	1	0	0

Indicator 7.1 Level of Transboundary Diagonostic 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)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)	
Paz Select SWE		1			

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

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

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

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)	
Paz Select SWE		1			

Indicator 7.4 Level of engagement in IWLEARN throgh 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)	
Paz Select SWE		1			

Indicator 9 Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
0.00	**155.00**	**0.00**	**0.00**

Indicator 9.1 Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)

POPs type	Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)	
Select Highly Hazardous Pesticides		140.00			
Select DDT		15.00			

Indicator 9.2 Quantity of mercury reduced (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 9.3 Hydrochloroflurocarbons (HCFC) Reduced/Phased out (metric tons)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 9.4 Number of countries with legislation and policy implemented to control chemicals and waste (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

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

Indicator 9.5 Number of low-chemical/non-chemical systems implemented, particularly in food production, manufacturing and cities (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)

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

Indicator 9.6 Quantity of POPs/Mercury containing materials and products directly avoided

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 10 Reduction, avoidance of emissions of POP to air from point and non-point sources (grams of toxic equivalent gTEQ)

Grams of toxic equivalent gTEQ (Expected at PIF)	Grams of toxic equivalent gTEQ (Expected at CEO Endorsement)	Grams of toxic equivalent gTEQ (Achieved at MTR)	Grams of toxic equivalent gTEQ (Achieved at TE)

Indicator 10.1 Number of countries with legislation and policy implemented to control emissions of POPs to air (Use this sub-indicator in addition to Core Indicator 10 if applicable)

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

Indicator 10.2 Number of emission control technologies/practices implemented (Use this sub-indicator in addition to Core Indicator 10 if applicable)

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

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		280		
Male		420		
Total	0	700	0	0

Part II. Project Justification

1a. Project Description

1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)

1. Please refer to PRODOC, sections 1.1 and 1.2 for full details of the project context, areas of intervention and the proposed Source to Sea approach.

The global environmental problem and its root causes

2. Degrading water and land resources in terms of both quantity and quality characterize the current situation of the Paz basin. The threatened resource base is threatening peoples' livelihoods, drinking water and economic activities, as well as ecosystem integrity along the source-to-sea continuum. The most important threats to the system include land degradation, threats to ecosystems along the source to sea continuum, contamination of water and land resources, and limited preparedness for natural disasters such as floods. The threats are aggravated by the weak transboundary governance framework which limits the development of a joint, inclusive vision for the sustainable development of the basin, coordinated strategic planning and concerted management of the watershed resources. Finally, the absence of a comprehensive framework to monitor the state and flows of natural resources, particularly water quantity and quality, severely limits evidence-based decision making and the development and implementation of options for a sustainable source to sea system.

3. Following the logic of the source to sea concept, the following section describes the global environmental problem focusing on the impact of weak governance and unsustainable practices on critical resource flows. These include (i) limited understanding of resource flows and impacts, (ii) pollution of water and soil resources, (iii) land degradation and unsustainable land use practices, including agriculture and forestry, (iv) vulnerability to climate change, including extreme hydro meteorological events, (v) limited public awareness of resource flows, including recognition of ecosystem services and biological flows, (vi) weak transboundary governance mechanisms.

Limited understanding of resource flows and their impacts.

4. There is generally limited information on strategic international resource flows, including water resources, both surface and groundwater, in terms of quality and quantity. There is often a limited understanding of the importance of other resource flows in source-to-sea systems, such as flows of sediments, pollutants, biological flows, ecosystem services, trade relations and exchange of goods and services, as well as migration. In both countries, monitoring systems are sparse and cover only a small part of the continuum, for example small tributaries or individual groundwater wells. This is the case of community water monitoring systems. The quality of the measurements, and the resulting data, is extremely variable. Both within the countries and between the countries, there are no agreed criteria for information gathering and processing, nor platforms for the exchange of information at binational level.

5. In terms of water resources, particularly relevant information that is lacking includes flow data for different periods, particularly dry season, water abstractions and effluents (both surface- and groundwater), hydro meteorological data, organic and inorganic pollutants, sediment transport, and a binational early-warning monitoring system for extreme events.

6. The lack of reliable, up-to-date information is a serious impediment to the understanding of the state and dynamics of the resource flows, and consequently, the strategic planning and implementation of cross-border policies and Programmes to ensure the sustainable development of the international river basins.

Pollution of water and soil resources.

7. Domestic effluents and economic activities, most notably agriculture, affect the water quality in the Paz basin. The pollutants contaminate surface and groundwater as well as soil resources, with potential effects on ecosystem and human health. The biological effects of many of these compounds are often underestimated. So far, no attempts have been made in the targeted project area to establish linkages between inputs applied to crops or animals and water quality that has a direct impact on the environmental and epidemiological situation. There is a need for a systematic approach to alleviate some of these difficulties in the project area.

8. Principal source of domestic pollutants are untreated wastewater from human settlements, it can safely be assumed that there are additional informal discharges of domestic and industrial wastewater into the Paz river without any control. An unknown percentage of rural houses has septic tanks for wastewater stabilization.

9. Agrochemicals are used with varying grades of intensity in all sections of the watershed, from the small potato and maize producers in the upper watershed, coffee plantations in the middle watershed, as well as banana, sugarcane, oil palm and mango plantations in the lower watershed. In large plantations, the intensity of agrochemical use is high, and aerial applications of pesticides are common. To a more limited extent, chemicals are also used in animal production activities. There are no visible good practices such as maintaining riparian buffer strips to avoid leaching of agrochemicals into waterbodies.

10. As estimated by the Ministries of Environment, water in the river is contaminated with dozens of chemicals from industrial and agricultural activities. Poor water quality causes a heavy toll in the economy and in people: significant amount of children are affected by contaminated water. Additionally, water-related diseases cause a reduction in the

productivity of adults, and those industries, which rely on clean water, have an extra burden in their costs of doing business. The majority of the population on the river basin is living in extreme poverty, especially in the middle and upper parts of the watershed. They are most vulnerable and affected by the water pollution. Governments are well aware of the situation; however, they require data, in order to integrate these issues in the policy processes.

11. El Salvador and Guatemala submitted to the Secretariat of the Stockholm Convention, the Stockholm National Implementation Plans (NIPs). Guatemala in 2009 and El Salvador in 2012 by the Ministries of Environment. They indicated the presence of approximately 17 tons of POPs in the area of influence of the project (15 tons DDT and 1.8 tons of Aldrin). In the project area of the Paz river, El Salvador reported in the department of La Paz, city of San Luis Talpa, obsolete deteriorated stocks of toxaphene with Imidachlor. These stocks were included in the NIPs for removal. Both National Implementation Plans (NIPs) were emphasizing points of updating inventory data of POP pesticides: regarding import, use and management of POP in Guatemala and El Salvador. They also looked at POP socio-economic implications related to POP inventories in the country; diagnosis on information access; health, environment, biodiversity, economics, public participation; and, governance studies. These documents require updates and additional information from data collection.

12. The project will contribute to reduction of exposure and release of DDT to protect human health and the environment. The water is contaminated with dozens of chemicals from agricultural activities. Presently in use, pesticides are mainly provided to farmers under government incentives programmes. Concerning pesticides used in the project area, the situation can be described as follows: Upper catchment: coffee growing above 900 masl---application against coffee rist and coffee berry borer; Endosulfan; (Record of the use of 14 tons of Endosulfan and 55 tons of Paraquat in the coffee sector in Guatemala in 2015). Middle catchment: corn; Glyphosate and other herbicides (Paraquat). Because of endosulfan's threats to the environment, a global ban on its use and manufacture was considered under the Stockholm Convention on Persistent Organic Pollutants.

13. The indiscriminate deposition of solid waste into unsealed landfills or directly into waterbodies is another important source of pollution of the water resources. From the upper catchments to the coastal zones, the absence of a solid waste management strategy and its impact on the health of the waterbodies is apparent. Domestic waste is often dumped into creeks and on riverbanks where it is washed away and ends up in downstream vegetation, forms barriers and obstacles in the river, contaminates the coastal lagoons and the open sea, thus posing a risk to marine life. A basin-wide program to increase awareness on the issue and capacity building on sustainable waste management and reduction strategies would strengthen existing initiatives at the community and municipal level, and generate global environmental benefits by conserving ecosystems of regional and global interest.

Land degradation and unsustainable land use practices, including agriculture and forestry.

14. Large-scale farming for cash crops such as sugarcane and banana has polluted the soil and water, while poor farmers have cleared forests in higher parts of the catchments to cultivate small farms. Natural erosion processes, both sheet erosion and landslides, are common due to the steep topography and the fragile nature of the soils, mostly from volcanic origin. These processes are aggravated by inadequate management practices of which disturb vegetation and soil cover, such as conversion of forest to agriculture and

grazing land, uncontrolled extraction of wood for timber and fuel, bad agricultural practices on steep slopes and overgrazing. Watersheds are overused, and forest cover is decreasing. This leads to a reduction of the soil's water holding capacity and consequently, a reduction of water flow in the dry season and loss of fertile soil cover, which in turn puts pressure on farmers' livelihoods. In degraded and deforested areas, farmers already observe a decreasing water flow, particularly in the dry season.

15. Inadequate land and water management practices cause gully erosion and soil instability, increasing vulnerability to extreme hydro meteorological events and, possibly, affecting downstream areas. At the micro watershed scale, erosion and sediment content of the water can be considerably reduced through Sustainable Land Management (SLM) and Sustainable Forest Management (SFM) including reforestation, natural regeneration (and assisted natural regeneration, riparian buffer zone management and soil management (zero tillage, mulch) and conservation structures such as gully stabilization and terraces. At the larger catchment scale, these linkages are not as evident, as they are influenced by many factors such as local rainfall distribution and naturally occurring erosion in remote areas.

16. No systematic monitoring of sources of erosion, suspended sediments in the water or sediment transport exists. Scale, in particular, is important to take into account while devising options and strategies to manage sediment flows. The effectiveness of measures to curb erosion depends on local factors such as geography, river morphology, as well as naturally occurring erosion along the watershed.

Vulnerability to climate change, including extreme hydro meteorological events.

17. The vulnerability of the population to recurrent flood events on the rivers is high and intensifying in recent decades due to climate change. The region is prone to hurricanes which cause intense and concentrated rainfall which resulted in landslides in the upper part of the basin and large-scale floods, causing deaths and huge material losses in urban and rural areas of the lower part of the river. Flood events can be observed every year. Heavy rainfall for several consecutive days causes floods and water reaches the edge of nearby houses. Passage of vehicles is also frequently blocked in the *Manuel Arce* bridge (which is the border bridge between Guatemala and El Salvador) located in the lower basin of the Paz river and often remains closed due to the flooding.

18. Vulnerability is high in all sections of the watersheds. In the upper basin, people are affected by landslides and sudden peak flows. In the middle and lower watersheds, the population of the city of La Hachadura is regularly affected by floods, particularly poor, unplanned neighborhoods on the river bank of the Paz. Also, vulnerability of the growing population of smaller settlements on both sides of the Paz river is increasing. These settlements are growing due to cross-border economic activities and migration. Regular disruptions of public services such as water supply are the norm.

19. In the lower basin, the main river course had diverted to a new branch called "Nuevo Paz" in Guatemala. From this point downstream, the natural (original) course of the river towards its mouth in the El Botoncillo mangrove forest is now abandoned and dry year-round, except in periods of flooding during the rainy season, usually caused by extreme events, when one part of the course flows to the Zanjón El Aguacate in El Salvador.

20. During dry years, domestic water supply, agriculture and other economic activities rely increasingly on groundwater. This dependence is likely to increase in the future due to climate change. In Central America, drought years have increased in intensity over the past years

21. There is no planning of amounts of water abstractions from surface or groundwater based on information on basin-wide availability of water resources, nor a regulatory framework or institutions to effectively implement such regulations on both sides of the border. The lack of water resources planning, regulation and enforcement is a critical gap that needs to be addressed in order to achieve sustainable use of water resources in the basins. The existing regulations on water abstractions are based on local parameters.

Limited public awareness of resource flows, including recognition of ecosystem services and biological flows.

22. The Paz watershed boast a variety of biomes ranging from lower montane sub-tropical humid very humid forests to mangrove forests on the coast which harbour many endemic species. While there are isolated protected areas aimed at the conservation of discrete ecosystems, no management practices or legal frameworks are in place to ensure connectivity from upstream to downstream habitats. In particular, land conversion has resulted in fragmentation of the terrestrial natural ecosystems/habitats. In terms of aquatic habitats, interventions in the river morphology have reduced connectivity for migrating species such as shrimp and eels. No study to determine the minimum ecological flow has been carried out.

Weak international governance mechanisms.

23. Guatemala and El Salvador have signed treaties which govern the international boundaries and water resources and have established a Border and Water Commission (CILA) to maintain the delimitations of the border between the countries in the Paz watershed. Other management issues regarding natural resources in the basins are handled separately by the competent authorities in each country.

Threats to Global Environmental Benefits

24. The current management system of the binational watershed threatens globally important environmental goods and the flow of associated ecosystem services, namely water resources, biodiversity, land degradation and climate change.

25. Water resources are being degraded in terms of quantity and quality by unsustainable land and water uses along the source to sea continuum. In the upper catchment, hillside agriculture, deforestation and unsustainable forest management practices, and unprotected streambanks and riparian zones cause sediment inflow, while unregulated wastewater discharge and deposition of waste in riverbeds causes pollution. In the middle catchment, water quality is threatened by unsustainable agriculture practices (eg. coffee without shade), agrochemicals, unregulated wastewater discharges and waste deposition, unprotected streambanks. In the lower catchment: unregulated water abstraction (surface and groundwater) by large agricultural producers (basic grains, etc.). Groundwater resources are threatened by unregulated pesticide use and overdraft during frequent dry spells in the

basins. Due to the limited information about groundwater or water quality aquifer including quantity and quality, it is not possible to quantify the risks, which poses a severe constraint to sustainable water resources management.

26. Biodiversity. Extremely rich and diverse ecosystems are threatened by degradation of water resources and other natural resources in the catchment areas. The Paz watershed boasts a variety of biomes ranging from cloud forests to mangrove forests on the coast, which harbour many endemic species. While there are isolated protected areas aimed at the conservation of discrete ecosystems, no management practices or legal frameworks are in place to ensure connectivity from upstream to downstream habitats. In particular, land conversion in the riparian areas has resulted in fragmentation of the terrestrial natural ecosystems/habitat. In terms of aquatic habitats, interventions in the river morphology have reduced connectivity for migrating species such as shrimp and eels.

