GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Full-sized Project
TYPE OF TRUST FUND:GEF Trust Fund
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PART I: PROJECT INFORMATION

Project Title:	Implementation of the Strategic Action Programme to ensure Integrated and Sustainable Management of the Transboundary Water Resources of the Amazon River Basin Considering Climate Variability and Change[1].		
Country(ies):	Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela	GEF Project ID:[2]	9770
GEF Agency(ies):	UN Environment	GEF Agency Project ID:	01561
Other Executing Partner(s):	Amazon Cooperation Treaty Organization (ACTO), Ministry of Foreign Affairs, Directorate General of Boundaries and Borders (Bolivia); National Water Agency, ANA (Brazil); Ministry of Environment and Sustainable Development (Colombia); Secretariat of Water, SENAGUA (Ecuador); Ministry of Public Works and Communication (Guyana); National Water Authority, ANA (Peru); Ministry of Foreign Affairs (Suriname); Ministry of People's Power for Eco-socialism and Water (Venezuela)	Submission Date: Resubmission Date: Resubmission Date: Resubmission Date:	03 March 2017 24 March 2017 31 March 2017 29 September 2017
GEF Focal Area(s):	Multi Focal Area	Project Duration (Months)	48
Integrated Approach Pilot	IAP-Cities ☐ IAP-Commodities ☐ IAP-Food Security ☐		Corporate Program: SGP ☒
Name of parent program:	[if applicable]	Agency Fee ($) [3]	1,056,220

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES[4]

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	**Trust Fund**	**(in $)**	
		GEF Project Financing	**Co-financing**
IW-1 Program 2 (select) (select)	GEFTF	254,736	4,280,000
IW-2 Program 3 (select) (select)	GEFTF	1,600,000	8,450,000
IW-2 Program4 (select) (select)	GEFTF	9,500,310	93,571,713
BD-4 Program 10 (select) (select)	GEFTF	243,119	1,650,000
CCM-2 Program 4 (select)	GEFTF	82,569	450,000
LD-1 Program 1 (select) (select)	GEFTF	55,046	100,000
SGP [5]	(select)		
Total Project Cost		**11,735,780**	**108,501,713**

[1] The vision of Bolivia in relation to the management of natural resources is based on the implementation of their own models of sustainable development, including the concept of living well in harmony with nature, recognizing the rights of Mother Earth, and considering nature as a subject with its own rights and not as an object of purchase and sell in the market.
[2] Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.
[3] This amont is not refective of the 5% SGP fee which would bring the total fee amount to 1,112,220
[4] When completing Table A, refer to the excerpts on GEF 6 Results Frameworks for GETF, LDCF and SCCF and CBIT guidelines.
[5] This total does not reflect **USD 1M of SGP** resources anticipated to support the delivery of this project.

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: Implementing the Strategic Action Program (SAP), promoting Integrated Water Resources Management (IWRM) and source-to-sea approaches, to improve ecological, social and economic benefits and, enabling the countries to meet their relevant SDG and convention targets in the Amazon basin.						
Project Components	**Financing Type[6]**	**Project Outcomes**	**Project Outputs**	**Trust Fund**	**(in $)**	
					GEF Project Financing	**Co-financing**
Component 1: **Community-to-cabinet innovative IWRM governance model for the Amazon basin** ***Responding to SAP Strategic Actions(SAs):*** *1a. Support the strengthening of institutional frameworks to improve the basin-wide IWRM* *1b. Implementation of an integrated regional information platform on IWRM.* *1c. Promoting and developing regional cultural, educational and artistic activities related to water resources and climate change in the Amazon Basin*	TA	1.1 Innovative, bottom-up water governance leading to improved ecosystem status and livelihoods 1.2 Institutionally strengthened ACTO for improved basin-wide management	1.1 Building on national and regional experiences, a reinforced **basin – wide institutional and policy framework** (i.e. policies, policy instruments and management tools) supporting water governance including *inter-alia*: • Documented management principles; • Formal cooperation partnership arrangements among Amazonian partners, programs, projects and initiatives; • IWRM management tools, linking national water	GEFTF	2,747,515	60,335,869

[6] Financing type can be either investment or technical assistance.

			data systems into an integrated platform (4 data systemes linked by mid-term; 8 by end of project), promoting IWRM decision making and public knowledge and participation. • A compendium of cultural, artistic and educational practices in support of water resources management and climate change in the Amazon Basin (in Spanish, Portuguese, Dutch and English) • Documented recommendations to strengthen the role of ACTO in IWRM in line with its strategic cooperation agenda. 1.2 **National policies** enabling the establishment of water authorities in Suriname and Guyana (At least one new policy agreed in each country by mid-term) 1.3 Innovative **incentive-based financing mechanisms** supporting SAP			

			implementation in context-specific geographies according to national priorities and legislation (at least 4 countries have new incentive based mechanisms by end of project), including *inter-alia* and as relevant: - water funds; - Green/climate bonds; - Payment for ecosystem services; - Carbon pricing; - Web-based expressions of interest; - Themed campaigns; - Public -private engagement.			
Component 2: **Building community resilience and bio-aquatic ecosystem protection to address impacts of climate variability and change in the Amazon basin** ***Responding to SAP SAs:*** *2a. Up-scaling of Forecasting and Alert Systems for extreme hydro climatic events (droughts and floods)* *2b. Protection of Coastal zones of Amazon countries, which are adversely affected by sea level*	TA	Strengthened Amazon communities able to adapt to extreme hydrologic events and sea level rise, strengthening livelihoods and reducing ecosystem pressures. Better understanding of the transboundary environmental impacts of major infrastructure projects on the Basin and increased resilience in support of SDG9.	2.1 **Forecast and Alert Systems**, capitalizing on national and GEF IW experience, to respond to extreme events, in at least 2 floods and droughts prone areas. (>1 M km^2 area with 2 M people protected. >90% fewer human casualties and >70% reduction in economic damage) 2.2 A series of **inter-ministerial and expert dialogue round**	GEFTF	3,834,860 (incl. CCM and LD STAR from Venezuela)	23,148,222

rise and the dynamics of changing coastlines. *2c. Development and implementation of adaptation measures to mitigate the impacts on water supply due to the loss of glaciers in the Amazonian Andes*			**tables** (3-4) on infrastructure and hydropower to increase resiliency and better meet SDG9 on resilient infrastructure and sustainable energy. 2.3 **Risk analysis matrix and environmental impact assessment guidelines** developed to assess environmental and socio-economic damages resulting from instratructure. 2.4 Based on the appropriate ecosystem analysis, **natural infrastructure interventions** in at least 3 locations to protect local communities and coastal ecosystems from excessive sedimentation, droughts, floods and wave damages as well as the effects of sea level rise. (> 600 km coastline strengthened protecting 30,000 people, 80% reduced casualities) 2.5 Successfully implemented			

			water use efficiency and alternative water supply solutions in at least 3 Andean communities and/or urban centers dependent on retreating glaciers in order to adapt to climate change impact and glacier melt. (>150,000 people with alternative water supplies) 2.6 **Groundwater source protection solutions** implemented to reduce contamination from flood events in urban centers. (GW protection solutions in 6 major urban areas in 3 significantly affected basins)			
Component 3: **Integrated environmental monitoring and reporting** using an indicator based system compatible with relevant International Conventions and Agreements such as Convention on Biodiversity (CBD), Sustainable Development Goals (SDGs), etc. in	TA	Basin wide compatible information: (1) to inform science to policy decision-making in IWRM, and (2) for conservation and protection of the main bio-aquatic ecosystems.	3.1 Based on a comprehensive diagnostic of existing laboratories, infrastructure and human capacity, and building on existing national monitoring systems, **a series of basin wide inter-related, compatible, operational and agreed**	GEFTF	3,458,153 (incl. BD STAR from Colombia and Venezuela)	17,998,330

support of improved basin-wide IWRM. ***Responding to SAP SAs:*** *3a. Implementation of a Regional Water Quality Monitoring System for the Rivers of the Amazon Basin* *3b Implementation of Hydro -meteorological Monitoring Network in the Amazon Basin.* *3c. Monitoring Hydric Erosion, Transport and Sedimentation (ETS) and mitigation of the impacts of erosion in the Amazon Basin.* *3d. Reducing the vulnerability of the most important bio-aquatic ecosystems of the Amazon Basin with special focus on the protection of endangered fish species and regulation of fishing activities.* *3e. Conservation and sustainable use of water resources in the headwaters and low parts of the Amazon Basin, with predominance of moorlands and wetlands.*			**monitoring systems** on: - Water Quality (covering 12 major tributaries with annual measurement of >10 parameters) - Hydro-meteorology (network of 73 stations established by end of project) - Erosion, transport and sedimentation (ETS) (integrated satellite based system covering approx. 800,000 km^2 by end of project) - Bio-aquatic ecosystems including a database of vulnerable ecosystems and fish species (covering 5 socio-economic and 5 ecosystem indicators covering 250,000km^2 of 6 endangered ecosystems) - Environmental status and health of upper catchment regions, moorlands and wetlands as input to a regional protection plans 3. 2 Comprehensive **training programs** for the above			

			mentioned monitoring systems including; Regional network of qualified laboratories and technicians, inclusive of QA/QC; statistics, interpretation, etc. (8 laboratories undergoing 16 training programmes for > 80 analysts) A gender sensitive citizen science training program for local communities on water management delivered in partnership with GEF SGP (involving 80 local communities reaching approx. 10,000 people) 3.3 Based on the TWAP indicator based assessment methodology, a **supplement to the agreed Transboundary Diagnostic Analysis (TDA), SAP and 8 NAPs** as well as a series of State of the Environment reports for use in reporting on convention targets (inc. Aichi) and SDGs and, inform national and			

			regional decision making and conservation actions.			
Component 4: **A comprehensive monitoring framework for monitoring, assessing and informing the progress of the overall implementation of the Amazon SAP**	TA	Long-term sustainability of IWRM, delivering socio-economic and environmental benefits from the delivery of effective SAP implementation at national and regional level	4.1 A comprehensive indicator based (inc. inputs, process, socio-economics, governance, stress reduction, environmental status etc.) **monitoring and reporting system for SAP implementation** 4.2 Innovative ICT applications and **web portal** to enable stakeholders to communicate and access a common pool of knowledge on SAP implementation. 4.3 A suite of **communication and marketing products** to facilitate the sustainability of the SAP implementation (including donor roundtables; region-wide Amazon Day; Mayors roundtables) 4.4 Allocation of **1% of the IW grant** for GEF IW: LEARN compliant website;	GEFTF	1,157,500	2,489,292

			participation in regional and global fora; preparation of at least 3 experience notes and twinning activities			
				Subtotal	11,198,028	103,971,713
				Project Management Cost (PMC)[7]	GEFTF	537,752	4,530,000
				Total Project Cost		**11,735,780**	**108,501,713**