27. Land degradation. The current management practices threaten the productivity of the soil in the basins. In the upper watersheds, overuse of soils for agriculture, particularly on sloping land, and loss of vegetative cover is causing sheet and gully erosion and reducing regenerative capacity of the soil. In the middle and lower watersheds, unregulated use of pesticides are a threat to soil biodiversity. Furthermore, streambank erosion can frequently be observed due to lack of protective vegetation and the inadequate installation of structures such as dams.

28. Climate Change. The current management practices in the international basins are a threat to the resilience of social-ecological systems to cope with climate change both in terms of mitigation and adaptation. In terms of the mitigation capacity: Deforestation, unsustainable forest management and inadequate agricultural land use and advance of the agricultural frontier reduce CO2 sequestration at landscape level. On the other hand, deficient cooperation, and the absence of transboundary protocols such as the absence of early warning and flood forecasting systems, and coordinated emergency response, reduces the capacity of the local population to adapt to climate change.

Remaining barriers

29. Despite the efforts to address the challenges , the following barriers remain for a sustainable management of the source to sea continuum in the international Paz basin:

i. Weak knowledge base for the sustainable management of the Paz watershed: First, there is a shortage of reliable information on natural resources, particularly water resources flows. There is no basin-wide monitoring system, which gives reliable information on the quantity and quality of the water resources in the basins. Furthermore, available information is not adequately shared. This is a crucial barrier for sound water resources management on both sides of the border, as well as integrated management of the basin. It is also a prerequisite to improve the adaptive capacity of the population to climate change. Second, there is insufficient awareness of actors on critical resource flows such as ecosystem services associated with good management practices at the watershed scale. Key actors have little awareness of the importance of integrated management of resources at the watershed scale to sustain critical resource flows. These flows in turn sustain and improve their livelihoods as well as the ecosystems on which they depend.

ii. Weak enabling environment and governance of source to sea flows at the watershed level. There is a lack of a joint vision for the protection and sustainable use of watershed resources in the shared basins. On both sides of the border, public and private stakeholders have developed perspectives on sustainable use for the corresponding parts

of the basin with sometimes conflicting objectives. The lack of a shared vision is an impediment to the construction of a meaningful cooperation for the management of the basins along the source to sea continuum. Second, there is an insufficient institutional framework, agreements and protocols for bilateral coordination for an integrated source to sea management of Paz watershed. The international body (CILA) deals with demarcation issues of the border. Apart from isolated sectoral initiatives and informal cooperation at the local level, there is no functional mechanism for coordinating the management of the natural resources at the watershed scale, which is crucial for the conservation and sustainable use of the resources for the benefit of ecosystems and population on both sides of the border. This leads to the implementation of isolated initiatives in the watershed that do not reach their full potential due to the lack of integration with synergetic programs.

iii. Lack of access to good source-to-sea management practices and to finance for scaling up. The region is characterized by insufficient capacity and exchange among actors on good practices for sustainable use and conservation of natural resources. While many good practices have been developed through cooperation and research projects, their dissemination through direct contacts with actors across the border is limited, limiting the scope for application and the opportunity for actors for capacity development. Second, there is a lack of financing mechanisms to enable source to sea management in the watershed. Funding opportunities from national sources and international development cooperation are available, but need to be systematically assessed and linked to provide sustainable funding for the long-term implementation for coordinated action. This also includes the identification and establishment of opportunities for local financing schemes to ensure continued delivery of ecosystem services along the source to sea continuum

30. Without the GEF intervention, it is likely that the degradation of natural resources in the Paz river will continue to deteriorate putting at risk the international water resources and the ecosystems on which they depend, as well as the livelihoods of the inhabitants.

2) The baseline scenario and any associated baseline projects

Baseline initiatives

31. The project builds on a solid baseline of government Programmes as well as projects funded by international donors and implemented by public institutions, civil society and the private sector, in the fields of natural resources, watershed management, and local socio-economic development. The latest Master Plan of the proposed basin was developed 1999 , though more recent efforts include a hydrologic analysis of the lower basin of the Rio Paz undertaken in the Project titled “Integrated resource and livelihood management in the Rio Paz, El Salvador-Guatemala”.

32. While basin management plans are very useful instruments to manage the territory, these plans have maintained a vision of the basin that is very linked to its biophysical space. In this sense, basins are typically defined according to their biophysical and social characteristics, but the approach does not account for social dynamics and land policies and their link to environmental degradation. The lack of an updated vision for the region means that short term solutions to address urgent problems take priority. For instance, the institutional response to mitigate flood risks in Guatemala and El Salvador is typically linked to the building of infrastructure such as retention walls or gabion walls. While this type of works solve urgent (short term) problems, there is evidence that this does not provide permanent solutions and could imply higher financial costs in the longer term.

33. On March 2017, FAO and the Government of El Salvador published the "National Strategy for the Management of Hydrographic Basins in El Salvador". The proposed methodology of the process to intervene in hydrographic basins is inclusive by design (i.e. local communities are at the centre of the process), and consider socioeconomic and technical drivers of environmental degradation. The methodology includes a diagnostic analysis of the micro basin, the identification and addressing of problems and opportunities, the development of a plan that is (i) based on solid information, (ii) follows a risk management approach, and (iii) includes strategies to adapt and mitigate climate change.

34. The methodology established in the above-mentioned National Strategy is aligned with the GEF's International Waters focal area approach followed by this project proposal. The GEF Grant will strengthen governance and sustainable water management practices of Guatemala and El Salvador in order to overcome land degradation, contamination of water and land resources as well as a limited preparedness for natural disasters.

35. Currently, there are national efforts taking place in the basin that will constitute the baseline for the proposed project. These efforts are linked to local development plans. For instance, Guatemala has been implementing Programmes to support sustainable forest management (PINFOR and PINPEP) in the basin, as well as providing incentives for a sustainable management of natural forests, forest plantations and, since 2007, agroforestry practices. These Programmes are implemented by the National Forest Institute (INBO). In the municipalities in the project area, 5,275 ha of forested area have benefitted from incentives under the programme since 1997, for an equivalent amount of US $ 2,145,789. In 2015, the PROBOSQUE programme was established, providing incentives to owners and tenants of forest lands with a view of generating ecosystem services.

36. Baseline investments in El Salvador are linked to the provision of basic infrastructure services via the "Integrated water and sanitation environment project" financed by the Italian Cooperation, as well as an irrigation project financed by Korean Cooperation (KOICA). The latter project is supporting the establishment of an irrigation system to grow horticulture, fruits and grains in Santa Ana, in line with the Government's 5-year Development Plan (2014-2019).

37. The FAO is carrying out several projects that will be used as baseline and will provide co-financing to the proposed project. This includes technical cooperation programs such as (i) TCP/SLM/3501, which focuses on contributing to the improvement of the resilience of families' livelihoods in the face of threats and emergencies in Central America, and (ii) TCP/ SLM/3603/C2 (USD 99,000) supports the construction of resilience in territories affected by drought and aridity, where levels of food insecurity are higher and where there are strong technical, institutional, and investment capacity constraints for tackling climate variability. In addition, Project number OSRO/RLA/601/BEL (USD 500,001) seeks to reduce the impact of drought on vulnerable rural livelihoods in the Dry Corridor of Central America.

38. Finally, FAO and the Government of El Salvador, with the support of the GEF, are implementing an initiative focusing on sustainable watershed management, sustainable forestry practices and improvement of food security, particularly in the upper parts of the Paz basin, in the municipalities of Texistepeque and Candelaria de la Frontera. This project (GEFID No. 4616) aims to mainstream climate change adaptation and disaster risk reduction into the Fragile Micro-Watersheds Management Plans, and to reduce land degradation and unsuitable land/water use, through the integrated management of natural resources (INRM) and the participation of small-scale rural producers. While this project will not be counted as co-financing, it is expected that the information collected and experience built on developing watershed management plans and technologies tested to reduce land degradation generated will be transferred to the proposed project.

3) The proposed alternative scenario with a description of outcomes and components of the project

39. Please refer to FAO-GEF Project Document, section 1.3.2 for full details on project activities. This section summarizes the main Outcomes of the project and provides a general idea of project activities.

40. This project proposal will contribute to the conservation of water resources and ecosystems in the Paz river basin. A multi-stakeholder partnership will be organized that will include local communities, as well as decision makers and experts towards a shared vision and framework of integrated management of natural resources following a source to sea approach, promoting full transparency, coordination and cooperation among the two countries sharing the basin. To achieve this, the project will undertake a Transboundary Diagnostic Analysis (TDA) to improve the understanding of the source to sea flows, which will provide a comprehensive baseline information vital for a strategic targeting of national and regional efforts to address critical transboundary flows and threats to ecosystems. In particular, the project will lay the groundwork for a basin-wide monitoring of water resources and other critical resources and flows in the basin, to ensure continued availability of information to inform decision making.

41. These baseline efforts will be further guided by the creation of an agreed Strategic Action Programme (SAP) that will identify critical priorities of regional importance, including solutions to improve conservation of globally important ecosystems as well as improvement of the resilience to climate change, to be addressed by governments, donors, and other partners active in the region. It will also include a financing plan to support increased and more coordinated funding to address the identified priorities. Given that a considerable number of the population in the project areas identify themselves as Indigenous Peoples, the project will follow FAO's guidance on Free, Prior and Informed Consent (FPIC) as well as national guidance on the matter.

42. External factors like mounting population, fast rise of urban areas and agricultural overexploitation affects the quality and biodiversity of the natural hydrological units with upstream degraded forests, and eroded crop lands and downstream affected delta's and marine environments as most visible symptoms. These negative developments go beyond the individual land users' and fishermen control and justify the calls for a coordinated action at basin level. Countries that share the Paz river watershed require close international collaboration to consolidate a concerted land and water management that assures long-term deliveries of cross border water flows against required quality. S2S provides an adequate answer to these threats as it accounts for land and water users in up- and lowland areas as well as for fishermen in delta's and bordering open seas.

43. A Decision Support Tool (DST) will be formulated in order to evaluate the impact of water policy interventions on the downstream water economy, households and coastal waters, including cross-border land and water bodies.The data will be collected during project from all stakeholders that includes farmers, land users, fishermen, and national institutions such as Governments, as well as research and private sectors at basin level. The DST is a hub for a harmonized empirical data base that provides an evidenced based representation of key water flows in volumes and quality in its geographical and temporal dependence of water sources, water uses and return flows covering the upper basin up to the coastal water. The DST accommodates water response functions that represent water values for economic sectors, urban and domestic water use on land and in coastal areas. The scenario outcomes of the DST are especially useful to support concerted management of water resources for local and cross-border water policies. By this, the model equips decision makers and negotiators with a tool that may assist them in quantifying in physical as well as in economic terms the implications of possible scenarios for joint water management.

44. Joint collaboration between all stakeholders in data collection, data harmonization and model building during the various development stages of the DST should assure that local counterparts are well versed in maintenance and operation of the DST.

45. Finally, the project will implement demonstration activities that will address crucial watershed management issues linked to management of key flows, and to demonstrate the benefits of a transboundary management of source to sea flows. These activities will result in improved capacities and awareness of strategic actors as well as strengthen transboundary cooperation and exchange of experiences.

46. Project components and outcomes are briefly described below:

Component 1: Common knowledge base for source to sea (S2S) management

47. This first component will support the technical and social process to develop the Transboundary Diagnostic Analysis (TDA), and lay the groundwork for the development of a comprehensive information and monitoring system of watershed resources to close information gaps and enable stakeholders to take informed decisions on management of critical resource flows. The consultation and consensus-buiding process, that will ensue in the agreement of the TDA, will comprise farmers and agricultural producers. Farmers, as project beneficiaries, will support Government efforts to reach and build their own technical capacity, as well as to increase their awareness and negotiation skills.

Outcome 1.1. Informed consensus between Guatemala and El Salvador on critical S2S and international flows

48. The two key outputs to be delivered under this outcome are: (i) the development of an agreed TDA, and (ii) the establishment of a transboundary S2S monitoring and information management system. The activities that will be implemented to develop these products are described in the FAO-GEF Project Document, and include, among others

(i) the establishment of monitoring and reporting systems of POPs residues and agrochemicals in water sources with a link to the Global Monitoring Plan of Persistent Organics Pollutants (POPs) in Latin America and Caribbean States (LAC), (ii) the establishment of a data-sharing and hosting agreement in both countries, and (iii) the safeguarding of up to 15 tons of DDT stockpiles to reduce the contamination to the environment and human health. The development of the TDA will get through a participative process that will take into account all the relevant stakeholders, including the private sector stakeholders, for instance CASSA and the ICC. Please refer to section 1.3.2 of the FAO-GEF Project Document for full details.

Component 2: Enabling conditions and governance mechanisms for source to sea management

49. Under component 2, the Project will support de development of enabling for a transboundary management of the source to sea continuum. To this end, a comprehensive Strategic Action Plan (SAP) will be developed and agreed by the partners based on the TDA to identify strategic actions that will remove drivers and barriers to environmental degradation under each identified priority transboundary issue, indicators, and governance structures. The SAP will be developed following a participative and inclusive process including all key stakeholders and presented to relevant Ministries for endorsement. Furthermore, the project will enable partners to identify funding opportunities to implement the programmes and projects agreed on in the SAP. Finally, an institutional mechanism, including consultative process, will be established to guide and oversee SAP implementation. This consultative process will certainly require the participation of private actors operating in the agricultural sector namely ANACAFE, the ICC, ABECAFE, PROCAFE, CASSA, as well as actors from the tourism industry of El Salvador.

Outcome 2.1. Common objectives to undertake priority reforms and investments in S2S management are supported

50. Two key outputs will be generated under this outcome: (i) an agreed Strategic Action Programme, and (ii) sustainable financing options for SAP implementation will be identified. The carrying out of a partnership conference to raise awareness, identify funding sources, and generate commitment by the partners will involve the private sector. Relevant International Financial Institutions to be considered as potential funding sources include: FUSADES, FONAES, FONTAGRO, the World Bank (WB), the Inter-American Development Bank (IADB) and the Central American Bank for Economic Integration (CABEI). The preparation of the SAP includes (i) the development of an environmentally sound management plan for agrochemical wastes, (ii) an inventory of POPs-contaminate sites, and (iii) the re-packing of up to 15 tons of DDT stockpiles identified in Component 1. Please refer to section 1.3.2 of the FAO-GEF Project Document for full details.

Outcome 2.2. Institutional mechanisms in place and enhanced stakeholder awareness of transboundary S2S management

51. Three outputs are expected from this outcome: (i) the development of Binational mechanism for S2S management in the Paz Watershed, (ii) the establishment of an Inter-ministry committee for S2S management in each country, and (iii) the establishment of a mechanism for public participation.