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: ( )

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount ($)
Recipient Government	Government of Bolivia	(select)	TBD
Recipient Government	Government of Brazil	Grants	2,000,000
Recipient Government	Government of Brazil	In kind	1,029,412
Recipient Government	Government of Colombia	(select)	TBD
Recipient Government	Government of Ecuador	In-kind	82,690,103
Recipient Government	Government of Guyana	In-kind	300,000
Recipient Government	Government of Peru	In-kind	17,862,098
Recipient Government	Government of Suriname	In-kind	TBD
Recipient Government	Government of Venezuela	(select)	1,060,000
Others	ACTO	In-kind	2,560,100
GEF Agency	UN Environment	In-kind	1,000,000
Total Co-financing			**108,501,713**

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS [a)]

GEF Agency	Trust Fund	Country/ Regional / Global	Focal Area	Programming of Funds	(in $)		
					GEF Project Financing (a)	Agency Fee (b)[b)]	Total (c)=a+b
UNEP	GEFTF	Regional	International Waters	(select as ap	11,355,046	1,021,954	12,377,000
UNEP	GEFTF	Colombia	Biodiversity	(select as ap	160,550	14,450	175,000
UNEP	GEFTF	Venezuela	Biodiversity	(select as ap	82,569	7,431	90,000
UNEP	GEFTF	Venezuela	Climate Change	(select as ap	82,569	7,431	90,000
UNEP	GEFTF	Venezuela	Land Degradation	(select as ap	55,046	4,954	60,000
Total GEF Resources					**11,735,780**	**1,056,220**	**12,792,000**

- Refer to the Fee Policy for GEF Partner Agencies.

[7] For GEF Project Financing up to $2 million, PMC could be up to10% of the subtotal; above $2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

E. PROJECT PREPARATION GRANT (PPG)[8]

Is Project Preparation Grant requested? Yes ☒ No ☐ If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: $300,000 **PPG** - **Agency Fee**: $27,000							
GEF Agency	**Trust Fund**	**Country/ Regional/Global**	**Focal Area**	**Programming of Funds**	**(in $)**		
					PPG (a)	**Agency Fee[9]** (b)	**Total** c = a + b
UNEP	GEF TF	Regional	International Waters	(select as applicable)	254,129	22,871	277,000
UNEP	GEF TF	Colombia	Biodiversity	(select as applicable)	22,936	2,064	25,000
UNEP	GEF TF	Venezuela	Biodiversity	(select as applicable)	9,174	826	10,000
UNEP	GEF TF	Venezuela	Climate Change	(select as applicable)	9,174	826	10,000
UNEP	GEF TF	Venezuela	Land Degradation	(select as applicable)	4,587	413	5,000
Total PPG Amount					**300,000**	**27,000**	**327,000**

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS[10]

Provide the expected project targets as appropriate.

Corporate Results	**Replenishment Targets**	**Project Targets**
• Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	*> 100,000 Hectares (0r 1% of basin area, to be confirmed during PPG)*
• Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	*~20 Hectares (to be confirmed during PPG)*
• Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	*1 freshwater basins*
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	*n/a Percent of fisheries, by volume*
• Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO_2 mitigated (include both direct and indirect)	*n/a metric tons*
• Increase in phase-out, disposal and reduction of releases of POPs, ODS,	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	*n/a metric tons*
	Reduction of 1000 tons of Mercury	*n/a metric tons*

[8] PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to $50k for PF up to$2m (for MSP); up to $100k for PF up to $3m; $150k for PF up to $6m; $200k for PF up to $10m; and $300k for PF above $10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

[9] PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

[10] Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the *GEF-6 Programming Directions*, will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF, SCCF or CBIT.

mercury and other chemicals of global concern	Phase-out of 303.44 tons of ODP (HCFC)	*n/a ODP tons*
• Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	*Number of Countries: 8*
	Functional environmental information systems are established to support decision-making in at least 10 countries	*Number of Countries: 8*

PART II: PROJECT JUSTIFICATION

1. Project Description.

Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area[11] strategies, with a brief description of expected outcomes and components of the project, 4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and co-financing; 5) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 6) innovation, sustainability and potential for scaling up.

Background

The Amazon Basin constitutes the most bio-diverse and complex hydrographic River Basin in the world, and accounts for more than half the world's tropical rainforest which, combined with the intense evaporation and absorption of atmospheric carbon, makes the region a defining factor in global climate. The basin covers more than 6,118,000 km^2, which represent 44% of South America's land area, extending through Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela. The basin has a great variety of climate and topography, with elevations ranging from sea level at the Amazon Delta Region, up to 6,500 m in the Andes. Rainfall levels range from 200 mm per year in the Andes to over 6,000 mm per year in the foothills of Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela hills and Amazonian plains. Seasonal variations in rainfall result from movements in the convergence inter-tropical zone, resulting in periods of maximum rainfall between March and June in the Northern Hemisphere, and from December to March in the Southern Hemisphere. The Amazon River is the world's largest river with an average flow of 150 m^3/s consisting of more than 1,000 tributaries and an estimated length of 6,992 km. It annually discharges up to 300 m^3/s of water to the Atlantic Ocean.

The population of the Amazon Basin (territory exclusively limited by the hydrographical characteristics of the Amazon River and the totality of its tributaries) is heterogeneous with different sociocultural characteristics, and was estimated at 33,486,000 inhabitants in 2007 (UNDP, 2008) representing 11% of the total population of the Member Countries of ACTO. The total population of the Amazon Region (considering the entire territory called *Amazonian biome*) between 2010 and 2012 was about 44 million habitants. Brazil accounts for about 75% of the Amazonian population, followed by Peru with 13%. The Amazon population grew at an average annual rate of 2.3% from 1990 to 2007; Ecuador's rate is of 3.6%, the highest annual average rate of the Amazon Basin.

The Amazon Forest extends from the eastern Andes in the Pacific to the Amazon plains in the Atlantic, which creates an interdependence between the two sides and makes the Amazon a strategic region in terms of its biodiversity, with more than 30,000 species of plants, nearly 2,000 species of fish, 60 species of reptiles, 35 species of mammals and approximately 1,800 species of birds. (EPA- 2014)[12]

The Amazon Basin is also an important source of non-renewable natural resources, sheltering vast reserves of gold, silver, zinc, tin, copper, oil and natural gas, in addition to large reserves of bauxite (approximately 15% of the world total).

The Amazon Basin faces numerous challenges for the Integrated Management of Transboundary Water Resources (IWRM) in the context of its socio-economic development and anthropogenic and climate impacts. The basin is a unique water system that crosses national borders of eight countries - Bolivia, Brazil, Colombia, Ecuador, Guyana,

[11] For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which Aichi Target(s) the project will directly contribute to achieving.

[12] EPA-ENVIRONMENTAL PROTECTION AGENCY. (2014). Guyana's fifth national report to the convention on biological diversity. Ministry of Natural Resources and the Environment Funded by the Global Environment Facility. Georgetown. September 2014.

Peru, Suriname and Venezuela - who consider the need for a regional framework for IWRM to satisfy the urgent needs of the population and to promote the sustainable development of the Amazon Region.

In order to facilitate political dialogue and regional cooperation to address the issues of the Amazon Basin, the eight countries signed the Amazon Cooperation Treaty (1978) and subsequently created the Amazon Cooperation Treaty Organization (ACTO). As part of this regional process, Member Countries approved the Strategic Plan (2004-2012) and subsequently the Amazon Cooperation Strategic Agenda (2011-2018), which sets the vision, mission and strategic objectives of the ACTO and defines the themes and activities for cooperation. In this context, water issues are highlighted towards the adoption of an integrated approach for management of water resources of the Basin.

In this context, ACTO, on behalf of the countries of the Amazon Basin, requested support from the Global Environment Facility (GEF) in the field of International Waters (IW), to help develop the Project "*Integrated and Sustainable Management of Transboundary Water Resources in the Amazon River Basin Considering Climate Variability and Change,*" implemented by the United Nations Environment Program (UN Environment) and executed by the Permanent Secretariat of the Amazon Cooperation Treaty Organization (PS/ACTO). The project developed a Strategic Action Program (SAP) for the Amazon Basin to create the necessary environment for its future implementation, strengthen the institutional framework to plan and implement activities to the protection and sustainable management of water resources in the Amazon River Basin in a coordinated and coherent way.

The Member Countries adopted the methodology recommended by the GEF IW:LEARN manual for the development of the SAP. The identification and the analysis of the major transboundary problems and their root causes (TDA), and the process of identifying plausible strategic solutions, led to the development of a shared vision and the Strategic Action Program (SAP) for Integrated Water Resources Management (IWRM) in the Amazon Basin, considering climate variability and change.

The technical approval of the SAP by the Focal Points of the ACTO Member Countries has concluded; and the political endorsement by the national governments is in progress, with seven of the eight countries having already politically endorsed the SAP.

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

Global Environmental Problems

As mentioned above, the Amazon basin contains the world's largest tropical forest, is home to hundreds of indigenous people; and constitutes the greatest freshwater system in the world discharging 15-20% of the world's freshwater into the Atlantic Ocean. The Amazon Rivers contains more species of fish than in the entire Atlantic Ocean.

The global importance of the Amazon Basin is challenged by significant regional and transboundary problems. Direct and indirect social and economic pressure on the Amazon region, from the eight South American countries, has grown exponentially over the past decades. Due to the Basin's continental dimensions, the relevant environmental and socioeconomic problems, such as deforestation, erosion, water pollution, migration, insufficient governance, etc., are important factors for global impacts such as climate change and loss of biodiversity.

To identify the main regional transboundary problems of the Amazon Basin, the ACTO/UN Environment/GEF Amazon Project organized a total of 11 national Transboundary Diagnostic Analysis (TDA) meetings with Amazonian public and private organizations of the eight ACTO Member countries. The result was the identification of nine Priority Regional Transboundary Problems (RTP) with the following order of priority: i) Water Pollution, ii) Deforestation, iii) Loss of Biodiversity, iv) Extreme Hydroclimatic Events, v) Erosion, Transport of Sediments and Sedimentation, vi) Land Use Change, vii) Loss of Glaciers, viii) Major Infrastructure Works, ix) Insufficient Integrated Water Resource

Management (Governance)[13]. The identified RTPs are clearly linked to GEF IW (Water Pollution, Extreme Hydroclimatic Events, Loss of Glaciers), Biodiversity (Deforestation, Loss of Biodiversity), Land Degradation and Climate Change focal areas.

Some examples to illustrate the main environmental problems and impacts:

1. Insufficient Integrated Water Resource Management (Governance)

The issue of insufficient water resource management was addressed in the different National TDA/SAP workshops with emphasis on aspects such as: poorly integrated institutions of water resources management; lack of coordination between the different political and socioeconomic actors; weak water governance; poor coordination between the countries; weak institutions and lack of planning, among others. In addition to the National TDA/SAP workshops, the issue of water resources management was discussed in the context of the analysis of the institutional and legal frameworks at a national and a regional level carried out by the GEF Amazon Project (Montero, 2013).

2. Water Pollution

The activities that generate most of the pollution in the Amazon Rivers are: Extraction of raw materials for export, such as gold, wood, oil and different forest products; Expansion of the livestock and agro-industrial activities; Intense fluvial transport; Mercury from fluvial gold mining is the main dangerous pollutant of rivers, soils and sediment in the region. High concentrations are found in humans and various carnivorous fish at levels that in some areas could be up to five times higher than the maximum concentrations allowed by WHO standards. The second largest source of mercury is the burning of biomass. It is estimated that about 90 tons of mercury is released into the atmosphere each year. In regions of coca cultivation and refining, heavy use of pesticides and various chemicals as defoliants, cement, gasoline, sulfuric acid and ammonia, contaminates rivers and soils. The water quality of Amazon Rivers is also at stake near major urban centers, especially because of sanitary and industrial wastewater released directly into rivers. Therefore, regional monitoring of water quality of the Amazon Rivers, using common parameters, is essential for efficient management of water resources in the Amazon Basin. In addition, each country can include various parameters in the concept of water quality, to determine whether it is suitable for use either from an environmental point of view (source of food, recreation or supply) or for human consumption.

Illegal gold mining releases about 24 kg of mercury per square kilometer of mining activity into the rivers. It is estimated that only the Brazilian Amazon has received 2,300 tons of mercury between 1994 and 2003, and currently the rate is around 150 t / year (Franco and Valdes 2005, Ibish and Merida 2004)[14]

Despite a surplus of water supply in the Amazon Basin, the availability of public drinking water and sanitation is generally less than 60%. It is estimated that about 1,700,000 tons of solid waste and 600 m^3/s of domestic and municipal sewage is discharged in the Amazon rivers (ANA, 2007).

The Amazon Basin has more than 24,000 kilometers of navigable rivers and fluvial transport is the most important form of communication and transport system for local populations. In the Brazilian Amazon, more than 50 million tons of cargo was transported on the rivers in 2012, of which five million tons of soybeans and more than 2.2 million tons of fuels. Investments to expand navigable network of the Amazonian rivers planned between 2015-2030, should

[13] It is important to mention that the problem of insufficient governance is **the most cross cutting issue** of the RTPs and has been mentioned in practically all the root causes of the listed problems.

[14] Franco, F. y H. Valdés. Minería artesanal del oro de aluvión Mocoa – Putumayo. En: Amazonía Colombiana. Universidad Nacional de Colombia – Sede Leticia, Corpo Amazonia, 2005; Ibisch, P. L. y G. Mérida (Eds.). Biodiversity: The Richness of Bolivia. State of Knowledge and Conservation. Ministry of Sustainable Development. Vice-Ministry of Natural Resources and Environment. General Biodiversity Directorate. Santa Cruz de la Sierra, Bolivia: Editorial FAN. CD-ROM. 2004;

increase the transport capacities by 2020 to 98 million tons of the total cargo transported in the Amazon basin (A. Tokarski, 2012)[15].

There is no consistent data available on the environmental impacts of fluvial transport, but there is some estimation about the quantity of solid waste ending up in Amazonian rivers. According to the Brazilian Journal *Exame* (April, 2016) the total quantity of solid waste produced in the Brazilian Amazonian states of Acre, Amapá, Amazonas, Pará Rondônia, Roraima and Tocantins was more than 5 million tons per year. From that amount it is estimated that 3,5 million tons are dumped in the main Amazonian rivers.

3. Loss of Biodiversity

The Amazon is considered one of the richest areas of biodiversity and it is estimated to host approximately 10% of the known biodiversity in the world. It includes elements of 56 eco-regions from the list of ecological systems of international importance (Global Eco-regions 200), six World Natural Heritage sites and over 10 Endemic Bird Areas. It consists of over 600 different types of terrestrial and freshwater habitats including 20 freshwater eco-regions that are considered of global importance for its diversity (WWF, 2010)

Known for being a complex and heterogeneous region resulting from the various geological, geomorphological, climatic, hydrographic and biological processes, it enhances its global importance for the variety of ecosystems, species diversity and endemism. The Amazon contains the richest diversity of birds, freshwater fish, primates and butterflies. The region is considered the last refuge for endangered species worldwide such as harpy eagles and pink river dolphins and is home to a third of all vascular plants known on the planet. Its flooded forests represent between 3% and 4% of the basin area and has an aquatic biodiversity that includes, among many other species, river dolphins, manatees, giant otters, anacondas and some fish like piranhas and *paiche* or pirarucu (UN Environment and ACTO, 2008; WWF, 2010).

The region is a habitat to between 5 and 30 million species and of these, only 1.4 million have been identified, of which 750,000 are insects, 40,000 vertebrates, 250,000 plants and 360,000 are of the microbiota (ACTO, 2008; UN Environment and ACTO, 2008). Between 1999 and 2009, at least 1,200 new species of plants and vertebrates, including 637 plants, 257 fish, 216 amphibians, 55 reptiles, 16 birds and 39 mammals, as well as thousands of new invertebrate species, were discovered (WWF, 2010).

As the Amazon countries report in their National Reports for the Convention on Biological Diversity (CBD), the main danger to biodiversity conservation in the Amazon is habitat loss and degradation caused by deforestation, the main driver being land use change to expand the agricultural frontier. Despite public policies and efforts to enforce laws to combat and control livestock production, it remains an important force behind deforestation in the region.

For every 10% of forest loss, one to two major species are wiped out and if deforestation reaches 43% of forest cover the rate of biodiversity loss jumps from between two to up to eight major species lost per 10% of disappeared forest[16].

Among the factors that affect wildlife conservation are also unsustainable fishing and hunting (subsistence and commercial), wildlife trafficking, the introduction of invasive species, environmental pollution and the effects of climate change.

[15] Tokarski, A. ANTAQ crescimento do transporte fluvial na Amazônia. En: <www.fiorde.com.br/wordpress/blog/antaq-destaca-crescimento-do-transporte-fluvial-na-amazonia>, 2012

[16] OCHOA-QUINTERO J. M. et al., 2015, Thresholds of species loss in Amazonian deforestation frontier landscapes DOI: 10.1111/cobi.12446, Cambridge

4. Extreme Hydroclimatic Events

Floods in the Amazon Basin are frequent, but in recent years extreme events have increased due to the effects of erosion and climate variability, and caused severe economic impacts in the region. For example, in the MAP region (Madre de Dios, Peru, Acre-Brazil and Pando-Bolivia) a significant increase in frequency and intensity of floods and rainfall was recorded.

Droughts are also recurring events in the Amazon Basin. The drought of 1925-1926, one of the most important in the past century, and severe droughts in 2005 and 2010, have been associated with an intense El Niño causing serious economic losses for over one million people (Brown, 2014)[17].

5. Erosion, Sedimentation and Sediment Transport

The Andes are subjected to increasing erosion, with more than 1,000 ton/km^2/year of sediment being washed into the rivers. Measurements in the headwaters of the Madeira River Basin indicate that of the 3,200 ton/km^2/year of sediment produced, more than 60% is deposited at the Andean foothills. The total amount of sediment transported by the Amazon River to the Atlantic Ocean varies between 600 and 800 million tons per year (Filizola, 2003)[18].

6. Loss of glaciers

Andean-Amazonian glaciers are located in the Central Andes, mainly in Peru (70%) and Bolivia (20%). In the last 40 years an accelerated loss of glaciers (between 30% and 50%) has taken place, while the most vulnerable glaciers have disappeared, impacting community water supply and the environment.

7. Deforestation

Agro-industry (soy, rice, sunflower, sorghum and maize) and livestock are rapidly expanding in the Amazon Basin and are the most important driving force in the increase of deforestation rates and an important factor of water pollution due to widespread use of pesticides. More than 60% of the deforested area is estimated to have first been used for livestock and then for agriculture. Illegal logging and illegal wildlife trade are also important causes of deforestation. Currently, data on deforestation shows that close to 240,000 km^2 of Amazon rainforest were deforested from 2000 to 2010 (RAISG, 2012)[19].

Tropical deforestation and land-use change are responsible for around 10% of global greenhouse gas (GHG) emissions (Le Quéré et al., 2015)[20]. The Amazon forests contain 90-140 billion metric tons of carbon. Current changes in land use and deforestation release up to 0.5 billion metric tons of carbon per year, not counting emissions from forest fires. This shows the important role of the Amazon basin in regulating global climate (Nepstad et al 2008).[21]

8. The changes in Land Use

In most Amazon countries territorial occupation is mainly due to large infrastructure development, agro-industry and cattle raising, without taking into account the environmental and socio-economic impacts for local populations, especially populations with a low income. In many regions of the Amazon Basin economic policies respond primarily to the demands of the national and international markets to the detriment of the needs of local communities, causing serious social conflicts and migration of local population to the large urban centers.

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[17] BROWN, F. Perspectivas del cambio climático en la Región Madre de Dios-Perú, Acre-Brasil y Pando-Bolivia (Región MAP), WHRC/UFAC. En: Taller "La Amazonía em un mundo en trasformación climática". Quito, Ecuador: Climalatino, 2007.

[18] FILIZOLA N. Transfert Sédimentaire Actuel Par Les Fleuves Amazoniens. Thèse doctorat, Toulouse, Université de Toulouse III - Paul Sabatier, 2003.

[19] RAISG. (2012). Amazonía bajo presión. 68 pags. (www.raisg.socioambiental.org). Available at: http://raisg.socioambiental.org/system/files/AmazoniaBajoPresion_21_03_2013.pdf. Visited on March 10, 2014.

[20] Le Quéré C, Moriarty R, Andrew RM, Canadell JG, Sitch S, et al. 2015, Global Carbon Budget 2015. *Earth Syst Sci Data* 7: 349–396

[21] Nepstad D, Soares-Filho BS, Merry F, Lima A, Moutinho P, et al. 2009. The end of deforestation in the Brazilian Amazon. *Science* 326: 1350–1351

Root causes

As part of the ACTO/ UN Environment /GEF Amazon project's TDA meetings with Amazonian public and private organizations from the eight ACTO Member countries, a Causal Chain Analyses of the nine Priority Regional Transboundary Problems (RTP) was conducted that identified the following root causes:

- Weak governance to conserve biodiversity and environment.
- Poverty and unemployment,
- Poor training and education,
- Poor environmental education and water culture,
- Population growth and migration,
- Climate variability and climate change,
- Insufficient technological innovation,
- Socio-environmental and territorial conflicts,

The transboundary nature of the identified priority problems and their root causes call for cooperation, coordination and an integrated management approach from the eight Member Countries. The solution to these problems will require enhancement of the emerging coordination and collaboration among the ACTO member countries and organizations with a stake in the Basin to involve the Amazonian societies in the decisions.