52. The binational institutional mechanism established under Output 2.2.1 will involve representatives of both Governments, CSOs, academic institutions and the private sector.

Component 3: Demonstration of source to sea management approaches and practices

53. To complement the development of the SAP and advance in the management of critical resource flows in the international basins and build capacity for cross-border cooperation and information flow, the project will fund a series of demonstration activities that will allow stakeholders to understand the benefits, difficulties, and costs of potential solutions. This component also responds to Government and local communities' desires articulated in the preparatory phase to "see action on the ground" to complement studies and action plans that can inform future actions and design of the SAP. Hence, the project will approach stakeholders from the agricultural and private sector based in the intervention area sucha as ANACAFE, ICC, ABECAFE and CASSA.

Outcome 3.1. On-the-ground benefits of S2S management demonstrated for selected flows

54. Based on the preliminary analysis by FAO and government experts of the critical resource flows in the Paz basin, and in consultations with key stakeholders during an exploratory mission, three demonstration projects have been selected and designed to improve technical capacities, transboundary information flow and exchange of experience. They focus on the following critical resources flows: water quality, sedimentation, and ecosystem services. The projects address key drivers of resource depletion in the watershed: poverty, malnutrition, and inadequate land use practices. The results and lessons during process of implementation will generate valuable lessons for SAP implementation.

55. The intervention at level of POPs and agrichemicals is a necessary condition for a sustainable land and landscape management being the use of POPs and Highly Hazardous Pesticides in agriculture production responsible for decrease of water quality, threat to food security and safety, depletion of ecosystem services and, last but not least, a threat to adequate nutrition.

56. By addressing different steps of the pesticides life cycle (POPs and HHPs), the project aims at raising awareness on the prevention rather than other future clean up operations, which are very expensive and not resolutive. The activities of this component part will comprehend disposal of around 17 tons of DDT, Aldrin and Endsosulfan, capacity building on agricultural waste management and research on alternatives to the use of hazardous POPs and HHPs.

Component 4: Adaptive and Results-Based project management and visibility

57. In order to ensure that project goals are met within the established timeframe and to FAO quality standards, an adaptive results-based project management strategy will be implemented. The monitoring and evaluation system will track both implementation progress and project impacts, in accordance with FAO and GEF standards. Furthermore, a communication and documentation strategy will be developed and implemented to ensure visibility of results and availability of lessons for future IW projects which adapt and upscale the source to sea approach. The component will address barrier 1.

Outcome 4.1. Results and progress are assured based on monitoring measurable and verifiable indicators and implementation based on the principles of adaptive management

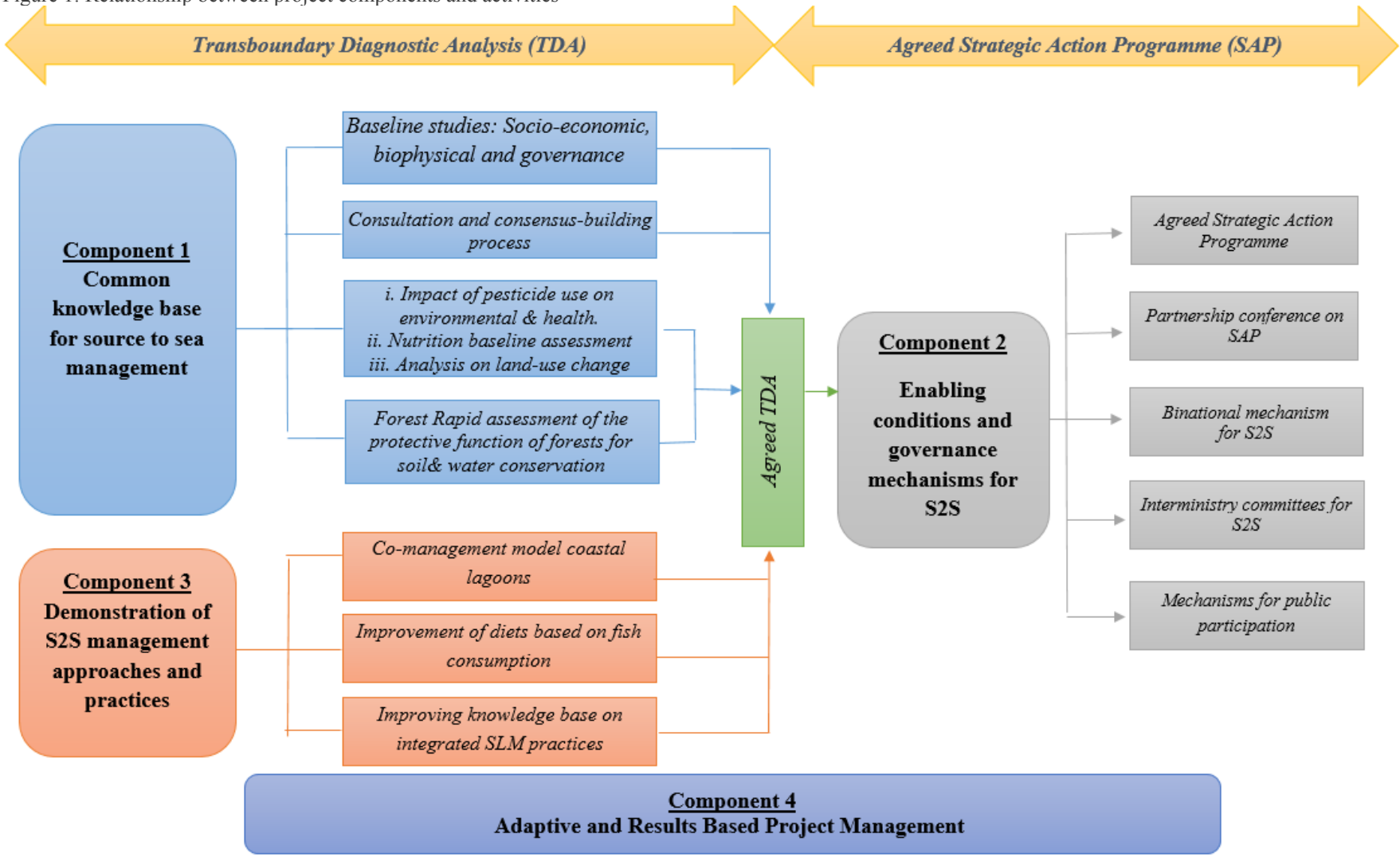
58. An M&E system will be established to measure project progress and impacts in terms of multiple global environmental benefits as well as social and economic benefits in accordance with the FAO standards and GEF IW tracking tool. The system will allow (i) a results-based monitoring system based on objectively verifiable indicators and means of verification (output 4.1.1), (ii) annual work-plans and budget revisions (output 4.1.2), and (iii) a final evaluation according to FAO standards (output 4.1.3).

Outcome 4.2. Project results and lessons documented and disseminated to stakeholders and a wider audience

59. Under this outcome, a communication strategy will be developed and implemented to inform and raise awareness of local stakeholders about the importance of basin-wide management of natural resources (output 4.2.1). This includes production of information material for different stakeholder groups, a newsletter, and appearances in local media. Furthermore, a web-based information platform will be established based on IW learn guidelines (output 4.2.2). The platform will include the datasets generated under the information system (output 1.1.2).

60. Figure 1 below shows a schematic representation of the project outcomes and activities, and their link to the TDA and SAP processes.

Figure 1: Relationship between project components and activities



4) alignment with GEF focal area and/or impact program strategies

61. The proposed project is aligned with the IW Focal Area, Objective 3: *Enhance water security in freshwater ecosystems*. In particular, the project will support the development of data collection and information exchange and to enhance El Salvador's and Guatemala's cooperation efforts in the Rio Paz basin. The project will build capacity at the national level to support decision-making and to identify joint opportunities for action (both of which will be reflected in the TDA and SAP for the basin). The project will build on current government efforts and work with local communities to establish a vision for a shared future. In this sense, the project will be aligned with Outcomes IW-3-5 "*Enhance water security in freshwater ecosystems through advance information exchange and early warning*" and IW-3-6 "*Enhance water security in freshwater ecosystems through enhanced regional and national cooperation on shared freshwater surface and groundwater basins*".

62. In addition, the proposed project is aligned with Chemicals and Waste focal area strategy through Program 2 *"Agriculture chemicals program"*. In particular, the project is aligned with Objective CW-1-2 "*Strengthen the sound management of agricultural chemicals and their wastes, through better control, and reduction and/or elimination"*. The proposed project will address POPs-contaminated wastes in the project area, including 15 tons of DDT stockpiles. The project will also analyse which agricultural chemicals are in use as part of the TDA, and will discuss with local stakeholder the possibilities to introduce alternatives as part of the SAP.

63. FAO, as Lead Agency to address the GEF-7 *Agriculuture Chemicals Program has among all objectives the* replacement of the use of POPs and HHPs (Highly Hazardous Pesticides) used in the food supply chain, disposal of obsolete pesticides and elimination of contaminated plastics used in agriculture. This project will be aligned to this new programming directions to be part of the global intervention and approach.

64. Moreover, FAO, through this program, aims to reduce the use of priority HHPs for over 65% land area of key crops in target countries. Target crops on which high volumes of POPs are used in the Paz river watershed are sugarcane, bananas and coffee. Therefore, the project will work closely with CASSA (the Salvadoran Sugar Company), a private agroindustrial company, in order to establish the baseline for the Paz river watershed management. Additional target chemicals can be identified as part of the TDA to be implemented under Component 1, and addressed under the demonstration projects in Component 3. Identifying and addressing additional POPs and other relevant HHPs can be also accomplished by revaluating the national pesticide registries[1][1] against the HHP criteria, using FAO's Pesticide Registration Toolkit. In this manner, the project will support government efforts to avoid the use of nearly 70.2 tons of HHPs currently being used annually in the coffee and banana sectors within the Rio Paz basin. This translates to a land area of nearly 2,642 km2 that will not be affected by HHPs.

5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

65. Regarding the International Waters focal area, the proposed project will improve multi-state cooperation to reduce threats to the Paz river bi-national basin. In addition, it will reduce the pollution load in the Paz River from the use of POP agricultural chemicals. Lastly, it will reduce vulnerability to climate variability and climate-related risks, and increased ecosystem resilience.

66. Agrochemicals are used with varying grades of intensity in all sections of the watershed and there are no visible good practices such as maintaining riparian buffer strips to avoid leaching of agrochemicals into waterbodies. Therefore, concerning the Chemicals and Waste focal area, this project aims to reduce risks on human health and the environment through reducing and eliminating production, use and releases of Persistent Organic Pollutants and their waste. A basin-wide program to increase awareness on the issue and capacity building on sustainable waste management and reduction strategies would strengthen existing initiatives at the community and municipal level, and generate global environmental benefits by conserving ecosystems of regional interest.

67. The proposed GEF project will strengthen governance and sustainable water management practices, as well as support capacity building and awareness raising to address POP agricultural chemicals in Guatemala and El Salvador. This aims at overcoming land degradation, contamination of water and land resources as well as the limited preparedness for natural disasters. With respect to Component 1, the project will build on the existing Master Plan for the basin and other planning efforts (local development plans, recent hydrologic analysis) to develop a consensus-based Transboundary Diagnostic Analysis (TDA). This TDA seeks to address the shortage of reliable information on natural resources by building local capacity to collect, analyse and share data on key flows (socioeconomic, biophysical, pesticide use, nutrition, land use change, forest protective functions). This process will take into consideration the link between environmental degradation and social dynamics (and existing land policies).

68. The GEF incremental financing of USD 738,707 in Component 1 will be used to contract national and international consultants, cover travel and training costs, and cover meeting costs for the consultation process, as well as to develop the monitoring and management information system. Moreover, the GEF financing will cover the costs of pesticide residue water sampling kits. The investment will consist on: i) technical assistance in pesticide surveillance; ii) land management and SLM capacity building for key local actors; iii) support and training on water analysis and surveillance in the demonstration sites; iv) strengthening the local communities participation through workshops. The co-financing for Component 1 will be addressing the weak knowledge base for the sustainable management of the Paz watershed.

69. As for Component 2, the project will develop a comprehensive Strategic Action Plan (SAP) based on the TDA developed in Component 1. This component seeks to address the need for an updated joint vision for the protection and sustainable use of watershed resources, as well as to strengthen the bilateral coordination efforts currently under way. Therefore this component will build on the work being done by the countries' International Commissions on Limits and Water. It will also build on the work recently carried out by the government of El Salvador and the FAO on the National Strategy for the Management of Hydrographic Basins.

70. The GEF incremental financing of USD 361,707 in Component 2 will be invested to contract national and international consultants, cover travel and training costs, and cover meeting costs for the consultation process. In addition, GEF resources will be used to disseminate the results of the consultation process and identify resources to support SAP implementation. Furthermore, this incremental financing will be directed to the establishment and operationalization of the binational mechanism and the inter-ministry committee that will manage the Paz watershed. The co-financing for Component 2 will be focusing on strengthening an enabling environment and governance of source to sea flows at the watershed level.

71. Under component 3, the project will build on the experience of recent national and FAO investments (including GEF-funded investment), and will carry out pilot activities related to nutrition, integrated SLM practices, reduction of use of POPs and HHPs, as well as co-management of coastal lagoons to support the decision-making process for the TDA (Component 1). The GEF incremental financing of USD 288,000 in Component 3 will be used to carry out pilot activities. These pilot activities include school feeding Programmes, training of extensionists in food production, transboundary trainings on good SLM practices using farmer-to-farmer extension, implementation of tree nurseries and restoration of riparian areas, capacity building, awareness raising and testing of alternatives to the use of Endosulfan. Moreover, activities to be financed by this GEF investment include the re-packing of 15t of DDT. The co-financing for Component 3 will devote the effort to giving access to good source-to-sea management practices and to finance for scaling up.

72. The GEF incremental financing of USD 143,550 in Component 4 will be invested to hire consultants to develop the project's M&E system, to carry out the project Evaluation as per FAO's standards, and to develop the project's knowledge management and dissemination strategy (including links to IW Learn). The co-financing for Component 4 will be used to gather information for the evaluation of the results achieved by the project in catchment area and to provide strategic guidelines, methodological tools and support for the systematization of the Source to Sea intervention model and the dissemination of information including a communication strategy.

6) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

73. Expected global environmental benefits are: (i) Contribution to the protection of shared water resources in the Paz basin through building foundations for a cooperative management of watershed resources following the source to sea approach, (ii) Contribution to the protection of globally important ecosystems maintained by the water resources, (iii) Contribution to mitigation of climate change through sustainable forest management, (iv) Contribution to reduction of land degradation through strengthening SLM approaches, and (v) Inventory of POPs-contaminated wastes in the project area and DDT stockpiles up to 15 tons re-packed. (vi) Furthermore, the project is likely to avoid 140 tons of HHP in the coffee and banana sectors of El Salvador and Guatemala during project timeline (it is expected that benefits will consist in avoiding 70 tons of HHP per year). On this account, risks to health of local communities and consumers, that may be exposed to pollution from stockpiles of POPs and other highly hazardous chemicals used in agriculture, will be reduced.

7) innovativeness, sustainability and potential for scaling up

74. The project approach offers a unique opportunity for replicability and potential for scaling-up. It will address challenges related to integrated water resources management in transboundary basins under a holistic approach to support the transition to a more sustainable development in the region. The project will promote sustainable management and restoration of natural resources used in the agriculture sector, will support family farmers adapt their livelihoods to climate change, and the integration of prevention, mitigation,

response and recuperation actions, expanding their resilience to potential disasters. One of the most disruptive environmental challenges that the binational Paz transboundary watershed is facing today is large-scale land degradation and biodiversity damages caused by decreasing water resources.

75. The project design has the potential to illustrate a feasible approach to balance between environmental concerns and economic interests with regard to water resource management. Accordingly, the potential for replication is extraordinarily high.

76. The project it will be also innovative in the way the initiative promotes collaboration between GEF Agencies and other partners combining different approaches, as appropriate. It will organize a partnership of all stakeholders, decision makers and scientists towards a shared vision and a framework of integrated management of natural resources following a source to sea approach, promoting full transparency, coordination and cooperation among the countries sharing the basins as well as with the international community supporting the initiative. These processes are replicable and can be used in future GEF programming efforts.

77. Guatemala and El Salvador will have a new opportunity to contribute to the growing wealth of knowledge on internationally shared/transboundary water bodies, aquifers and groundwater regimes, thus encouraging new partnerships to be fostered.

78.In order to achieve sustainability, the governments in Guatemala and El Salvador will be required to allow for sector reform oriented provisions which are going to result in newly defined hydro-administrative functions and business processes within the respective institutional environment. Either by extending /modifying existing mandates, and newly established structural elements and/or mandates, or via incentive based inclusion of private sector initiatives for external service provision, which are based on economic principles of cost- coverage and revenue.

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[1] Respective pesticide registration authorities are the Ministry of Agriculture and Livestock (El Salvador) and the Ministry of Agriculture, Livestock and Food (Guatemala)

1b. Project Map and Coordinates

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

79. Coordinates : N 13°46′24″ W 90°11′03″ [1]. Please refer to Annex E for the Map of the intervention area.

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[1] http://www.geonames.org/3584127/rio-paz.html

1c. Child Project?

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

Not applicable

2. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

1. Key stakeholder involvement has been noted in the description of project Outcomes and Outputs earlier in this document and is summarized under the project's *Implementation Arrangements* section of the FAO-GEF Project Document. The Project will ensure strong stakeholders' involvement throughout project implementation. A text of the TDA document will be agreed between every stakeholder under Output 1.1.1. The TDA will delineate the state of S2S segments and indicators of current conditions, outline an appropriate scale for analysis, analyse the existing governance and management systems through a governance baseline and engage key stakeholders. Outcome 2.2 establishes institutional mechanisms and strengthens stakeholder awareness on transboundary S2S management. Particularly, Output 2.2.3 will set up a mechanism for public participation that will envisage a gender-balanced involvement of stakeholders and include indigenous peoples. Lastly, project results and lessons will be documented and disseminated to stakeholders under Outcome 4.2. In order to attain this, an information platform, based on IW:LEARN guidelines, will be set up to document and disseminate project results and lessons to stakeholders.

2. The decision-making mechanism of the project is reflected under Section *6. Institutional Arrangement and Coordination* of this document. The binational Project Steering Committee is comprised of Government and FAO representatives, as well as representatives of local municipalities and INAB (please refer to stakeholders previously listed above).

3. A preliminary Stakeholder Engagement Plan is detailed below, to be further discussed and updated at Project inception.

Stakeholder engagement event	Targeted stakeholders	Purpose of the Event

Inception Workshop (3rd month after first disbursement)	Technical officials from MARN-ES, MARN-GT, RREE, MINEX, representatives of local municipalities and communities and INAB	To define and validate project methodologies with project stakeholders that will be used for project implementation, M&E. To confirm institutional roles of project stakeholders. To define the project's local and national entry points of the project grievance mechanism - in a participatory way.
Mid-term workshop (Month 18)	Stakeholders included in the binational technical committee: Representatives of CSOs (Mancomunidad El Pacífico, AMTRIFINIO, AMRCA, AMAS), Academia (and the private sector (Anacafé, PROCAFE, ABCAFE, Ingenio La Magdalena) Farmers and agricultural producers Women's Associations	To assess mid-term project achievements vis-à-vis expected Outcome indicator targets. To assess the performance of the Project Coordination Unit and project technical structure. To identify weaknesses to be strengthened, in order to improve project effectiveness and achieve project objectives. To know, systematize and analyze producers' perceptions on project implementation, alignment with their own expectancies, and expected Outcomes. To share the Grievance Mechanism with project stakeholders.

Final Workshop (3 months before project closure)	Project co-executing partners: MARN-ES, MARN-GT, RREE, MINEX, CILA	To disseminate project Outcomes and discuss on lessons learned for future projects. To share success stories with and within producers' organizations, as well as with other national and international agriculture sector actors. To assess project implementation, share the Final Evaluation, consult with co-executing partners, and identify weaknesses and strengths at institutional and operational levels (local and national). To consolidate inputs for the Project Terminal Report.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

Key stakeholders in Guatemala

71. The Ministry of Foreign Affairs (MINEX) is the competent authority over the bilateral relations with El Salvador, including borders and shared natural resources. Together with the Foreign Ministry of El Salvador, MINEX forms the International Commission of Borders and Water (CILA).

72. The Ministry for Environment and Natural Resources (MARN) is the supreme agency in the field of environmental goods and services. Its competencies include the formulation and application of norms which govern the use and conservation of natural resources. It plays a central role in the formulation of the National Water Policy related to water conservation, contamination and quality. Furthermore, it formulates policies on the management of watershed and coastal areas, oceans, protected areas, as well as climate change adaptation and mitigation. MARN plays a central role in the project due to its mandate to regulate and oversee management of natural resources. It is also the GEF focal point.

73. The Ministry for Agriculture, Livestock and Nutrition (MAGA) promotes the legal security, development and modernization of the agricultural sector, development of productive, organizational and commercial capacity of farmers to achieve food security and competitiveness, through clear rules which govern the access of products to national and international markets. It plays a key role in the project as the livelihood of the majority of the population in the basins is based on agriculture.

74. The National Forest Institute (INAB) is an autonomous and decentralized agency of the State, which is in charge of with the management of forestry resources. INAB is a key actor as it administers the public incentive and extension programs on forest management and conservation.

75. The National Council on Protected Areas is an autonomous state agency. It is in charge of the conservation and sustainable use of biological diversity of Guatemala. It administers the system of protected areas, seven of which form part of the project area.

76. The Secretariat of Planning and Programming of the Presidency (SEGEPLAN) is an entity with ministerial rank. It is responsible for the overall planning, and assisting the President with the formulation of the general policy as well as monitoring and evaluation of public programmes. Among its competencies are the validation of sectoral programmes and policies by public participation through the system of Departmental Development Councils. Through this process, it has direct incidence in the channelling of funds by the central government to the municipalities, among others, for water and sanitation and environmental projects. SEGEPLAN is also involved in land use planning exercises.

77. Other relevant actors include the Ministry of Public Health and Social Assistance (MSPAS). Among other competencies, MSPAS oversees development and control of the public programmes on water supply and sanitation. The Ministry of Energy and Mines (MEM) is in charge of overseeing and development of the energy and mining sectors and the related natural resources. The Institute for Municipal Development (INFOM) is a public agency in charge of strengthening the development of the municipalities, through technical and financial assistance, construction of basic infrastructure, use and management of natural resources, among others.

78. The municipalities play a key role in the management of natural resources. They coordinate and support forest and water resources management through dedicated offices and receive technical and financial assistance from the central government. Furthermore, municipalities assign use rights to public lands. These rights are the basis for the livelihood of most smallholders, particularly in the upper catchments.

79. The Municipal Forest Offices (OFM), based in the municipalities, function with the assistance and collaboration with INAB. They coordinate the public activities in forestry at the territorial level, such as promotion of incentive programs, technical assistance to the municipalities, maintenance of tree nurseries, as well as assistance to land use planning among others.

80. The Municipal Offices for water and Sanitation are responsible for the operation, maintenance and improvement of the water supply and sanitation infrastructure. Other activities include collection of water fees, registries of water extraction and discharge points, and awareness-raising programs of the importance of good water use and conservation.

81. The Committee on Natural Resources and Environment (CORNASAM) is a technical committee at departmental level, which brings together government institutions, NGOs and academic institutions which work on environmental issues. Due to the inclusive scope of its membership, it can be an important partner in the project.

82. At communal level, there are numerous committees, sometimes formed spontaneously, others based on government programmes or international assistance projects. Relevant committees include the Community Councils for Development (COCODES), which are formed based on the national development policy, and ensure community participation in the municipality. Other committees include micro watershed committees, committees of the beneficiaries of the forestry incentive programs, committees for environmental services, and producer groups and cooperatives.

83. In implementing the project, in particular the pilot projects, outreach and consultation activities, implementation will be based as much as possible on existing institutions at community level.

84. The National Coffee Association (ANACAFE) is a private association which offers technical and commercial assistance to 120,000 coffee producers in all of Guatemala, with presence in all departments. ANACAFE is an important stakeholder as coffee production represents the dominant economic activity in the middle watersheds.

85. The private Research Institute for Climate Change (ICC) funded by the sugarcane industry promotes research on mitigation and adaptation to climate change, such as climate and hydrology, adaptation of production systems, integrated watershed management, disaster risk management, and extension.

86. The University of San Carlos de Guatemala has presence in the area for actions for managing protected areas in mangrove ecosystems and for teaching agricultural programs and other social disciplines.

87. Several international organisations, multilateral, bilateral, private and civil society, are present in the project areas as project partners to local organisations. These include FAO and UNDP, the European Union, World Vision and Wetlands International. They implement programmes and projects related to sustainable production systems, conservation of natural resources, and renewable energy.

Key stakeholders in El Salvador

88. The Ministry of Foreign Affairs of El Salvador (RREE) has jurisdiction over the bilateral relations with Guatemala including the maintenance of the international borders and shared natural resources. Together with the Ministry of Foreign Affairs in Guatemala, SRE forms the International Commission for Borders and Water (CILA)

89. The Ministry of Environment and Natural Resources (MARN) is the competent authority for the implementation of national policy regarding natural resource management, including water, land and biodiversity. It is a respected institution that promotes civic culture of environmental risk reduction and works for the environmental recovery nationwide. One of main missions of the Ministry is to reduce risks and reverse environmental degradation. MARN is also the technical GEF focal point.

90. The Ministry of Agriculture and Livestock of El Salvador (Ministerio de Agricultura y Ganadería - MAG) governs all activities carried out by the State in regard to agriculture and livestock and with regard to fishing and aquaculture. This Ministry is responsible for promoting the export of agricultural produce in combination with the support of agriculture for local consumption and subsistence agriculture which is typical in developing countries. The specialized fishing unit of MAG is the National Center for Fisheries Development (CENDEPESCA) and the entity specialized in agricultural technology is the National Center for Agricultural Technology (CENTA).

91. The Hydroelectric Commission for the Lempa River (CEL) focuses on the generation and commercialization of electricity as its main activity. As a state entity, the CEL group also performs several associated functions such as monitoring and care of the Lempa river basin, development of new hydroelectric generation projects and research on alternative energy sources.

92. Other governmental institutions such as the El Salvador Municipality Corporation (COMURES), El Salvador's Environmental Fund (FONAES), the Social Investment Fund for Local Development (FISDL) and the National Council for Food and Nutritional Security (CONASAN).

93. At municipal level, the Municipalities of Chalchuapa, Ahuachapán and Sonsonate would play a central role as they include the protected areas in the basin. In addition, the municipality of Jujutla includes the Ramsar protected site Barra de Santiago. There are three associations coming from important municipalities: Asociación Micro Región Ahuachapán Sur (AMAS), Asociación de Municipios Región Centro Ahuchapán (AMRCA) and Asociación de Municipios Trifinio (Trifinio).

94. At territorial/community level, relevant organizations include the Asociación Comunitaria para la Protección Ambiental Marino Costero Ahuachapán (Istaten), the Unidad Ecológica Salvadoreña (UNES), the Asociación de Desarrollo Comunal de Mujeres de la Barra de Santiago (AMBAS), producer groups and cooperatives.

95. A number of international bilateral and non-state international agencies have implemented projects in the project area. These include Wetlands International, the Danish International Development Assistance (DANIDA), the Organization of American States (OAS) and the Inter-American Development Bank (IDB).

96. El Salvador has three universities, two private universities and one state university in its western zone: a) Universidad Católica de El Salvador (UNICAES); The University of Sonsonate (USO) and the University of El Salvador-Western Multidisciplinary Faculty based in Santa Ana.

97. The Magdalena Sugar Mill in Chalchuapa, PROCAFE and ABCAFE are important private entities in the production of sugar cane and coffee.

98. Tourism industry along the Paz river and the coastal area (Barra de Santiago) will also be among the project stakeholders.

Private sector in Guatemala

99. The National Coffee Association (ANACAFE) is a private association, which offers technical and commercial assistance to 120,000 coffee producers in all of Guatemala, with presence in all departments. ANACAFE is an important stakeholder as coffee production represents the dominant economic activity in the middle watersheds.

100. The private Research Institute for Climate Change (ICC) funded by the sugarcane industry promotes research on mitigation and adaptation to climate change, such as climate and hydrology, adaptation of production systems, integrated watershed management, disaster risk management, and extension. The ICC is willing to collaborate with a contribution valued at USD 34,324 as part of the various projects and interventions that the Institute is executing in the basin. It is probable that the ICC will collaborate also in the Salvadoran side of the basin considering it has established an alliance with CASSA (Salvadoran sugar cane Company) in order to work in three river basins in El Salvador, including the Paz river watershed.

Private sector in El Salvador

101. The Salvadoran Association of Coffee Beneficiators and Exporters (ABECAFE) is a coffee producer's trade union. The Association watches for 15,000 coffee producers at national level.