The limitations of human and financial resources in the region is an important element in the root causes of environmental problems and the incremental funding and coordination support to kick-off the SAP implementation, will have a substantial catalytic effect in the region to achieve the SAP's expected objectives, outcomes and outputs.

Finally, better governance and management is necessary to improve climate change adaptation and mitigation, contributing to sustainable outcomes as a result of SAP implementation.

The following **barriers** were identified by the ACTO/UN Environment/GEF Amazon project that are linked to the global environmental problems (described above).

Barrier 1: Low social awareness about environmental and water quality issues acts as a barrier to improve public health and promote efficient regulations and policies, enhance education and avoid socioeconomic and territorial conflicts. Lack of basin-wide, technical, financial, institutional and administrative capacities affects the promotion of intersectoral and targeted actions, innovative policies, basin-wide legislative and institutional arrangements in support of IWRM.

Strengthening inter-sectorial and regional cooperation is required to overcome the current regional deficiencies in IWRM.

Barrier 2: Adverse effects of climate change and variability are causing noticeable changes in frequency and timing of floods and droughts, sea level rise and loss of glaciers in the Andean-Amazon region, with impacts on population and, riverine and estuarine ecosystems. The limited capacity of local governments and institutions to forecast hydroclimatic events and survey hydro-meteorological processes leads to inefficient adaptation to the impacts of extreme hydrological events and prevention of economic and social losses in the Amazonian regions affected by consequences of climate change and variability.

Barrier 3: There is inefficient and wasteful use of water in all economic sectors due to a general perception of the enormous surplus of fresh water in the Amazon Basin despite concerns with respect to the low quality of water consumed by the population. Given the lack of regional and national water quality monitoring capacity and

conservation, one witnesses some inefficiency in responding to emergencies and risks from water pollution accidents.

Barrier 4: Environmental degradation and unsustainable land use, erosion and increasing sedimentation of the rivers affects quality of bio-aquatic ecosystems and water quality in the basin. The effects of ecosystems degradation and deforestation on the catchment areas, moorlands and wetlands of the Amazon Basin are of particular concern.

2) The baseline scenario or any associated baseline projects

The proposed project will build on, and further support, a mature regional governance structure and the extensive outputs from the previous GEF project that led to the development of the agreed SAP. This section of the document presents the regional co-operation and key regional actions, national policies and institutions, national projects of relevance to the SAP implementation and other national/regional GEF activities that contribute to the baseline for the proposed project.

1) Regional co-operation and projects

The Amazon hydrographic basin runs through eight countries (Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela) and, requires a multilateral framework for the integrated management of Water Resources for the sustainable development of the region. The eight basin countries signed the Amazon Cooperation Treaty (ACT, 1978) and later created the Amazon Cooperation Treaty Organization (ACTO) as a platform for political and regional cooperation dialogue.

The relevance of ACTO is fundamental to create the regional diplomatic and political environment, to enable the development and implementation of protocols, agreements, regulations and treaties between the ACTO member countries in support of basin wide IWRM.

In addition to its role in regional political coordination and dialogue, ACTO constitutes a forum for permanent cooperation and exchange of information among the eight Amazonian Countries. In this context, the ACTO initiatives and technical cooperation activities are guided by the Amazonian Strategic Cooperation Agenda (ASCA) adopted at the 10th Meeting of Ministers of Foreign Affairs in 2012. Based on two crosscutting axes: conservation and sustainable use of renewable natural resources and sustainable development, the Agenda presents a thematic approach that integrates the areas of the ACT, namely: forests; water resources; management, monitoring and control of endangered wild fauna and flora species; protected areas; sustainable use of biodiversity and promotion of bio-trade[22]; indigenous affairs; knowledge management and information sharing; regional health management; infrastructure and transport; commercial navigation; and tourism, in addition to emerging topics like regional development, climate change and energy.

Among the current initiatives implemented by the ACTO and contributing to the environmental protection of the Amazon Basin and the sustainable use of its natural resources are the following regional projects:

- *Monitoring of the forest coverage in the Amazon Region (Monitoring deforestation, logging and land use change in the Pan Amazonian Forest)*, which has implemented participatory systems for monitoring the forest cover and provides Member Countries with information on the extent and quality of forest cover in

1. [22] *In the case of Bolivia, considering that their legislation does not provide for biodiversity and biotrade, this Member Country does not participate in the concepts and guidelines of the subtopic biodiversity and biotrade.*

the Amazon region through National Observation Rooms established for this purpose and preparation of Regional Maps of Amazon Deforestation.

- *Building Capacities of ACTO Member Countries in Ecologically Responsible Forest Management and Biodiversity Conservation in Managed Forests of the Amazon*. The initiative is developing and implementing capacity-building programs to improve sustainable forest governance and biodiversity conservation in public and private production forests in the Amazon region.
- *Management, Monitoring and Control of Wild Fauna and Flora Species Threatened by Trade.* This regional project focuses on conservation of the Amazon biodiversity, through increased efficiency and effectiveness of management, monitoring and control of wildlife species threatened by trade in ACTO Member Countries, especially of species included in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- *Amazon Project: Regional Action in the Area of Water Resources*. In the context of the South-South Cooperation and with the support of the National Water Agency (ANA) of Brazil, the project is entering its second phase with the aim of strengthening institutional coordination and installed capacities for regional hydro-meteorological and water quality monitoring in the Amazon Basin.

Finally, the development of the crosscutting initiatives of the *Regional Amazon Observatory*, conceived as a permanent virtual forum facilitating the flow of information between the institutions and the governmental authorities of the ACTO Member Countries, and the *Network of Amazonian Research Centers*, which aims to strengthen the scientific and technical capacity of the eight countries on research topics relevant to the Amazon, will provide the necessary institutional context for the operation of the future regional monitoring networks and information management programs in the Amazon Basin.

Coordination and synergies with these initiatives implemented by ACTO along with the political role of the Organization at the regional level will ensure the necessary political and technical cooperation environment to support the coordinated and efficient implementation of the SAP strategic actions.

A key component of the baseline that delivered the SAP upon which this project will build, is the **ACTO/UN Environment /GEF project "*Integrated and sustainable management of transboundary water resources in the Amazon river basin considering climate variability and climate change*".** The project has provided a solid basin baseline in three key areas: Understanding the Amazon Society; undertaking a basin Transboundary Diagnostic Analysis (TDA); and, formulation of response strategies through a Strategic Action Program (SAP), delivering:

- A shared vision of the Amazon basin providing future development scenarios for IWRM in the region.
- A TDA defining the main priority transboundary water problems in the face of climate vulnerability.
- A SAP agreed upon by ACTO member countries and formulated on the basis of the vision and TDA and in synergy with the ACTO regional agenda.

More specifically, the Vision for the Amazon River Basin has been developed through quantitative and qualitative opinion research methods and, an innovative participatory scenario-development process to (i) understand the common problems and needs of Amazon society with respect to land and water resources and climate change issues in the region and, (ii) define the key forces shaping future development scenarios for the Amazon Basin.

As input to the TDA and SAP, the SAP formulation project developed an inventory of legislative instruments and reviewed institutional capacity in the ACTO member countries in support of integrated water resources management.

The project also provided the needed bio-physical, environmental and socio-economic information ensuring a common and agreed baseline in all ACTO member countries, a fundamental requirement for the national endorsements at senior government level and the implementation of the Basin SAP.

The TDA was formulated using existing information and drawing science from a series of targeted research activities executed during the Amazon SAP formulation project to fill in knowledge gaps related to groundwater, aquatic ecosystems and riverine sedimentation in transboundary areas. These resulted in a better hydrogeological characterization of the Amazon Aquifer System, quantification of the sediment loads of the Madeira and Solimões Rivers and improved understanding of the aquatic ecosystems.

A series of national and regional demonstration projects have provided the needed information for the formulation of the SAP having tested cost and feasibility of some remedial measures. These projects included: (i) Updating the National Information System on Water Resources (Guyana); (ii) Biomonitoring Study of Ichthyofauna and Macroinvertebrates in the Napo River Basin for water quality monitoring, protection and improvement strategies (Ecuador); (iii) Coastal protection and rehabilitation of mangroves using low-impact technology in Weg naar Zee, in the context of climate variability and change (Suriname); (iv) water resources conservation with the Permanent National Committee/CONAPER (Venezuela); (v) management of aquatic ecosystems in critical hotspots, (vi) sustainable management of natural resources in transboundary floodplain forests (várzeas), and (vii) sustainable groundwater use in two urban centers.

Some adaption small scale interventions looking at governance capacity addressing critical climate change issues within the transboundary Purus Basin (Brazil, Bolivia, Peru) adapting to sea level rise in the Amazon Delta - Marajo Island and developing alert systems and contingency plans in the tri-national MAP region (Madre Dios, Acre, Pando – Bolivia, Brazil and Peru) also aided the formulation of the SAP.

The results of all the above-mentioned projects directly contributed to the formulation of priority strategic actions agreed in the SAP. The SAP (see Annex A) establishes clear priorities for political, legal, institutional reforms and, provides a financial strategy to support future investments in the Amazon River Basin as to address the prioritised transboundary problems. The Strategic Actions are action oriented, on the ground activities which will strengthen institutional capacity of ACTO and the Amazon countries in their long-term strategy development and implementation in the Amazon Basin; reinforce gender equality and women empowerment, considering the differences, needs, functions and priorities of women and men.

The steps leading from the development of the TDA and SAP, utilising the regional agreed 'vision', through the proposed SAP implementation phase resulting in environmental and socio-economic benefits, are illustrated below.

2) **National policies and institutional arrangements**

The current legal frameworks for water resources management in each ACTO Member Country reflect the diversity of legal instruments (laws and policies), which vary according to their different State models. Despite the differences, they share certain institutional commonalities.

Each member country's current institutional framework is defined by its national constitution. For example:

- Most of the eight countries have constitutions that identify water resources as a state-owned strategic resource.
- The constitutional texts of Bolivia, Brazil and Peru attach special importance to their Amazon regions.
- In most countries, specific water resources laws and/or policies define management.
- Most countries also have specific legal instruments that govern water resources management in the Amazon Region, many of which are still being implemented.

Some countries have specific water management systems, for example, Brazil (National Water Resources Management System-SINGREH) and Peru (National Water Resources Management System).

The national institutional frameworks for water resources management include:

- Half of the countries have national institutions responsible for managing water resources: National Water Agency (ANA- Brazil), National Water Authority (ANA- Peru and Venezuela) and Water Secretariat (SENAGUA- Ecuador). In the other member countries, the Ministries of Environment are responsible for water resources and the environment.
- Most countries have national technical institutions responsible for meteorology and hydrology.

Furthermore, the eight Amazon countries have differing degrees of institutional development needs according to their internal institutional policies. However, all countries need to further develop and/or consolidate coordination and protection mechanisms for the Amazon Basin.

The Permanent National Commissions of ACTO Member Countries are Inter-institutional bodies with attributions related amongst others to natural resources, including water resources. Furthermore, some of the Member Countries have specific institutional bodies related to water resource management in the Amazon Basin, such as:

- In Brazil, the National Water Resources Council is responsible for coordinating water resources management in the national territory bringing together national and federal institutions.
- In Colombia, the Amazon Basin Councils and the Joint Amazonian Commissions are currently going through a regulatory adjustment.
- In Ecuador, ECOARE, is the government institution responsible for Amazonian development.
- In Peru, the Amazon Basin Councils and Amazon Sub-Basin Councils are in the process of being implemented.

The national legal context in support of IWRM in the different ACTO member countries provides the enabling environment for SAP implementation. **Annex B** highlights in detail the existing national policies on which the SAP implementation will be built on.

3) National activities/projects

The SAP implementation also builds upon on series of existing complementary national activities and projects. The following provides a list of the key interventions, linkages will be further developed during the PPG phase.

Bolivia: Forestation and Reforestation Campaign "My Tree 2015-2016", Monitoring of Threatened Species in the Bolivian Amazon Basin, National Watershed Plan, Integrated Watershed Management with the Ministry of Environment and Water are complementary activities relevant to the SAP implementation looking at the (i) mitigation of erosion through reforestation, (ii) conservation of bio-aquatic ecosystems and (iii) support to national institutions to enhance their capacities for IWRM.

Brazil: National Program for Water Quality Evaluation, Strategic Plan for Water Resources of the Tributaries of the Right Bank of the Amazon River; Strategic Plan of the Hydrographic Basin of the Rivers Tocantins-Araguaia; Water Resources Plans for the States of Acre, Mato-Grosso and Tocantins; the Amazon Protection System; Deforestation Calculation Program of the Amazon; National Program for Control and Monitoring of Mercury in the Amazon and Pantanal are activities that create an enabling environment for the following Strategic Action of the SAP: Water Quality Monitoring System, Knowledge Management and Policy Building for Water Management.

Colombia: The Amazon Vision program creates incentives for the sustainable use of forests and to combat deforestation in the Amazon region. The goal of the programme is zero deforestation in 2020. The new National Development Plan currently invests 300 million dollars in developing mitigation plans and action to support adaptation to climate change with a view to reduce by 20% emissions of greenhouse gases by 2030. These activities are complementary to the SAP efforts to combat the loss of biodiversity, erosion and adaptation to climate change.

Ecuador is also working on different activities and projects which are complementary to the SAP implementation, such as with their programme for the integrated management and the sustainable development of the Ecuadorian Amazon region; for the control and management of water quality; water governance; national reforestation for the protection of watersheds of Ecuador; for the strengthening and implementation of a network of meteorological and hydrological stations for the Republic of Ecuador and; for financial instruments and land use planning to reduce emissions from deforestation.

Guyana has been looking at strengthening the enabling framework for small and medium scale gold mining and the uptake of best practices to reduce biodiversity loss, mercury use, deforestation, and forest degradation. Additional projects related to integrated water resources management are currently under development.

Peru: In Peru, the land use change or deforestation causes 47% of emissions of greenhouse gases, making it the main agent of climate change. The program *Forest* was created to reduce this problem, strengthen its management capacities with the inclusion of indigenous and rural communities. Its main objective is to conserve 54 million hectares (equivalent to 42% of the land area of tropical forests) by 2021, the bicentenary of Peruvian Independence[23]. Furthermore, the task of the Peruvian National System of Water Resources Management (SNRH) of the National Water Authority (ANA) is to coordinate and ensure integrated, participatory and multi-sectorial management; sustainable use, efficient use, conservation, protection of the quality and increase of the availability of water resources in the national watersheds and promote a water culture that recognizes the environmental, cultural, economic and social value of water.[24]

Suriname: The projects (i) *Building with Nature Coastal Protection* to protect the endangered Weg naar Zee resort of the district Wanica from the sea level rise and loss of mangrove forests; and (ii) the *Mercury Free Partnership* for capacity building of small scale miners in mercury free mining techniques and creation of environmental awareness, are projects directly complementary to the SAP implementation (Component 2 and 3).

4) Relevant regional projects

Since 2014, the UN Environment, along with the United Nations Food and Agriculture Organization (FAO), the World Wildlife Fund (WWF), the International Union for the Conservation of Nature (IUCN) and, Redparques are executing a project called the Amazon Ecosystem Conservation Vision (IAPA), financed by the European Union. The project intends to create a network of protected areas in the Amazon, to boost ecosystems' resilience when faced with the effects of climate change. It supports activities meant to maintaining the supply of goods and services that benefit biodiversity, communities and the local economies in the eight countries that are part of the Amazon region: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela and engages in activities related to conservation,

[23] http://www.bosques.gob.pe
[24] http://www.ana.gob.pe/sistema-nacional-gestion-recursos-hidricos/objetivos

governance, financial sustainability, and the effectiveness of managing protected areas. It also expects to define priority landscapes, one in the north and the other in the south of the Amazon, and to implement action plans for their conservation. Protected areas and biological corridors are considered one of the best ways to conserve biological diversity. A global network of protected areas where human activity is managed to preserve the ecosystems' structure and function is a success strategy towards obtaining benefits for future generations and to significantly reduce the loss of biodiversity. Synergies to this initiative will be fully explored during the PPG phase.

The Microfinance for Ecosystem-based Adaptation (MEbA) – is a UN Environment implemented project in the Andean Region of Colombia and Peru. The project aims at providing microfinance services and products to vulnerable rural and peri-urban populations of these regions to enable them to invest in activities related to ecosystem sustainability, improve their income and increase resilience towards climate change effects. It is focused on developing solutions so that Microfinance Institutions (MFIs) and their clients may increase their capacity to manage climate risks and implement Ecosystem-based Adaptation options. Provided that the proposed project will also be working with Andean communities to increase community resilience from extreme hydrologic events, this UN Environment led project is of direct relevance and further synergies will be explored during the PPG phase.

The UN Regional Office of Latin America and the Caribbean, in partnership with the National Water Agency of Brazil (ANA), will be a hosting a UN Environment GEMS/Water regional centre for Latin America and the Caribbean and the developing countries of the Community of Portuguese speaking countries for the promotion and delivery of capacity building activities in water quality monitoring, assessment and dissemination. The proposed project will also be working on developing an indicator based integrated environmental monitoring and reporting system, with one especially focusing on water quality, and therefore the synergies and relevance to the UN Environment/ ANA partnership will be further explores in the PPG phase.

5) Relevant GEF funded projects in the region

This project will also capitalize on a range of completed and on-going GEF funded initiatives (Further details of on-going projects are presented below in Section 5: co-ordination with GEF and other initiatives). The following provides an overview of initiatives that will be further researched during the PPG phase, including:

Bolivia: National Biodiversity Strategy and Action Plan, Sustainable Management of Forest Ecosystems in Amazonia by Indigenous and Local Communities to Generate Multiple Environmental and Social Benefits, Fifth Operational Phase of the GEF Small Grants Program in Bolivia, SFM Biodiversity Conservation through Sustainable Forest Management by Local Communities.

Brazil: Development of Minamata Convention on Mercury Initial Assessment in Brazil, Fourth National Communication and Biennial Update Reports to the United Nations Framework Convention on Climate Change (UNFCCC), National Biodiversity Planning to Support the Implementation of the CBD 2011-2020 Strategic Plan, Marine and Coastal Protected Areas.

Colombia: Minamata Convention Initial Assessment (MIA) in the Republic of Colombia, Forest Conservation and Sustainability in the Heart of the Colombian Amazon.

Ecuador: Sustainable Development of the Ecuadorian Amazon: Integrated Management of Multiple Use Landscapes and High Value Conservation Forests, Conservation and Sustainable Use of Biodiversity, Forests, Soil and Water to Achieve the Good Living (Buen Vivir / Sumac Kasay) in the Napo Province.

Guyana: Minamata Initial Assessment for Guyana, Enhancing Biodiversity Protection through Strengthened Monitoring, Enforcement and Uptake of Environmental Regulations in Guyana's Gold Mining Sector.

Peru: National Action Plan on Mercury in the Artisanal and Small-Scale Gold Mining Sector in Peru, Mitigating Deforestation in Brazil Nut Concessions in Madre de Dios, Peru, Transforming Management of Protected Area/Landscape Complexes to Strengthen Ecosystem Resilience

Suriname: The GEF Trust funded project, *Mainstreaming Global Environment Commitments for Effective National Environmental Management in Suriname*, will work to strengthen the national environmental management at all levels.

Venezuela: Sustainable Forest Lands Management and Conservation under an Eco-social Approach.

6) Key private sector involvement

The following are key private sectors that the project will engage and involve in the activities.

Fisheries industry

The fisheries sector in the Amazon Basin can be divided into 3 main groups.

- Small subsistence fishermen with traditional techniques and, local and minimal productivity.
- Local small to medium commercial fishing enterprises with bigger fleets but limited fishing areas using low tech technology
- Modern fishing companies equipped with advanced technologies.

Mining Industry

Mining activities are extensive across the Amazon Basin. In Brazil alone there are over 500 registered mining organisations working with cassiterite, niobium, bauxite, uranium, kaolin, gold, iron, etc. According to the Brazilian Institute of Geography and Statistics, exploitation is estimated to be in excess of $2 trillion (2008) that is to 100 times the national GDP. More detailed information on the involved private sector groups is available in the Stakeholder mapping table in Annex C.

Logging Industry

The Amazon is one of the main regions producing tropical timber in the world. Alongside with mining and agriculture, the exploitation and industrial processing of wood are among its main economic activities. In 2009, 2,226 timber companies were operating in the Brazilian Legal Amazon, extracting around 14.2 million m3 of native logwood, equivalent to 3.5 million trees. While all logging requires a permit and a formal management plan, many activities are still performed illegally. Nevertheless, there is a growing preference for certified service providers within the industry.

The engagement will focus on small (and artisanal) and medium-sized private organisations working in the Amazon from the fishing (including sports fishers), agriculture, mining, eco-tourism etc. The project will involve and engage these small private-sector organisations through:

- Workshops and seminars addressing clearly defined problems (economic, organizational, technical) relating to water and ecosystem protection and management;
- Organisation of training course to further increase knowledge on international and regional regulations and practices on climate change and ecosystem / water management;
- Organisation of training programmes in support of small private sector organisations applications to national and international green funds (for example) to increase economic viability.
- Inviting representatives of the private sector organisations to participate in relevant project meetings to further increase understanding of the work of the project and the overall goals of the transboundary SAP.