102. The Salvadoran Foundation for Coffee Research (PROCAFE) is a private entity, financed and managed by coffee producers to provide specialized technical assistance in the cultivation of coffee.

103. The Salvadoran Sugar Company (CASSA) is an agro industrial company with extensive experience in the production and commercialization of sugar and sugar cane by-products. CASSA has manifested its interest in participating in the implementation phase of this GEF proposal by contributing with USD 34,050. This amount takes part in in the various projects and interventions that CASSA is already carrying out in the Paz river basin.

104. The Tourism industry in the the Paz river watershed is a potential stakeholder as being part of the private sector. In the Department of Ahuachapán, near La Hachadura border, there is the Santa Rita Eco Park which is one of the most important and protected reserves in the country. The Eco Park is managed by the Association of Community Development Nueva Esperanza (ADESCONE), which brings together 307 families. A directive composed of some members of the community has been organized to protect the reserve and monitor mainly hunters of iguanas, alligators and birds. The association finances the salary of four of the eight ranger of the place. Two other rangers are paid by a private company and other two by FIAES, which also sponsors several conservation projects in the area

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.

1. As a complement to the institutional mechanism (output 2.2.1) and a basis for the consultations in the TDA and SAP processes, a mechanism of public participation (output 2.2.3) will be established to ensure continued consultation and validation of the SAP implementation by local and community groups. Special consideration will be given to

gender-balanced involvement of stakeholders. At least 6 committees will be established at territorial level covering the basin and both countries with representation of several key stakeholder groups (local government, civil society, indigenous groups, civil society, and private sector). These committees have the intention to include women in at least 40 % of participations.

2. The project will pay special attention to assessing the impacts of land and water degradation on vulnerable groups, such as female headed households, and identifying gender sensitive SLM solutions. For this project, gender issues are essential considerations in promoting sustainable land management at community level, but also ensuring that gender equality becomes a regular feature of the work when designing programmes and policies for land use plans and mainstreaming and upscaling of SLM on standard setting and of regional, sub-regional and country-level programme and projects.

3. The preparation of a Gender Action Plan will be initiated and will be completed during the first 6 months of project implementation.

4. The following actions will be carried out in order to enable women's participation in the project within the scope of Source to Sea management, and for the success of the watershed degradation prevention, and evaluation studies:

- Identifying women who are affected by land and water degradation in the project area (from survey and existing data).
- Determining the extent to which land and water degradation has led to, for example, a decrease in income
- Measuring the effects of problems by identifying women's current working conditions, income sources, nutritional status, socio-cultural structures (questionnaire and existing data)
- Ensuring awareness of transbounbdary S2S management, to determine the number of women (willingness) to participate in the actions to be made for transbounbdary S2S management (questionnaires and interviews)
- Giving education in-place: Describing transbounbdary S2S management with socio-economic analysis, to provide efficient use of natural resources as a source of livelihood, increasing the occupational capacity of farmer women, NGO-based production unions to ensure the effective and active organization of women in rural areas, and trainings on organizing in the form of cooperatives.
- Women champions to be sharing the experience of the projects, including best practices, with the wider public.
- Identifying ways to receive possible support for local government agencies (education, agriculture, forestry, etc.) by introducing women's issues in transbounbdary S2S management.
- Creating income sources from SLM and SFM with the Government, local Governments and Non-Governmental Organizations and proposing alternatives, providing information on government grants, incentives and loans provided by the private sector etc. (natural resource use, good agricultural practices,

handicrafts using local resources, medicinal and aromatic plants from forests, mushrooms, resins, etc., vegetable food products, animal food products, wool etc.) on the basis of applications with which they are most likely among survey.

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

Yes

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

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

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

Yes

4. Private sector engagement

Elaborate on private sector engagement in the project, if any

1. The project has engaged farmers and association of producers during the preparatory phase. Farmers will be involved as project beneficiaries, and associations will support government efforts to reach and build the capacity of farmers. In particular, the project will work with the private institutions described in paragraphs 110 to 115 of this CEO Endorsement Request document.

2. The development of the agreed TDA under Outcome 1.1, goes through a participative process that incorporates private sector actors such as CASSA and the ICC.

3. Furthermore, the establishment of a binational institutional mechanism and a consultative process to guide and oversee SAP implementation, under Component 2, involve private actors operating in the agricultural sector namely ANACAFE, the ICC, ABECAFE, PROCAFE, CASSA, as well as actors from the tourism industry of El Salvador.

4. Lastly, the "action on the ground" under Component 3, will clearly approach stakeholders from the agricultural and private sector based in the intervention area sucha as ANACAFE, ICC, ABECAFE and CASSA.

5. Risks

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):

1. The first identified risk would be that the consultation processes to agree on the TDA and SAP would take too long and would not be completed in the timeframe of the project. Its impact and probability of occurrence is moderate. Competent facilitators with experience in international processes will accompany the consultation processes. This includes capacity development of local stakeholders to participate in the process. Process will include ample space to build mutual trust and understanding, to facilitate later agreements on technical and cooperation issues.

2. Secondly, the Project could be hindered by Governments for political reasons as shared water resources are a sensitive issue of national sovereignty. The probability of this to occur is considered as moderate. Ministries of Foreign Affairs of both countries are part of the Project Steering Committee and the focus is on territorial management of watershed resources, not exclusively on water resources. Transparent and inclusive consultation processes to build mutual trust and a shared vision will be carried out.

3. Thirdly, there is a low probability of occurrence that stakeholders would not get involved into consultation processes and pilot activities. Stakeholder's participation will be in fact facilitated and inclusive consultation processes will be established. Capacity development activities will be supported by the project with involvement of local peasant organizations in order to increase awareness as well as negotiation skills. A careful selection of motivated change agents to participate in pilot activities. A Communication strategy to build awareness and understanding of the importance of the management of the watershed will be set up.

4. Fourthly, extreme hydro meteorological events (hurricanes or drought) could have a moderately high impact in project activities. The project addresses the management of this risk by designing a monitoring system which also can be used as a basis for a basin wide flood forecasting system, including evaluation of the landslide risk.

Additionally, it may be the case that no competent partner organizations can be identified to carry out project activities at local level.

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.

1. The natural resources of the transboundary Paz watershed is under the jurisdiction of the Governments of Guatemala and El Salvador. At the international level, the International Commission on Borders and Water (CILA) deals with bilateral cooperation concerning the transboundary watersheds, including providing advice and assisting the governments of both countries on border issues. The CILA may carry out research and studies, as well as to execute works previously approved by the Governments. In addition, the *Comisión Binacional del Río Paz,* facilitates the sharing of environmental issues, promotes the development of strategic alliances and advances in the consolidation of transborder environmental governance.. Therefore, given the transboundary nature of this project, CILA will play a substantial role in the execution of this project activities.

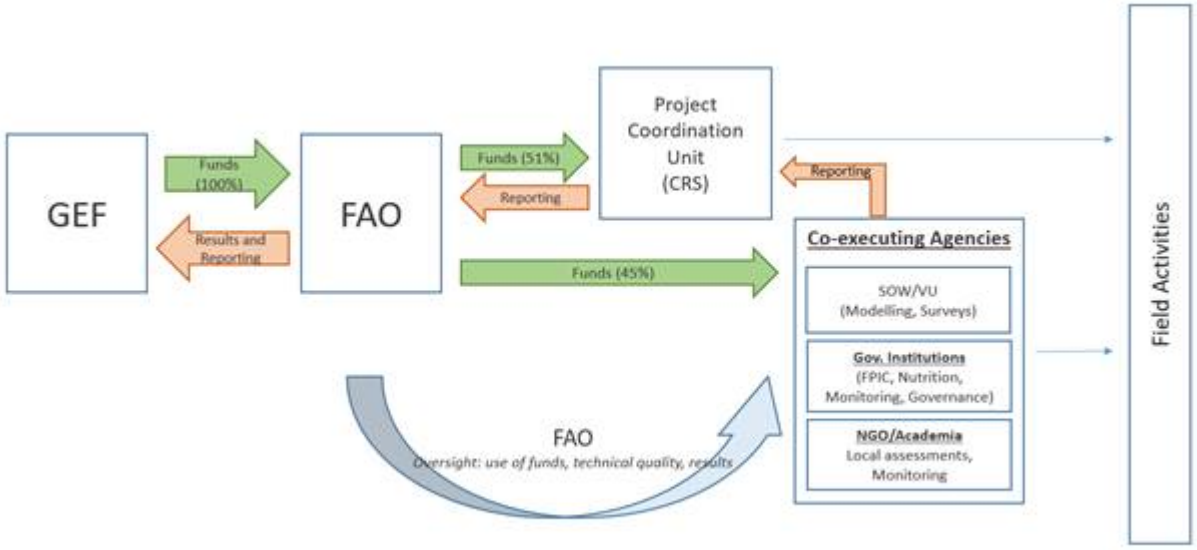
2. The key institutions dealing with transboundary issues in El Salvador and Guatemala are discussed in section 1.1.4. of the ProDoc (Agency Project Document). The Ministry of Foreign Affairs (MINEX for Guatemala and RREE for El Salvador) for each country will be the lead government counterparts and the Ministries of Environment and Natural Resources (MARN) will act as Project Executing Entities in close consultation with other line ministries and district/local governments participating in field activities. As such, the

MINEX and RREE will have the overall political responsibility, while the MARN will have the executing and technical responsibility for the project, with FAO providing technical oversight as GEF Agency. Catholic Relief Services (CRS) will act as the main execution partner and will manage the day-to-day activities in the field.

3. The Food and Agriculture Organization (FAO) has been selected by the participating countries as the GEF Implementing Agency for the proposed project, and as such, will provide project cycle management services as established in the GEF Policy. FAO will be responsible for providing oversight, technical backstopping and supervision of project implementation to ensure that the project is being carried out in accordance with agreed standards and requirements. Technical backstopping will be provided by FAO in coordination with government representatives participating in the Binational Technical Committee (see figure 6 below). FAO's role and responsibilities are described below.

4. The Ministries of Environment and Natural Resources of each country will be responsible for the overall execution of the project. Catholic Relief Services (CRS) has been selected as the main project executing agency given its activities in the project location. As such, CRS will ensure day-to-day products are delivered on a timely basis and in accordance with the annual work plans approved by the Project Steering Committee. CRS will host the project coordination unit. FAO will also transfer funds and execution responsibilities to other partners (i.e. other NGOs and other government institutions) for specific issues such as water modelling, land assessment, governance, nutrition and stakeholder participation). The overall responsibility for project execution implies accountability for intended and appropriate use of funds, as well as for timely delivery of inputs and outputs.

Figure 4. Implementation and Execution modality of the project



Roles and responsibilities of Government Partners

5. A **Binational Technical Committee** will serve as advisory body to the steering committee and include representatives from civil society, academia and private sector. Guatemala and El Salvador have indeed already established a Binational Commission with a broader mandate than CILA. This commission is a forum for bilateral coordination, consultation and negotiations between El Salvador and Guatemala. Its mandate involves cooperation on economic, commercial financial, scientific and technical issues among others. Even though CILA and the Binational Commission are a step in the right direction, they do not fully address the requirement for an integrated river basin management. The Binational Technical Committee will host the TDA and SAP consultative processes leading to an agreement on priority transboundary resource management issues between stakeholders as well as a binational mechanism for source to sea management (please refer to Output 2.2.1)

6. **National Project Director**. As mentioned above, the Ministries of Environment and Natural Resources of each country will be the main project partners. These institutions will carry out its responsibilities to support Project execution through the National Project Director (NPD). The NPD will be a senior staff member designated by each ministry, and will be the lead person responsible for ensuring smooth execution of the project on behalf of the Government (for each country). The NPD is not financed by the Project and is responsible to its corresponding government for the successful implementation of the Project and the Project's impacts. The duties of the NPD include

- acting as the responsible focal point at the political and policy level within each country, and
- ensuring all necessary support input from government personnel are provided to enable the project to implement all of the proposed component activities; and
- reviewing and providing input to annual work plans and budgets in consultation/collaboration with the FAO representative;
- and to participate in the selection of recruitment of consultants as needed.

7. **Project Coordination Unit**. The PCU will be responsible for day-to-day project execution. It will consist of a Regional Operations Manager, two National Technical Advisors (NTA, one in each country) and two project administrative assistants (one in each country). The PCU will be backstopped by part-time financial and procurement specialists, as well as by other technical experts that will be hired as needed. The PCU will consist of full-time positions financed from project resources. The structure of the PCU can change if requested by the PSC.

8. The PCU will prepare and submit the Annual Work Plan/Budget, as well as the Project Progress Reports (PPRs) to the Project Steering Committee. PPRs may be commented by the PTF and should be approved by the LTO before being uploaded by the BH in FPMIS.

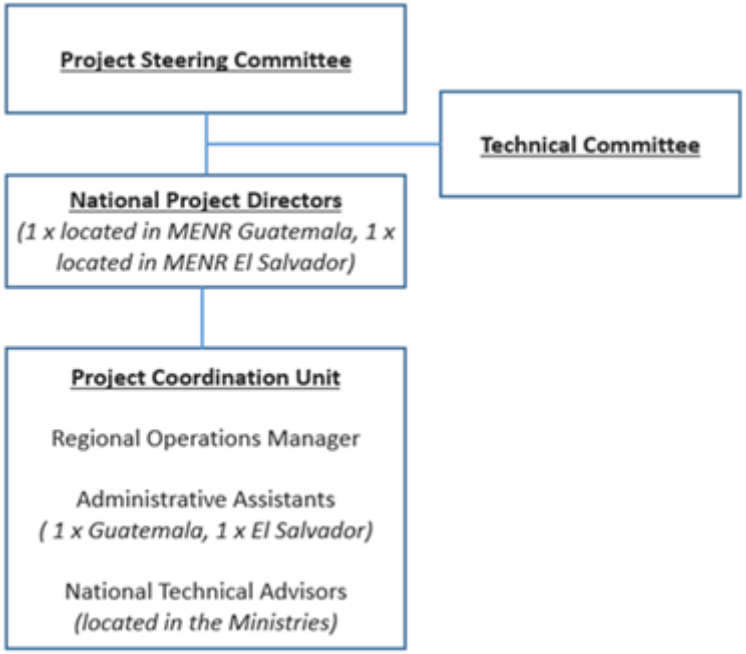
9. The PCU will also prepare the annual Project Implementation Reports (PIR) to be submitted by the BH to the FAO-GEF Coordination Unit. PIRs prepared by the PCU will serve as a tool to foresee the need of future transfer of funds

10. The **Regional Operations Manager (ROM)** will lead and organize the day-to-day execution of the project. The ROM will take the lead in communications with government and regional agencies, and advocacy. The ROM will also be responsible for providing technical advice and guidance in his/her area of technical expertise. The ROM will report on Project progress to the Steering Committee meetings, and will support the preparation of semi-annual Project Progress Reports (PPR) to the FAO Budget Holder, annual Project Implementation Reports (PIR), mid-term review and final evaluation to the FAO Funding Liaison Officer who will then submit them to the GEF Secretariat. In addition to technical and substantive duties, the ROM will:

- Ensure real-time monitoring of Project progress and the alerting of the NTAs, BH and the LTO to potential problems that could result in delays in implementation;
- Help identify consultant candidates and work with the BH to ensure their timely recruitment;
- Ensure the Project's effective and efficient work with stakeholders in the pilot areas;
- Help organize and supervise consultant inputs;
- Oversee creation of the Project's approach to managing and sharing knowledge, and to identifying and disseminating lessons learned;
- Oversee creation of a participatory monitoring and evaluation system for the Project's work;
- Communicate, advocate and engage in policy dialogue.