3) The proposed alternative scenarios, GEF focal area strategies, with a brief description of expected outcomes and components of the project,

Alternative scenarios

The proposed project will build on the approved SAP and is based on the regional priority transboundary concerns identified by the Transboundary Diagnostic Analysis (TDA) which indicates the scale and geographic distribution of the environmental and socio-economic impacts at national and basin levels and, through an analysis of the root causes, identifying potential remedial and/ or preventive actions.

National stakeholder recommendations for the eight-priority regional transboundary problems clearly indicated that the proposed project is to be based on the three groups of strategic actions which will be implemented by the SAP:

a) Strengthening Integrated Water Resources Management (IWRM) to prepare the countries for institutional cooperation and interaction at the regional Amazon level. To cooperate efficiently, the national institutions involved with regional cooperation need to have compatible institutional infrastructure and human resources. To strategically respond to these needs a set of actions deploying laboratories, monitoring systems and equipment, among others is needed, in addition to training human resources. To this end, it is a prerequisite to build national and regional experiences to: Reinforce basin wide institutional and policy framework to support water governance; Strengthen national policies enabling the establishment of water authorities in Suriname and Guyana; Create innovative incentive-based financing mechanisms supporting SAP implementation in context-specific geographies according to national priorities and legislation and support public -private engagement to achieve the objectives of the SAP.

b) Institutional Adaptation to Climate Change and Variability to enable Amazonian communities and local administrations to face extreme hydro-meteorological events that affect all Member Countries. Thus, droughts and floods cause tremendous economic and social losses for the region's population. To face this challenge, strategic actions will implement basin wide Forecasting and Alert Systems for extreme hydro climatic events (droughts and floods); Protect coastal zones of Amazon countries, which are adversely affected by sea level rise and the dynamics of changing coastlines; Develop and implement adaptation measures to mitigate the impacts on water supply due to the loss of glaciers in the Amazonian Andes.

c**) A Comprehensive Monitoring Framework** for monitoring, assessing and informing the progress of the overall implementation of the SAP. To achieve this goal the corresponding strategic actions will be implemented (i) a Regional Water Quality Monitoring System for the Rivers of the Amazon Basin, (ii) a Hydro-meteorological Monitoring Network in the Amazon Basin, (iii) a Network to Monitor Hydric Erosion, Transport and Sedimentation (ETS) to mitigate the impacts of erosion in the Amazon Basin, (iv) an Observatory to Reduce the Vulnerability of the most important bio-aquatic ecosystems of the Amazon Basin with special focus on the protection of endangered fish species and regulation of fishing activities, and (v) activities to protect the water resources in the headwaters and low parts of the Amazon Basin, with predominance of moorlands and wetlands.

The existing GEF funded projects in the Amazon Basin have targeted national or bilateral sectoral problems. This project, through SAP implementation, is the first effort in moving forward with a holistic integrated management approach.

While it is important to have regional frameworks and coordination to manage transboundary environmental issues, it is to be noted though that policies and management plans developed by formal inter-state processes will eventually have to be implemented at local sites; hence community-based actions are critical to the effectiveness of these higher level policies. The UNDP Small Grants Programme (SGP) provides the platform to initiate such community level

actions, it has funded 811 international waters projects at the community level totalling $19 million GEF funding and $34 million co-financing. The proposed project has the entire Amazon Basin as its focus, but with the involvement of SGP it will invariably direct some focus on smaller scale interventions in individual countries. Further, to ensure community level involvement, at the project execution stage, the national co-ordinators of the SGP, NGO representatives from the National Small Grants Committees, the SGP Programme Specialist and PCU project staff will explore ways in which community groups, supported through SGP, could contribute to the implementation of activities of the SAP. This will lead to the development of a partnership in which site level interventions in support of the SAP implementation will be funded jointly by funds derived from the project budget and the SGP.

Relevance to the GEF focal area strategies

The proposed strategic actions are designed to promote alternative scenarios directly relevant to GEF International Waters and, Biodiversity focal areas, and contribute to the Climate Change and Land Degradation focal areas.

The SAP implementation project is aligned mainly with the GEF 6 Focal Area Strategy for **International Waters,** and more specifically with:

Objective 1: **Catalyze Sustainable Management of Transboundary Waters**;

Program 2: Increase Resilience in Melting High Altitude Glaciers

Objective 2: **Balance Competing Water-uses in the Management of Transboundary Surface and Groundwate**r;

Program 3: Advance Conjunctive Management of Surface and Groundwater systems

Program 4: Water/Food/Energy/Ecosystem Security Nexus.

The project has received **Biodiversity** STAR funding from Colombia and Venezuela supporting project activities aligned with:

Objective 4*:* Mainstream Biodiversity Conservation and Sustainable Use and Managing the Human-Biodiversity Interface

Program 9: Managing the human-biodiversity interface

The STAR resources received from Venezuela under the **Land Degradation** and **Climate Change Mitigation** focal areas will support activities that align with the following objectives and programs:

Climate Change Mitigation – Objective 2*:* Demonstrate Systemic Impacts of Mitigation Options

Program 4: Promote conservation and enhancement of carbon stocks in forest, other land-use and support climate smart agriculture

Land Degradation – Objective 1*:* Maintain or improve flow of agro-ecosystem services to sustain food production and livelihoods

Program 1: Agro-ecological Intensification

The below table attempts to map out, the alignment of the GEF focal area with the proposed project and the SAP strategic directions.

OVERALL BASIN WIDE-PROJECTED OUTCOMES AND STRATEGIC ACTIONS RELATED TO GEF FOCAL AREAS		
International Waters	Outcome Innovative, efficient and effective bottom-up water governance improving ecosystem health and human well-being	RESPONDING TO SAP Strategic Actions: - support the strengthening of institutional frameworks to improve the basin-wide IWRM -implementation of an integrated regional information platform on IWRM and reporting based on TWAP indicators in the Amazon basin -promoting and developing regional cultural, educational and artistic activities related to water resources and climate change in the Amazon basin -implementation of a regional water quality monitoring system for the rivers of the Amazon basin -implementation of hydro -meteorological monitoring network in the Amazon basin
Climate Change	Outcome Reduced socio-economic and ecosystem damages and increased community resilience in the Amazon region to extreme climatic events	RESPONDING TO SAP Strategic Actions -up-scaling of forecasting and warning systems for extreme hydroclimatic events (droughts and floods) -protection of coastal zones of Amazon countries, that are adversely affected by sea level rise and the dynamics of changing coastlines -development and implementation of adaptation measures to mitigate the impacts on water supply due to the loss of glaciers in the Amazonian Andes
Land Degradation and IW	Outcome Basin wide compatible information guiding science to policy decision-making	RESPONDING TO SAP Strategic Actions - monitoring hydric erosion, transport and sedimentation (ETS) and mitigation of the impacts of erosion in the Amazon basin.
Biodiversity		RESPONDING TO SAP SAs -reducing the vulnerability of the most important bio-aquatic ecosystems of the Amazon basin. -conservation and sustainable use of water resources in the headwaters and low parts of the Amazon basin, with predominance of moorlands and wetlands

Regional environmental, and socio-economic benefits from the SAP implementation will result in: i) Enhanced coordination and collaboration between the Amazon countries that share the world's greatest river basin; ii) Optimized implementation and management of the strategic actions and initiatives of the SAP; iii) Exchange of best/good practices and lessons learned between the Amazonian institutions, communities, civil society, and related global projects or experiences. The project will actively co-ordinate and collaborate with other ongoing projects and

programmes (see section 5 – Co-ordination) from GEF (including the Amazon Landscapes Program) and other donors to maximise collective inputs and minimise any potential duplication.

Expected outcomes and components

The proposed project objective will deliver four outcomes through four crosscutting components in alignment with SGP funds responding to the agreed SAP's Strategic Actions (SAs). A preliminary Theory of Change analysis for the project is attached as **Annex D.**

Component 1: Community to cabinet innovative IWRM governance model for the Amazon basin

Outcome 1.1: Innovative bottom-up water governance leading to improved ecosystem status and livelihoods
Outcome 1.2: Institutionally strengthened ACTO for improved basin-wide management.

These outcomes will address the following Strategic Actions from the SAP:

- Support the strengthening of institutional frameworks to improve the basin-wide IWRM
- Implementation of an integrated regional information platform on IWRM and reporting based on the GEF Transboundary Water Assessment Program (TWAP)[25] indicators in the Amazon Basin
- Promoting and developing regional, cultural, educational and artistic activities related to water resources and climate change in the Amazon Basin.

This component will build a community to cabinet innovative governance model for the Amazon basin to achieve innovative, efficient and effective bottom-up water governance, improving ecosystem health and human well-being through the following outputs:

Outputs

- Building on national and regional experiences, a reinforced **basin-wide institutional and policy framework** (i.e. policies, policy instruments and management tools) supporting water governance including *inter-alia*: documented management principles; formal cooperation partnership arrangements among Amazonian partners, programs, projects and initiatives; IWRM management tools, linking national water data systems into an integrated platform, promoting IWRM decision making and public knowledge and participation; a compendium of cultural, artistic and educational practices in support of water resources management and climate change in the Amazon Basin (in four languages and focusing on the cultural characteristics of the different Amazon regions that will be edited and published in all ACTO countries); and, a white paper to strengthen the role of ACTO in IWRM.
- National policies enabling the establishment of water authorities in Suriname and Guyana (leading to at least one new policies in each country to consolidate institutional integration of water resources management by mid-term of the project)
- Innovative incentive-based financing mechanisms supporting SAP implementation in context-specific geographies according to national priorities and legislation, including *inter-alia* water funds; green/climate bonds; payment for ecosystem services; carbon pricing; web-based expressions of interest; themed campaigns; public -private engagement.

[25] The TWAP assessment is the first global assessment that uses quantified indicators of system states, pressures and impacts under three broad themes: biophysical, socioeconomic, and governance. Results are summarized into five relative levels of system risk - lowest, low, moderate, high, and highest - which are amenable to system and regional scale comparisons. As such, TWAP is poised to help identify core indicators to support national monitoring and reporting of targets required to realize the Sustainable Development Goals for the period 2015 – 2030. TWAP freshwater indicators map to SDG 6 on Clean Water and Sanitation, notably Target 6.6 (protection and restoration of mountains, forests, wetlands, rivers, aquifers and lakes). http://www.geftwap.org/twap-project.

Component 2: Building community resilience and bio-aquatic ecosystem protection to address impacts of climate vulnerability and change in the Amazon basin

Outcome 2:
Strengthened Amazon communities able to adapt to extreme hydrologic events and sea level rise strengthening livelihoods and reducing ecosystem pressures.

Better understanding of the transboundary environmental impacts of major infrastructure projects on the Basin and increased resilience in support of SDG9.

This outcome will address the following Strategic Actions from the SAP:

- Up-scaling of Forecasting and Warning Systems for extreme hydroclimatic events (droughts and floods)
- Protection of Coastal zones of Amazon countries, which are adversely affected by sea level rise and the dynamics of changing coastlines.
- Development and implementation of adaptation measures to mitigate the impacts on water supply due to the loss of glaciers in the Amazonian Andes.

This component is building community resilience to address impacts of floods and droughts in the Amazon basin to reduce socio-economic and ecosystem damages from extreme climactic events through the following outputs:

Outputs

- **Forecast and Alert Systems**, capitalizing on national and GEF IW experience to respond to extreme events in at least 2 floods and droughts prone areas. (covering over 1 M km^2 and protecting over 2 M people resulting in over 90% few casualties and with a 70% reduction in economic damage)
- A series of **inter-ministerial and expert dialogue round tables** (3-4) on infrastructure and hydropower to increase resiliency and better meet SDG9 on resilient infrastructure and sustainable energy.
- **Risk analysis matrix and environmental impact assessment guidelines** developed to assess environmental and socio- economic damages resulting from instratructure.
- Based on the appropriate ecosystem analysis, **natural infrastructure interventions** in at least 3 locations to protect local communities and coastal ecosystems from excessive sedimentation, droughts, floods and wave damage and the effects of sea level rise (covering over 600 km^2 of coastline, protecting over 30,000 people with a reduction of causalities by 80%)
- **Water use efficiency and alternative water supply solutions** in at least 3 Andean communities and urban centers reliant on retreating glaciers to adapt to climate change impact and glacier melt. (providing over 150,000 people with alternative water supply)
- **Groundwater source protection solutions** to reduce contamination from flood events in urban centers. (groundwater solutions implemented in six major urban areas in three affected river basins, (the Solimoes, Maderia and Purus) providing protected sources of drinking water to over 400,000 people)

Component 3: Integrated environmental monitoring and reporting using and indicator based system in response to indicators from relevant International Conventions and Agreements such as CDB, SDG, Aichi Targets etc. included in support of improved basin-wide IWRM.

Outcome 3: Basin wide compatible information (1) to inform science to policy decision-making in IWRM, and (2) for conservation and protection of the main bio-aquatic ecosystems.

This outcome will address the following Strategic Actions from the SAP:

- Implementation of a Regional Water Quality Monitoring System for the Rivers of the Amazon Basin
- Implementation of Hydro -meteorological Monitoring Network in the Amazon Basin.
- Monitoring Hydric Erosion, Transport and Sedimentation (ETS) and mitigation of the impacts of erosion in the Amazon Basin.
- Reducing the vulnerability of the most important bio-aquatic ecosystems of the Amazon Basin with special focus on the protection of endangered fish species and regulation of fishing activities.
- Conservation and sustainable use of water resources in the headwaters and low parts of the Amazon Basin, with predominance of moorlands and wetlands.

This component will implement integrated environmental monitoring, reporting and conservation systems to establish a basin wide compatible information guided science to policy decision-making through the following outputs:

Outputs

- Based on a comprehensive review of existing laboratories, infrastructure and human capacity, and building on existing national monitoring systems, **a series of basin-wide inter-related, compatible, operational and agreed monitoring systems** on:
    - Water quality (developing a regional water monitoring system covering 12 major tributaries to Solimoes/Amazon Rivers with annual measurements of at least ten water quality parameters based on common and agreed methods)
    - Hydro-meteorology (network of over 70 hydro-meterological monitoring stations located in sensitive parts of the Amazon Basin),
    - Erosion, transport and sedimentation (ETS), (An integrated satellite-based monitoring system covering the increase/decrease of erosion in the headwater regions of the Maderia and S0limoes Rivers covering approximately 8000,000 km^2)
    - Bio-aquatic ecosystems including a database of vulnerable ecosystems and fish species, (monitoring system with five socio-economic and 5 ecosystem indicators covering six endangered aquatic species in an area over 250,000 km^2)
    - Environmental status and health of upper catchment regions, moorlands and wetlands as input to a regional protection plans. Relevant data sharing procedures and protocols will be agreed within ACTO and confirmed by the countries. The agreement will also identify location(s) for hosting databases and protocols for data exchange.
- Comprehensive **training programs** for the above mentioned monitoring systems including: a regional network of qualified laboratories and technicians, inclusive of QA/QC; statistics, interpretation, etc. (including a network of eight laboratories with modern infrastructure and trained analysts with 16 training programmes benefiting at least 80 analysts linked to the Integrated Water Monitoring System and to the Information Platform).
- A gender sensitive citizen science training program for local communities on water management delivered in partnership with GEF SGP (covering at least 80 local communities and reaching approximately 10,000 people through a basin-wide training program).

- Based on the TWAP indicator based assessment methodology, a supplement to the agreed Transboundary Diagnostic Analysis (TDA), SAP and eight NAPs will be developed, as well as a series of state of the environment reports for use in reporting on convention targets and SDGs and, inform national and regional decision making and conservation actions. Using the TWAP approach, data and information to supplement the agreed TDA and SAP. This will benefit the long-term implementation of the SAP through strengthened M&E metrics and enable better quantification of the overall benefits accruing from the SAP. Lastly the

strengthened indicators and targets will enhance future 'bankable projects' that will be developed to further sustain the SAP implementation.

Component 4: A comprehensive model for monitoring, assessing and informing the progress of the overall implementation of the Amazon SAP.

Outcome 4: Long-term sustainability of IWRM, socioeconomic and environmental benefits from the delivery of effective SAP implementation at national and regional level.

This component will implement an integrated information guided model for assessing and informing the progress of the overall implementation of the Amazon SAP through the following outputs:

Outputs

- A comprehensive indicator based (inc. inputs, process, socio-economics, governance, stress reduction, environmental status etc.) **monitoring and reporting system** for SAP implementation
- **Innovative ICT applications and web portal** to enable stakeholders to communicate and access a common pool of knowledge on SAP implementation.
- A suite of **communication and marketing products** to facilitate the sustainability of the SAP implementation (including roundtables with donors, Mayors, relevant actors; region-wide Amazon Day; etc.)
- Allocation of 1**% of the IW grant for GEF IW: LEARN** compliant website; participation in regional and global fora; preparation of at least 3 experience notes and twinning activities.

4) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing;

The GEF Grant will strengthen the organizational and institutional capacity of the ACTO countries at a variety of levels and is fundamental to overcome the **lack of an effective and operational governance model to implement basin-wide IWRM.** The incremental funding requested from the GEF is needed to harness the transboundary benefits that can only be materialised through coordinated, joint management and the on-the-ground implementation of these plans, which are currently outside national budgets. National governments for example have the responsibility, under the respective national laws, to monitor water resources quality and implement environmental flows. In a transboundary basin this can however not be done effectively without creating a basin-wide implementation regime.

The GEF resources are building on the extensive baseline of completed and on-going national and regional actions and, the institutional capacity that the participating countries will provide as a resource to this project. These are described in detail in the baseline, focussing on the (i) multiple regional actions such as the "Amazon Project: Regional Action in the Area of Water Resources", where the South-South Cooperation with the support of the National Water Agency (ANA) of Brazil, is implementing the second phase of the project which aims at strengthening institutional coordination and installing capacities for regional hydro-meteorological and water quality monitoring in the Amazon Basin. Another regional action of importance is the development of the crosscutting initiatives of the Regional Amazon Observatory, conceived as a permanent virtual forum facilitating the flow of information between the institutions and the governmental authorities of the ACTO Member Countries, and the Network of Amazonian Research Centers, which aims to strengthen the scientific and technical capacity of the eight countries on research topics relevant to the Amazon, will provide the necessary institutional context for the operation of the future regional monitoring networks and information management programs in the Amazon Basin. (ii) National activities such as the "Amazon Vision Program" create incentives for the sustainable use of forests and to combat deforestation in the Amazon region. The goal of the programme is zero deforestation in 2020. The new National Development Plan currently invests 300 million dollars in developing mitigation plans and action to support adaptation to climate

change with a view to reduce by 20% emissions of greenhouse gases by 2030. These activities are complementary to the SAP efforts to combat the loss of biodiversity, erosion and adaptation to climate change and (iii) completed and ongoing projects funded by the GEF (including the GEF Amazon Sustainable Landscapes Programme) and other donors (the Microfinance for Ecosystem –Based adaptation project implemented by UN Environment in the Andean region of Columbia and Peru). In addition the GEF increment will also be catalytic in stimulating collaboration with planned projects detailed in Section 5 (in Co-ordination).
The proposed actions will ensure that the SAP is implemented in a coordinated fashion and that sufficient capacity is established in the participating countries and in ACTO to support long-term integrated basin-wide management. Consultation with a wide range of basin's stakeholders is critical in jointly developing harmonised and compatible governance mechanisms at all levels in support of 'community to cabinet' management of the basin for the benefit of the ecosystem and livelihoods of the Amazon society. This project will continue to support such key basin wide dialogue and involve all sectors of the population including CSOs/NGOs private sector, academia and government authorities. This active involvement is a key component of the GEF increment through this project.

A full-bodied governance structure for the effective joint management of transboundary water resources is a complex and challenging task. It is complex legally and institutionally, especially when a multi-sectoral and participatory approach is promoted, as is the case for IWRM. It is challenging financially as no national government public funds are primary meant for transboundary issues, even though efforts in this regard are increasingly being made. As a consequence the GEF increment is necessary to initiate the planned reforms agreed in the regional SAP.

Under the coordination of ACTO, the eight riparian states have shown a strong commitment to joint, basin-wide management as evidenced by the development of an agreed basin-wide TDA and SAP in support of the holistic management of the basin.

The GEF grant of $12,135,780 is levering a co-financing contribution of $108,501,713 that will collectively contribute to the implementation of a successful SAP for the Amazon basin. Specifically, the GEF funding will enable ACTO and the Amazon countries to create the conditions for change and improve the current situation through the implementation of the regionally agreed GEF-Amazon SAP to:

- Achieve an integrated approach to water, land and ecosystem management, supported by basin-wide policies, institutional and legal mechanisms;
- Meet SDGs and other international convention targets [26], legal and institutional reforms; and,
- Establish financial mechanisms contributing to the sustainable use and the maintenance of freshwater, ecosystem and biodiversity resources in the Amazon Basin.

Through the implementation of the SAP, the GEF resources will support ACTO and the countries to implement an impactful source-to-sea approach based on the country endorsed strategic action program as a framework for integrated land and water management, to improve ecological, social and economic benefits, enabling countries to meet relevant SDG and convention targets in the Amazon basin.

5) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF);
The strengthening of basin-wide IWRM, **through SAP implementation**, in the world's largest hydrographic and bio-diverse region, will **generate significant global environmental benefits** and aid socio-economic problem reduction.