11. The project will have a **Project Steering Committee** at the political level to ensure that the project is implemented in line with national policies and development plans. Importantly, Ministries of Foreign Affairs of both countries, as the lead Government counterparts, will spearhead the Project Steering Committee. The PSC will approve the Annual Workplans and the delivery report submitted by the ROM before the end of the year. The delivery report will inform on the activities carried out and expenses from previous year, it ensures the financial accountability of the project. A schematic of the PSC is presented in Figure 6 below.

Figure 5. Project Governance Structure



12. All institutions pledging on co-financing to the project will form part of the Project Steering Committee.

Figure 6. GEF Project Binational Steering Committee

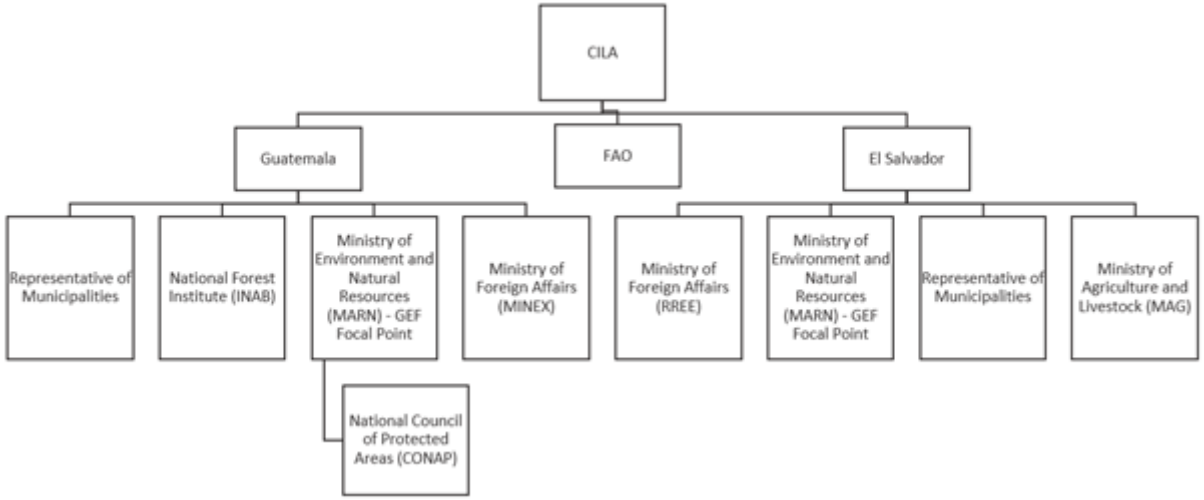
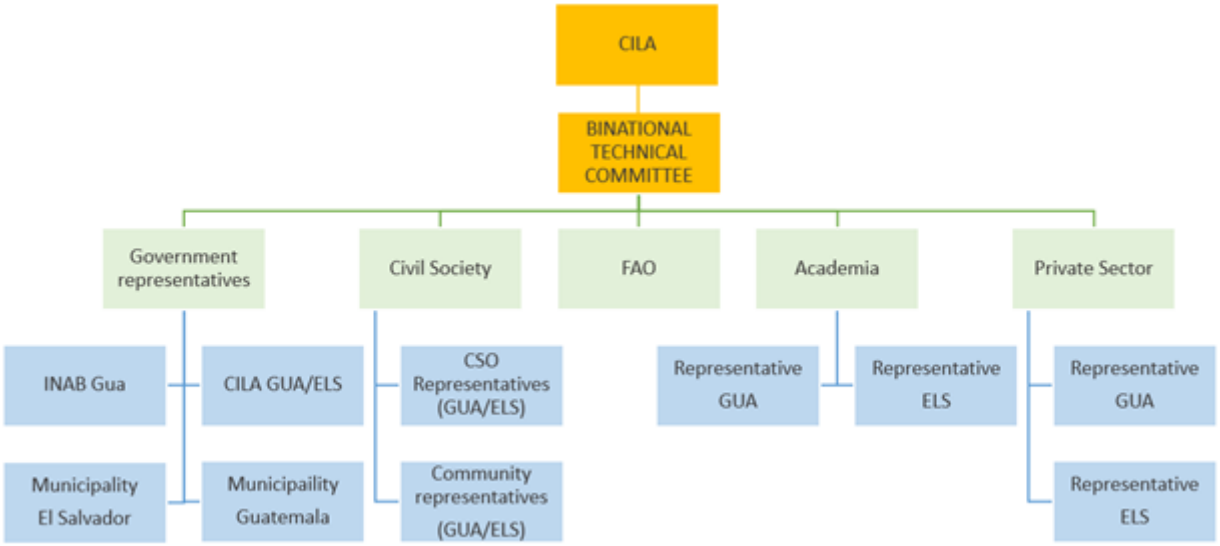


Figure 7. GEF Project Enabling Transboundary S2S management in the Paz Watershed



FAO's roles and responsibilities

FAO's role in the project governance structure

13. The Food and Agriculture Organization of the United Nations (FAO) will be the GEF Agency responsible for supervision and provision of technical guidance during project implementation. As the GEF Agency, FAO will:

- Administrate funds from GEF in accordance with the rules and procedures of FAO. This includes transfer of funds to executing partners such as CRS and other national institutions that will develop the assessment reports for the TDA and SAP;
- Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers and the rules and procedures of FAO;
- Provide technical guidance to ensure that appropriate technical quality is applied to all activities concerned;

- Conduct at least one supervision mission per year; and
- Report to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, on project progress and provide financial reports to the GEF Trustee.

14. In accordance with the present Project Document and the AWP/B(s) approved by the PSC, FAO will prepare budget revisions to maintain the budget updated in the financial management system of FAO and will provide this information to the PSC to facilitate the planning and implemementation of project activities. In collaboration with the PCU and the PSC, FAO will participate in the planning of contracting and procurement processes. FAO will process due payments for delivery of goods, services and products upon request of the PCU and based on the AWP/B and Procurement Plans that will be annually approved by the PSC

7. Consistency with National Priorities

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

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

1. The project location (Paz basin) includes agricultural areas known to use pesticides. Both El Salvador and Guatemala are State parties to the Stockholm Convention aiming to limit the use and production of Persistent Organic Pollutants. Guatemala has presented its National Implementation Plan. The objective of its plan is to conduct a national inventory of all persistent organic pollutants, as well as to prepare a national implementation plan. The plan is divided into five phases and seeks to eliminate 12 hazardous compounds that have been grouped under the name of the dirty dozen, and proposes concrete actions to strengthen the legal and institutional framework to combat them. El Salvador has elaborated its National Implementation Plan which has three priority areas: i) Pesticides, ii) PCBs, iii) Dioxins and furans.

2. The occurrence of droughts and floods demonstrates that climate change increases the urgency for the adoption of sustainable agricultural practices. Land and water management offers important opportunities for synergies between climate change adaptation and mitigation. By 2030, El Salvador has announces in its NDC that it seeks to establish and manage one million hectares through "Sustainable Landscapes and Resilient to Climate Change". This is an integrated approach to landscape restoration, where forest areas will be rehabilitated and conserved, biological corridors will be established through the adoption of resilient agroforestry systems and transformation of agricultural areas with low carbon sustainable practices, and seeking Land Degradation Neutrality. Guatemala mentions in its NDC that it plans to reduce by 11.2% its total GHG emissions (from its baseline year

2005) by 2030. The sectors of the national economy that need the most of the support for the implementation of policies and strategies to reduce emissions are: forestry, agriculture and the transportation sector.

3.Concerning the United Nations Convention to Combat Desertification, the project site is located in a region known as the Dry Corridor in Central America, which is vulnerable to high and severe drought. The significant reduction in agricultural production causes a risk of the depletion of food stocks, decreasing dietary diversity and energy intake of the affected population, while increasing cases of malnutrition in children under five. Under Output 3.1.3, the project will support the restoration of ecosystems and the promotion of sustainable agricultural practices in two pilot sites (Guatemala and El Salvador) including agricultural diversification and adoption of resilient and drought tolerant agricultural practices among others.

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.

1. GEF resources will be used to hire consultants to develop the project’s knowledge management and dissemination strategy (including links to IW: Learn "International Waters Learning Exchange & Resource Network"). Under Outcome 4.2, project results and lessons will be documented and disseminated to stakeholders and a wider audience

2. A communication strategy will be developed and implemented to inform and raise awareness of local stakeholders about the importance of basin-wide management of natural resources (output 4.2.1). This includes production of information material for different stakeholder groups, a newsletter, and appearances in local media. Furthermore, a web-based information platform will be established based on IW learn guidelines (output 4.2.2). The platform will include the datasets generated under the information system (output 1.1.2). It will be linked to the global IW platform, to allow sharing of spatial and other data, as well as document project results and lessons a variety of audiences and stakeholder groups, at national and global scale. An amount of 1% (USD 17,000) of the USD 1,685,159 GEF Grant will be allocated to these activities. Furthermore, results and lessons will be distributed through the Action Platform on Source-to-Sea Management which gathers a range of international, regional and national organizations that are working with source-to-sea approaches. The Platform provides an opportunity that complements IW:learn in the sharing of project experiences in a wide range of fora, including international conferences, and to learn from other GEF and non-GEF initiatives from different regions.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

1. GEF resources will be used to hire consultants to develop the project’s M&E system and to carry out the project evaluation as per FAO’s standards.

2. Under Outcome 4.1, results and progress will be assured based on monitoring, measurable and verifiable indicators and implementation based on the principles of adaptive management. An M&E system will be established to measure project progress and impacts in terms of multiple global environmental benefits as well as social and economic benefits

in accordance with the FAO standards and GEF IW tracking tool. The system will allow (i) a results-based monitoring system based on objectively verifiable indicators and means of verification (Output 4.1.1), (II) Annual work-plans and budget revisions (Output 4.1.2), and (III) A final evaluation according to FAO standards (Output 4.1.3).

3. Please refer to the Project Document, section 3.5 for full details. The M&E plan is summarized below:

M&E Activity	Responsible parties	Time frame/ Periodicity	Budget
Inception workshop	ROM, NTA; BH (with support from the LTO, and FAO-GEF Coordination Unit)	Within two months of project start up	USD 10,000
Project Inception report	ROM, NTA, Expert M&E and BH with clearance by the LTO, BH and FAO-GEF Coordination Unit	Immediately after the workshop	-
Field-based impact monitoring	NTA; project partners, local organizations	Continuous	USD 17,280 (9% of the ROM/NTA's time, technical workshops to identify indicators, monitoring and evaluation workshops)
Supervision visits and rating of progress in PPRs and PIRs	ROM; FAO (FAOSV, LTO). FAO-GEF Coordination Unit may participate in the visits if needed.	Annual, or as needed	FAO visits will be borne by GEF agency fees Project Coordination visits shall be borne by the project's travel budget
Project Progress Reports (PPRs)	ROM, with stakeholder contributions and other participating institutions	Six-monthly	USD 6,720 (3.5% of the ROM/NTA's time)
Project Implementation Review (PIR)	Drafted by the ROM, with the supervision of the LTO and BH. Approved and submitted to GEF by the FAO-GEF Coordination Unit	Annual	FAO staff time financed though GEF agency fees. PCU time covered by the project budget.
Co-financing reports	ROM with input from other co-financiers	Annual	USD 1920 (1% of the ROM/NTA's time)
Technical reports	ROM, FAO (LTO, FAOSV)	As needed	
Mid-term review (Not applicable)	Project team, including the FAO-GEF Coordination Unit and others	Midway through the project implementation period	Not applicable Given the length of the project, the MTR will be replaced by a Supervision mission at the end of year 1

M&E Activity	Responsible parties	Time frame/ Periodicity	Budget
Final evaluation	External consultant, FAO Independent Evaluation Unit in consultation with the project team, including the FAO-GEF Coordination Unit and others	At the end of the project	USD 50,000 by an external consultancy. FAO staff time and travel costs will be financed by GEF agency fees.
Terminal Report	ROM; FAO (FAOSV, LTO, FAO-GEF Coordination Unit, TCS Reporting Unit)	Two months prior to the end of the project.	USD 6,550
Total budget			**USD 92,470**

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 (LDCF/SCCF)?

1. Expected global environmental benefits are: (i) contribution to the protection of shared water resources in the Paz basin through building foundations for a cooperative management of watershed resources following the source to sea approach, (ii) Contribution to the protection of globally important ecosystems maintained by the water resources, (iii) Contribution to mitigation of climate change through sustainable forest management, (iv) Contribution to reduction of land degradation through strengthening SLM approaches, and (v) Inventory of POPs-contaminated wastes in the project area and DDT stockpiles up to 15 tons re-packed.

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
Objective: To develop a shared vision for source to sea management of the binational Paz transboundary watershed							
Component 1: Common knowledge base for source to sea (S2S) management							
Outcome 1.1 Informed consensus between El Salvador and Guatemala on critical S2S and transboundary flows	Agreement on ministerial level on the TDA document (**GEF indicator)**	No agreement	--	Regional agreement on priority TB issues drawn from valid effect baseline, immediate and root causes properly determined	Official government communications	Overall relation between governments of Guatemala and El Salvador are cordial Governments show interest in the process	Ministries of Foreign Affairs from each country INAB (National Forest Institute) ICC (Research Institute for Climate Change) San Carlos University University of El Salvador

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 1.1.1: Transboundary Diagnostic Analysis (TDA) with agreement on: (i) Key flows of water, sediments, pollutants, material, food and ecosystem services; and (ii) State of S2S segments and indicators of current conditions	Agreed text of the TDA document by project steering committee	No document	Draft TDA available based on limited baseline information, partial causal chain analysis	Agreed TDA document, including causal chain analysis	Publication of TDA document; minutes of steering and technical committee meetings	Constructive relationship between partners from Guatemala and El Salvador at technical level Regarding the private sector, CASSA and ICC have already established an alliance in order to work together in the Paz river basin.	MARN-ES MARN-GT
	TDA validated by local committees at territorial level	No inputs	Inputs from at least 3 committees	Validation by 6 committees	Minutes of meetings, resolutions of committees	Commitment of local actors to support TDA/SAP process	MARN-ES MARN-GT
Output 1.1.2: Transboundary S2S monitoring and information management system, developed and pilot tested	Proposal on the monitoring and information management system formally adopted by the project steering committee	No proposal	Draft proposal available	Proposal adopted	Minutes of meeting of the steering committee	Agreement on variables, standards, methods and data sharing modalities	MARN-ES MARN-GT

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
	At least 3 datasets from hydrological, pesticides and land use monitoring available to the public in the information management platform	No data, no platform	1 dataset, draft platform design	3 datasets, platform functioning	Content of the information platform	Technical capacity of institutions sufficient	MARN-ES MARN-GT MinAG-ES MinAG-GT
Component 2: Enabling conditions and governance mechanisms for S2S management							
Outcome 2.1 Support to common objectives and to undertake priority reforms and investments in S2S management	Agreement at ministerial level on strategic action programme, investment needs and governance framework	Only agreement on delimitation of the border through CILA	---	Official agreement	Official government communications	Overall relation between governments of Guatemala and El Salvador are cordial Governments show interest in the process	Ministries of Foreign Affairs
Output 2.1.1: Agreed Strategic Action Programme (SAP) for the Paz basin	SAP document agreed at ministerial level **(GEF indicator)**	No development of SAP	SAP developed, including clear targets, commitments and time frames addressing key TB concerns spatially	SAP signed on ministerial level	Official government communication, signed SAP document	Overall relation between governments of Guatemala and El Salvador are cordial Governments show interest in the process	MARN-ES MARN-GT

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
	SAP document validated at territorial level	No development of SAP	SAP input by at least 3 territorial committees	SAP document validated by 6 territorial committees	Official government communication, signed SAP document	Overall relation between governments of Guatemala and El Salvador are cordial Governments show interest in the process	MARN-ES MARN-GT Local Municipalities Local communities
Output 2.1.2: Partnership conference on sustainable financing of SAP implementation	1. % of amount needed to finance full SAP implementation pledged by at least 4 actors in both countries based on costing study 2. Funds leveraged by the private sector **(GEF indicator)**	1. 0 % 2. 0 USD	-- --	1. 50 % 2. 4 m USD	Declarations of commitment of institutions and private companies; budget allocations	Actors are involved in the TDA / SAP process and see clear benefits in S2S management	PCU
<u>Outcome 2.2</u> Institutional mechanisms in place and enhanced stakeholder awareness of transboundary S2S management							

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 2.2.1: Binational mechanism for S2S management in the Paz Watershed established	Mechanism with balanced representation of government, civil society and private sector from both countries meeting at least 2 times per year	Only intergovernmental mechanism at the level of Foreign Affairs (CILA)	Mechanism established, 2 meetings to review TDA and SAP progress	2 meetings to validate and formally adopt TDA and SAP	Statute of the mechanism, minutes of meetings	Commitment of key actors to participate	CILA-ES CILA-GT
Output 2.2.2: Inter-ministry committees for S2S management established in each country	Meetings of inter-ministerial committees with participation of relevant line ministries, at least foreign affairs, environment, water, functioning in both countries	No IMC exists	1 IMC meeting in at least 1 country	1 IMC meeting in each country (adoption of TDA/SAP documents)	Official government communications, minutes of meetings	Agreement on participating line ministries; government commitment toestablish IMCs	MARN-ES MARN-GT

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 2.2.3: Mechanism for public participation established: considering gender-balanced involvement of stakeholders, including indigenous peoples, at all levels and across S2S segments	1. At least 6 committees established at territorial level covering the basin and both countries with representation of at least 30 key stakeholder groups (local government, civil society, indigenous groups, civil society, private sector) 2. At least 40 % of participants in all events are women 3. Local project interventions validated in line with FPIC guidelines	1. No committees 2. 3. No validation	1. 3 committees established representing at least 15 stakeholder groups 2. -- 3. 3 pilot projects validated	1. Six committees established, 30 stakeholder groups 2. 40 % women's participation 3. --	Minutes of meeting, resolutions of committees	Interest of stakeholder groups	PCU (MARN) FAO
Component 3: Demonstration of S2S management approaches and practices							

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Outcome 3.1 On-the-ground benefits of S2S management demonstrated for selected flows	3 demonstration projects implemented in communities of Guatemala and El Salvador	0 projects implemented	3 projects in 4 communities under implementation	3 projects implemented in 6 pilot areas	Project documentation		MARN-ES MARN-GT
Output 3.1.1: Ecosystem flows: Co-management model for coastal lagoons supporting sustainable livelihoods and ecosystems	Area covered by co-management plans **(GEF indicator)**	0 ha, no management plan	ha covered by 1 management plan	1500 ha covered by 2 management plans (1 in each country)	Territorial extension of participating communities, management plan documents	Participation of local partners	MARN-ES MARN-GT
Output 3.1.2: Food and water flows: Improvement of diets based on the promotion of fish consumption and aquaculture	% of increase in fish consumption in pilot communities	0 (relative to proposed project)	--	5% increase over baseline	Project documentation	Regular participation of local partners	Local Municipalities MAG MARN

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 3.1.3: Sediment and water quality flows: Improving the knowledge base on integrated SLM approach in the upper watershed	Area covered by SLM practices by participating farmers in pilot communities **(GEF indicator)**	0	--	200 ha (pilot) and 100 farmers	Project documentation	Regular participation of local partners, as well as coffee producers assciations such as ANACAFE, ABECAFE and PROCAFE	Local Municipalities INAB MARN

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 3.1.4: POPs and HHPs reduction of use: increasing awareness on environmental harm from POPs and HHPs use to avoid further introduction in the food chain by addressing different steps of the life cycle pesticide management approach such as prevention, disposal and testing alternatives	Quantity of obsolete pesticides disposed off.	15 Mt of stock of obsolete DDT reported by Government Use of Endsulfan and other POPs/HHPs in the agriculture area	Contracts for disposal operations approved; 70 tons of HHP avoided Availability of data on quantities used in seveal crops	15Mt of DDT removed from contaminated site 140 tons of HHP avoided in coffee and banana sectors Introduced alternative	Certified report of international transport and incineration of a certain quantity of obsolete DDT;	Contracts fro disposal operations approved by relvant authorities; Collaboration of the public/private sector	FAO-ES MARN-ES
Component 4: Adaptive and Results Based Project Management and Visibility							
Outcome 4.1 Results and progress are assured based on monitoring measurable and verifiable indicators and implementation based on the principles of adaptive management. -	Clear presentation of results, including global environmental benefits, based on objectively verifiable indicators and information sources	All indicators with quantifiable targets	Progress evaluated based on indicators	Overall results evaluated based on indicators	Evaluation report		MARN-ES MARN-GT
Output 4.1.1: Results-based Monitoring and Evaluation strategy with objectively verifiable indicators and means of verification	See outcome indicator						PCU (MARN) FAO (PIR)

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 4.1.2: Annual work-plans and budgets with progress indicators defined for each outcome	Work plan and budget available	Workplan and budget for year 1	Work plan and budget for year 2	Final report on activities and budget	Project reports		PCU (MARN) FAO (Transfer of resources)
Output 4.1.3: Final evaluation	Number of evaluations completed			Final evaluation	Evaluation reports		PCU FAO (Evaluation Office, OED)
Outcome 4.2 Project results and lessons documented and disseminated to stakeholders and a wider audience	1. Number of publications on project results and lessons 2. Number of local actors aware of the source to sea process	1. No publications 2. 0 persons	1. 3 publications 2. 100 stakeholders	1. 6 publications 2. 300 stakeholders	Publications Distribution of information material Participation in project events		MARN FAO

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 4.2.1: Communication strategy in place	1. Number of appearances in local media (articles, radio or TV) 2. Number of participants in project activities with increased awareness about importance and objectives of source to sea management	1. 0 2. 0	1. 10 2. 100	1. 30 2. 300	Newspaper articles,recrdings of radio and TV programmes, printouts from webpages Survey among participants		PCU (MARN)
Output 4.2.2: Web-based information platform based on IW:Learn guidelines to document and disseminate project results and lessons to a variety of audiences and stakeholder groups at national and global levels	1. Web-based platform functional and linked to IW learn 2. Number of publications and datasets on the platform'	1. No platform 2. 0	1. Platform in test stage 2. 3 publications or datasets	1. Platform fully functional 2. 6 publications or datasets			PCU (MARN)

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).

GEF Secretariat Review for Full Sized Project
Basic Information

GEF ID
10074
Countries

Regional

Project Title
Enabling concerted Source to Sea management in the Paz river watershed
GEF Agency(ies)
FAO

Agency ID
FAO: 647343
GEF Focal Area(s)
Multi Focal Area

Program Manager
Christian Severin

CEO Approval Request
Part I – Project Information

1. Focal area elements. Is the project aligned with the relevant GEF focal area elements as indicated in Table A and as defined by the GEF 7 Programming Directions?
Secretariat Comment at PIF/Work Program Inclusion
15th of November 2018: The proposal is aligned with the IW focal area mandate, however, considering the scope of the project, please address the funding to be coming from the strategic action "enhancing regional and national cooperation on shared freshwater - surface and ground water basins.

The project is weakly aligned to the chemicals and waste focal area. The disposal of a small amount of DDT does not strongly justify the utilization of chemicals resources for this project.

Agency Response
Funding coming from IW-3-6 has been duly addressed.
The text has been revised since proposed project activities consider more than just the disposal of a limited quantity 15 tons of obsolete DDT. Activities will, additionally, address the new programming lines of the Chemicals and Waste program 2 on Agriculture Chemicals in which the target is to reduce Endosulfan, Lindane and HHPs from the food chain. This will be done through the life cycle approach, in fact prevention from use, decisional making process, elimination of waste and testing of alternatives will be the key activities. FAO is preparing an Agrichemical program under GEF that will consider the elimination of use of several POPs/HHPs from key crops such as coffee and other. This work will be aligned to the mentioned programme. Agriculture is known as the primary polluter to the watershed, hence the project will contribute to the reduction of exposure and release of POPs to protect human health and the environment. From the baseline, it is well known that water is contaminated with dozens of chemicals from agricultural activities. Presently in use, pesticides are mainly provided to farmers under government incentives programmes; thereby this problem has to be addressed through a better decision-making process. Concerning pesticides used in the project area, the situation can be described as follows:
At upper catchment level: Coffee is cultivated above 900 masl---application against coffee rest and coffee berry borer of Endosulfan (there are records on the use of 14 tons of Endosulfan and 55 tons of Paraquat in the coffee sector in Guatemala in 2015).

At middle catchment level: Use of Glyphosate and other herbicides (Paraquat) for corn production. A global ban on the use and manufacture of Endosulfan was considered under the Stockholm Convention on Persistent Organic Pollutants due to the threats it poses to the environment

2. Project description summary. Is the project structure/ design appropriate to achieve the expected outcomes and outputs as in Table B and described in the project document?

Secretariat Comment at PIF/Work Program Inclusion

15th of November 2018: Considering the large focus on DDT removal through the project interventions, there is a lack of agricultural sector engagement, both through the TDA formulation process as well as the following SAP. The lack of private sector engagement is especially obvious when looking at activities. Please reformulate so that private sector engagement becomes an integral part of the TDA/SAP process, including the formulation of financing strategy for the SAP implementation. A stronger private sector engagement description, will also make it easier to understand how the project will be able to move from the 0 USD private sector funding leveraged to the 4 mio USD leveraged by the end of the project.

Agency Response

Noted, the engagement of the agricultural sector, as well as private sector, has been reflected in the TDA formulation process as well as in the development and agreement of the SAP.

The inclusion of private sector stakeholders in project activities is demonstrated in paragraphs 48, 50, 52, 53, under subsection 3) “The proposed alternative scenario with a description of outcomes and components of the project.”
The involvement of the agricultural sector in the TDA and SAP has been integrated in the CEO ER and is emphasized in paragraphs 47, 49

Regarding the funding leveraged from the private sector under Output 2.1.2, perhaps it would be appropriate diversify the portfolio of potential funding sources and to consider other financial mechanisms and instruments, aside from the private sector. Other potential funding sources are :

- State budget (through environmental taxes)
- Agricultural sector (tax on export of agricultural products, certified products/eco-labeling of coffee, sugarcane)
- Tourism sector (international tourist rates in airports, tax on the agricultural industry)
- Payment for Environmental Services (associated with mangroves)

4. Co-financing. Are the confirmed amounts, sources and types of co-financing adequately documented, with supporting evidence and a description on how the breakdown of co-financing was identified and meets the definition of investment mobilized, consistent with the requirements of the Co-Financing Policy and Guidelines?

Secretariat Comment at PIF/Work Program Inclusion

15th of November 2018: Please identify which category the different sources of cofinancing falls under. Secondly, please double check the cofinancing from FIAES, as the cofinancing letter mentions cofinancing to be allocated from 2017, 2018 and 2019. Considering this is November 2018, it seems likely that the cofinancing from 2017 and most likely 2018 may not materialize.

Agency Response

Duly noted, sources of co-financing fall predominantly under Recurrent Expenditures.

Regarding the co-financing from FIAES, only the cofinancing from 2019 it's expected to materialize and this is reflected in the numbers of the CEO Endorsement Request.

8. Core Indicators. Are the targeted core indicators in Table E calculated using the methodology in the prescribed guidelines? (GEF/C.54/Infxxx)
Secretariat Comment at PIF/Work Program Inclusion
15th of November 2018: Please look at the core indicators reported. It seems that the 15t chemicals may be inserted at the wrong place, if this indeed is an output target of the investment. Further, it seems that a value is missing for sub indicator 7.3, and 5.2 please fill in

On core indicator 10 there is no value included.

Agency Response
15 Tons of DDT were inserted under Indicator 9.1 Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type) since the proposal aims at identifying and re-packing up to 15 tons of DDT stockpiles

Regarding sub indicator 7.3, an inter-ministerial committee for S2S management will be established in each country under Output 2.2.2. No IMC exists at the moment. Support to undertake priority reforms in S2S management will be provided under Outcome 2.1. A rating of 1 has been inserted under sub indicator 7.3

As for sub indicator 5.2, the Pacific Central American Coastal LME has been selected.

Concerning Indicator 10, Output 3.1.4, has been revised. As final target, 15 tons of DDT, a pesticide listed in Annex B of the Stockholm Convention, will be removed from a contaminated site in El Salvador. Indicator 10 requires only to provide information on the amount of emissions from chemicals listed in Annex C of the Stockholm Convention.

Part II – Project Justification

1. Project Description. Is there sufficient elaboration on how the global environmental/ adaptation problems, including the root causes and barriers, are going to be addressed?
Secretariat Comment at PIF/Work Program Inclusion
15th of November 2018: Partly,

1) for the most part, but the activities leading to the 15 t chemicals being removed seems to lack. Please include.

2) The TDA formulation process described in the results framework, seems to focus on Ministries of Foreign Affairs to be main entities for collecting data for inclusion into the TDA. One of the strengths of the TDA/SAP process is that is based on science, many times derived from research institutions and universities. these entities seem to be lacking. Please include.

3) Subcomponent 2.1.2 describes an exit strategy including a donor conference to leverage funds for SAP implementation, please consider if it makes sense to specifically mention the IFIs that are active in the region.

4) Please elaborate on how the project through its activities envision in mobilizing the ambitious amount of 4 mio USD from the private sector. It is encouraging to see, but would be interesting to learn what process will be put in place.

5) Please consider if the end of the para 17 may need to be reformulated " Recently, hurricane Mitch (1998) and Hurricane Stan (2005)" , of course this is all relative, but 20 years ago, may in some instances not be considered "recently".

Agency Response
1. Noted. The activities leading to the removal of chemicals include: Reporting to the Government about the presence of the 15 tons of obsolete DDT, approval of contracts for disposal operations and the international transport and incineration of obsolete DDT. This is highlighted in the Project Results Framework, Annex A, under Output 3.1.4.
2. Noted. The main entities responsible of collecting the data will be Ministries of Environment and Natural Resources of each country, acting as Project Executing Entities, in close consultation with other line ministries and district/local governments participating in field activities. Research institutions and universities from both countries have also been included as responsible entities for data collection under Outcome 1.1.
3. Noted. Active relevant IFIs in the region include FUSADES, FONAES, and FONTAGRO, the World Bank, the Inter-American Development Bank and the Central American Bank for Economic Integration.
4. Noted. Given the fact of the ambitious amount of leveraging USD 4,000,000, and as stated earlier for point 2 under part I of this response sheet, it is pertinent to expand the portfolio of potential funding sources for the SAP. Other potential funding sources are :
- State budget (through environmental taxes)
- Agricultural sector (tax on export of agricultural products, certified products/eco-labeling of coffee, sugarcane)
- Tourism sector (international tourist rates in airports, tax on the agricultural industry)
- Payment for Environmental Services (associated with mangroves)
- Grants or in-kind contributions from other multilateral and international institutions

5. Noted and addressed. Please refer to paragraph 17 of the CEO Endorsement Request.

3. Project Description. Is there an elaboration on the proposed alternative scenario as described in PIF/PFD sound and adequate? Is there more clarity on the expected outcomes and components of the project and a description on the project is aiming to achieve them?
Secretariat Comment at PIF/Work Program Inclusion
15th of November 2018: yes

The project is quite weak on the linkages to the chemicals focal area as the majority of the work is disposal of a small stockpile of DDT.

Agency Response
The disposal will be only one part of the activities that are tackling prevention and decisions making process with the scope of eliminating the use of DDT and HHPs in agricultural area related to the watershed. Capacity building, awareness raising, and testing of alternatives to the use, in particular, of Endosulfan on coffee against Coffee Berry Borer will be the main interventions.

FAO applies a holistic approach and involvement of local associations of farmers, governmental programs that are subsidizing pesticides and ministerial focal points from environment and agriculture will be essential for apply the theory of change and transform the cropping systems.

4. Project Description. Is there an elaboration on how the project is aligned with focal area/impact program strategies?
Secretariat Comment at PIF/Work Program Inclusion
15th of November 2018: Yes

The project while seeking to reduce 15 MT of DDT does not link this to the agricultural sector. Are there relevant agricultural chemicals being addressed by the project and if so how is the core work of FAO being leveraged to create the enabling conditions for the introduction and deployment of alternatives both chemicals and non-chemical. As it is currently described the alignment to the GEF 7 CW strategy is very weak as it is not addressing the sound management of GEF relevant chemicals in the agriculture sector.

Agency Response
The intervention at level of POPs and agrichemicals is a necessary condition for sustainable land and landscape management. POPs and Highly Hazardous Pesticides in agriculture production are responsible for the decrease of water quality, menace to food security and safety, depletion of ecosystem services and, last but not least, a threat to adequate nutrition.
By addressing different steps of the pesticides life cycle (POPs and HHPs), the project aims at raising awareness on the prevention rather than other future cleanup operations, which are very expensive and not decisive. The activities of this Component part will comprehend the disposal of around 17 tons of DDT, Aldrin and Endosulfan, capacity building on agricultural waste management and research on alternatives to the use of hazardous POPs and HHPs.

One key example is the extensive use of Endosulfan on coffee borer. To intervene on and change this type of unsustainable cropping system, which is causing depletion of ecosystem services, pollution in water and contaminated food, it is important to address all the causes that bring, as the effect, to the pollution burden of the territory (soil, water and food). Clean up is only an activity aiming at the upstream of pesticides management.

5. Project Description. Is the incremental reasoning, contribution from the baseline, and co-financing clearly elaborated?
Secretariat Comment at PIF/Work Program Inclusion
15th of November 2018: yes

On the chemicals linkages this is very weak.

Agency Response
Duly noted. Linkages to the Chemical & Waste focal area have been included under subsection 5 of the CEO ER document.
The description of the Chemical & Waste focal area related activities funded by the GEF incremental financing for each of the components demonstrates this linkage in a more clear manner.

10. Stakeholders. Does the project include detailed report on stakeholders engaged during the design phase? Is there an adequate stakeholder engagement plan or equivalent documentation for the implementation phase, with information on Stakeholders who will be engaged, the means of engagement, and dissemination of information?

Secretariat Comment at PIF/Work Program Inclusion

15th of November 2018: Stakeholder groups have been identified and there is description alluding to the multiple stakeholder groups will be engaged. However, it is a bit less clear what the engagement during project preparation was (please describe) and what process will be rolled out for stakeholder engagement during the project implementation.

Agency Response

Duly noted, a proper stakeholder engagement plan has been elaborated under section 2. Stakeholders of the CEO Endorsement Request.

11. Gender equality and women's empowerment. Has the gender analysis been completed? Did the gender analysis identify any gender differences, gaps or opportunities linked to project/program objectives and activities? If so, does the project/program include gender-responsive activities, gender-sensitive indicators and expected results?

Secretariat Comment at PIF/Work Program Inclusion

15th of November 2018: Please include gender analysis

Agency Response

Noted. The preparation of a gender action plan has been incorporated in section 3 Gender Equality and Women's Empowerment of the CEO ER document.

12. Private sector engagement. If there is a private sector engagement, is there an elaboration of its role as a financier and/or as a stakeholder?

Secretariat Comment at PIF/Work Program Inclusion

15th of November 2018: Yes, Private sector identified, but please include more information on how private sector will be engaged through the TDA/SAP process

Agency Response

Noted. Output 1.1.1 stresses that the developed TDA will be agreed between all the stakeholders, including the private sector. As for the SAP, it will be developed and agreed by the partners based on the TDA, following a participative and inclusive process including all key stakeholders, involving the private sector.

Furthermore, the private sector will be part of the binational technical committee, which serves as a forum for both TDA and SAP.

Subsection 4 on Private Sector Engagement has been further developed.

15. Consistency with national priorities. Has the project described the consistency of the project with identified national strategies and plans or reports and assessments under the relevant conventions?

Secretariat Comment at PIF/Work Program Inclusion

15th of November 2018: Yes, however, please ensure that both countries current focal points have signed off on the endorsement letters. It seems that the Focal Point from El Salvador has changed. Please double check

Agency Response
Noted. Nevertheless we resubmitted this project on October 25th,2018, and the Operational Focal Point for El Salvador changed on November 26th, 2018.

As stated in the Guidelines on the project and program cycle policy: the Letter of Endorsement is signed by the current GEF OFP (by the time when the project is submitted to the Secretariat).

16. Knowledge management. Is the proposed "Knowledge Management Approach" for the project adequately elaborated with a timeline and a set of deliverables?
Secretariat Comment at PIF/Work Program Inclusion
15th of November 2018: Yes, however, please include in paragraph 131, that the project will be allocating a minimum of 1% of the GEF IW grant to support IWLEARN related activities.

Agency Response

Point taken. The link to IW:Learn is taken into account in the project budget and consists of USD 17,000 under Outcome 4.2.This has been reflected now in paragraph 143 as requested.

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

Project Preparation Activities Implemented	*GETF/LDCF/SCCF Amount ($)*		
	Budgeted Amount	***Amount Spent Todate***	***Amount Committed***
Lead National consultantants	13,500	7,984	
Indigenous people consultant	2,000	2,000	
Project Design Specialist	16,000	16,000	
Economist	0	10,000	
S2S Expert	2,500	2,500	
Translation	1,000	1,707	
Travel – International	8,000	7,057	
Travel – National	6,500	2,093	
Miscellaneous	500	659	
Total	50,000	50,000	

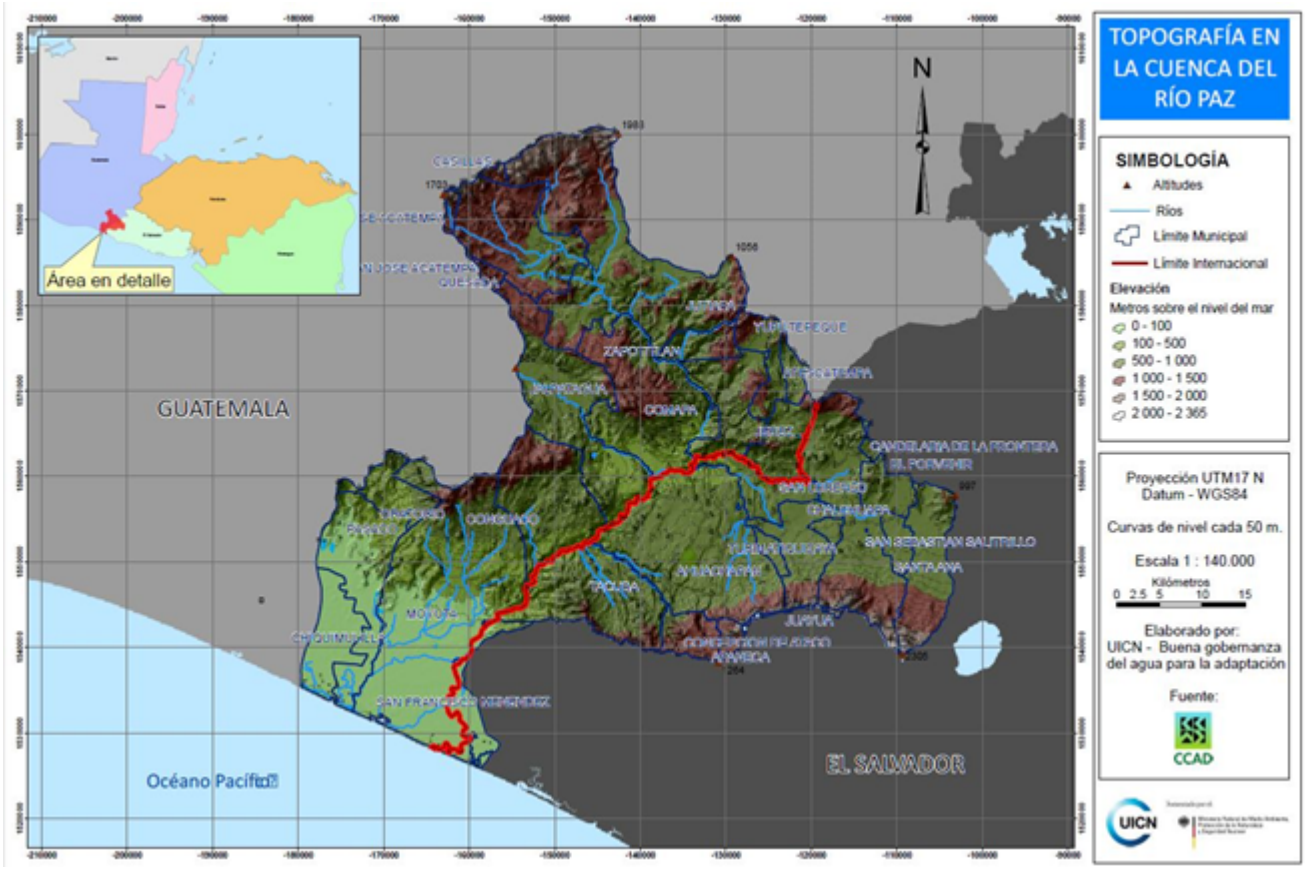
ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

N/A

ANNEX E: Project Map(s) and Coordinates

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



TOPOGRAFÍA EN LA CUENCA DEL RÍO PAZ

SIMBOLOGÍA

- Altitudes
- Ríos
- Límite Municipal
- Límite Internacional

Elevación

Metros sobre el nivel del mar

- 0 - 100
- 100 - 500
- 500 - 1 000
- 1 000 - 1 500
- 1 500 - 2 000
- 2 000 - 2 365

Proyección UTM17 N
Datum - WGS84

Curvas de nivel cada 50 m.

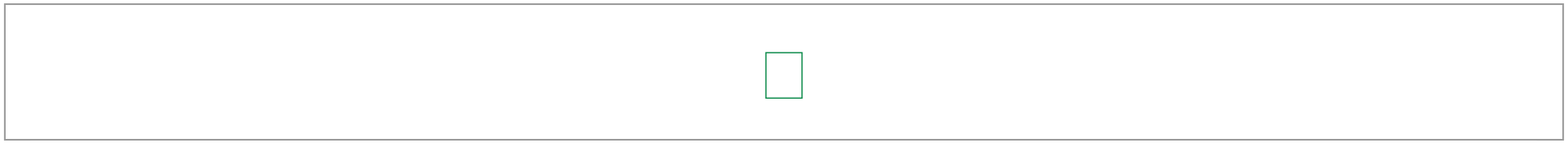
Escala 1 : 140.000

Kilómetros
0 2.5 5 10 15

Elaborado por:
UICN - Buena gobernanza del agua para la adaptación

Fuente:
CCAD

UICN



Submitted to GEF Secretariat Review

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