The regionally approved Amazon SAP is expected to achieve, within a time-frame of approximately 20 years, a functioning IWRM system for the Amazon Basin. This will sustainably maximize benefits for the ecosystem, livelihoods and human well-being from Amazonian ecosystem goods and services and, functions. Within 10-years the

[26] SDG 6/13 – CLEAN WATER AND SANITATION, SDG 13 – CLIMATE ACTION, SDG 14/15 – LIFE BELOW WATER/LIFE ON LAND, SDG 1/2 – NO POVERTY/ZERO HUNGER, SDG 13/4 – CLIMATE ACTION/QUALITY EDUCATION. All Strategic Actions also support: SDG 5 – Gender Equality and SDG 16 – Strong Institutions; Convention on Biological Diversity (Aichi Targets), Convention to Combat Desertification.

SAP implementation will achieve enhanced governance and management of the shared transboundary Amazon water resources by fostering progressive application of the IWRM approaches and enhanced compliance with national legislation and regulations within the Amazon Basin.

Strategic actions will reduce ecosystem stresses resulting in improved ecosystem status and food production, economic development and regional stability. It is expected that the adopted IWRM approach will strengthen the region's ability to resist impacts from extreme climatic events and sea-level rise. Improved IWRM will enhance and protect the region's important mitigation of global climate change. The region's globally significant and important biodiversity will be better protected and preserved, consistent with the necessary economic development of the Amazonian population. Improved or alternative means of incomes and effective work will be created and promoted.

The support to the development and implementation of an agreed water quality monitoring system will enable the basin states to collectively co-ordinate responses and develop a coherent approach to addressing the regional transboundary problems that will be have benefits to the largest freshwater basin. The work will build on the previous project and further encourage the conjunctive use and management of surface and groundwater, leading to additional global benefits.

6) Innovation, sustainability and potential for scaling up.

Innovation: The project is innovative by promoting for the first time the integrated management of the basin from source to sea. Based on the approved SAP recommended actions, it will develop the first basin-wide comprehensive environmental monitoring, early warning and management system and, a community to cabinet innovative IWRM governance model for the Amazon basin including innovative incentive-based financing mechanisms. It will also formulate national water policies in Suriname and Guyana, enabling the establishment of water authorities and to ensure compatible approaches with the other riparian states. It will promote the use of green infrastructure and nature based solutions which is an innovative approach for the region. Water use efficiency and alternative water supply solutions will also be innovative approaches for the basin. Building on the experience of the previous project, it will continue promoting the conjunctive use and management of surface and groundwater resources.

Indeed, Components 1 to 3 are designed to implement integrated, targeted and innovative actions in support of the project objective by (i) enhancing the legal and institutional capacity of Amazonian countries to sustain the IWRM of the Amazon Basin, (ii) increasing the institutional capacity of Amazonian countries for integrated monitoring and management of the hydro-meteorological processes in the Amazon Basin, (iii) enhancing greater awareness of the Amazonian society with respect to issues related to water resources and (iv) strengthening ACTO to manage and maintain a basin-wide IWRM information platform; with robust mechanisms and tools to promote innovative IWRM policies and institutional arrangements, with the overall goal of reducing/reversing further ecosystem degradation and strengthening livelihoods within the Amazon River Basin.

Component 4 will provide the overall management and M&E for the project and, will also be responsible for introducing a system to monitor the longer-term (including post project) implementation of the Amazon SAP. This also constitutes an important innovative element.

In summary, the project is **innovative in the following aspects** and will:

- Promote an integrated water resource management in the world's greatest and complex river basin from source to sea.
- Develop the first basin-wide water quality monitoring system, based on a common methodology consented between the eight member countries of the Amazon Basin.
- Implement the first forecast and alert system for floods and droughts.

- Implement basin-wide interrelated, compatible, operational and agreed monitoring systems for: climate change; erosion, transport and sedimentation; bio-aquatic ecosystems; environmental status, etc.
- Create and execute comprehensive training programs for the above mentioned monitoring systems including a regional network of qualified laboratories and technicians, a gender sensitive citizen science training program for local communities on water management and climate change, delivered in partnership with GEF SGP.

Sustainability: Strengthening the capacity of key regional and national stakeholders, the development of a strategy for long-term sustainable financing of the institutional frameworks and, enhanced cooperation among the actors in the region is key to ensuring the sustainability of the project and implementation of the SAP on the long term. The project is in synergy with ongoing national and regional activities. In achieving sustainability of project outcomes, due consideration will be given to mainstreaming climate change adaptation (including, no regrets approaches, robustness of solutions, resilience of outcomes, etc.) in all project activities and initiatives under the framework of the SAP. Central to the sustainability of the implemented SAP, is the strengthening of ACTO as the regional actor enabled to maintain cooperation between the member countries based on common agreements and regulations.

Sustainability of project actions and SAP implementation and, livelihoods will be enhanced by the involvement of key private sector groups (e.g. fishermen, mining, etc.). Through its activities, the project will help strengthen the capacity of small subsistence and small/medium enterprises fishermen as important stakeholders in the basin. The project will facilitate access to markets hence allowing them to compete with industrial fisheries.

Potential for scaling up: The implementation of the SAP is a long-term process providing a catalytic framework for the future up-scaling of on-the-ground actions, strengthening institutions and encouraging policy/legal improvements as outlined in the SAP.

The inter-linked components of the project (and actions defined in the SAP) are providing the enabling conditions for up-scaling, by strengthening basin-wide institutional cooperation through integrated and targeted actions, innovative policies, legal and institutional basin-wide arrangements and regional information platform in support of IWRM (Component 1).[27]

The expectation of the SAP is that there will be a 20-year process of up-scaling the actions that were initiated by the previous GEF Amazon project and further refined through the initial implementation of the SAP.

The approved SAP will promote the execution of a number of geography specific strategic actions which will be subsequently up-scaled to the entire Amazon Basin such as:

- The forecasting and warning system for extreme hydro-climatic events, implemented in at least 3 sensitive regions of the Amazon Basin (SAP/ES[28], section 5.B-VII.10).
- The regional water quality monitoring system for the rivers of the Amazon Basin, based on existing national water quality data of 168 transboundary rivers, will be developed under the SAP (SAP/ES, section 5.A-I.1) and will be refined in the following 20 years, including new parameters and modernized analytical methods and equipment.

[27] The implementation and operation of regional Monitoring Systems require innovative policies at national level to enable the countries to act in a concerted way. For example to operate the Regional Water Quality Monitoring System the countries need to implement common parameters and methodologies, which need to be, formulated as approved policies on a national level.
[28] SAP/ES Strategic Action Program/ Executive Summary

- The network of 73 hydro-meteorological monitoring (HMM) stations implemented by the SAP project foresees an up-scaling to cover all member countries (SAP/ES, section 5.B-VII.9)
- The Regional Information Platform for IWRM (RIP-AM), proposed by the SAP (SAP/ES, section 5.C-IX.15), has been designed to set up a future basin -wide and modern Information System covering step by step all relevant data bases of the ACTO member countries.
- The Strategic Action to create capacities to monitor erosion transport and sedimentation (ETS) in the Amazon Basin and to enhance the countries capacities to mitigate and combat erosion, (SAP/ES, section 5.A-IV.6), has been designed to be scaled up in the future by including advanced satellite mapping of the erosion processes and changes of land use in the Amazon basin.

2. Stakeholders. Will project design include the participation of relevant stakeholders from civil society organizations (yes ☒ /no☐) and indigenous peoples (yes ☒ /no☐)? If yes, identify key stakeholders and briefly describe how they will be engaged in project preparation.

A significant number of public, private (including farmers, fishermen and mining industry representatives) and other social/non-governmental organizations and institutions participated actively in the national TDA/SAP workshops and the formulation of the strategic actions of the SAP. A considerable number of these institutions will participate actively during the implementation of the SAP.

The project is not directly targeting indigenous peoples, the educational and cultural activities included in Component 1 will benefit indigenous communities and their official representation. However, some of the locations for the project interventions will be defined during the PPG phase, with the possibility of indigenous people's presence and even direct involvement in the case of the implementation of early warning systems.

A list of stakeholders and their roles is included in **Annex C**. It is anticipated that the same level of stakeholder participation and involvement will support the development of the project during the project preparation phase as to seek feedback and agreement for the proposed actions and ensure alignment of the project with their aspirations for active and effective project execution.

3. Gender Equality and Women's Empowerment*.* Are issues on gender equality and women's empowerment taken into account? (Yes ☒). If yes, briefly describe how it will be mainstreamed into project preparation (e.g. gender analysis), taking into account the differences, needs, roles and priorities of women and men.

The project will promote gender equality and empowerment of women throughout the project development and execution phase. Based on the GEF-6 Core Gender Indicators listed in the Gender Equality Action Plan (https://www.thegef.org/sites/default/files/publications/GEF_GenderEquality_CRA_lo-res_0.pdf), the project will conduct a gender analysis during the project development phase and formulate a gender engagement strategy for adoption during project execution. During PPG, a gender responsive results framework will be developed which will include specific gender sensitive indicators that will be mainstreamed into SAP implementation and its monitoring, evaluation and reporting plan.

In the Amazon region, women are very active in educational and cultural activities. The presence of female teachers in primary schools is quite important. Specific activities under components will ensure that women participation is mainstreamed. For example, **Component 1** looking at promoting and developing regional cultural, educational and artistic activities related to water resources management and climate change in the Amazon Basin will target women participation. And **Component 3, Output 3.2** foresees a comprehensive **Gender sensitive citizen science-training**

program for local community on water resources management delivered in partnership with the GEF SGP. In addition, the project will ensure that all meetings, workshops, twinning exchanges and capacity-building activities have gender-balanced and gender-sensitive participation, promote gender sensitive policies and actions, and record sex disaggregated data of participants.

Further, through its institutional strengthening activities, the project will promote the incorporation of gender dimensions into the national policy frameworks, regional cooperation mechanisms and initiatives, as well as into the ACTO Strategic Cooperation Agenda, supporting the definition and adoption of gender safeguards at the level of the Organization. In addition, the activities oriented to strengthening community resilience in face of extreme hydrologic events will be designed to support women´s empowerment and to ensure women´s active involvement and direct sharing of benefits from initiatives such as early warning systems, natural infrastructures, alternative sources of water supply, etc., thus supporting the achievement of both SDG 5 and 6. At the Project Management level, the Project will incorporate women´s empowerment issues and assess progress on gender equality in the project monitoring framework. The project will benefit from lessons and guidance under preparation through the latest phase of the GEF IW:LEARN project and will link to WWAP Gender and Water.

By adopting a gender equality path, the project will meet both the GEF and UN Environment gender mainstreaming targets and this approach will ensure the long-term sustainability of the project.

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

Risk	Probability	Risk Mitigation
Low level of environmental awareness in the basin	Medium	The project will promote the participation of interested stakeholders through cultural and educational activities and improve environmental communication with Amazonian communities
Insufficient domestic financial commitment	Low to medium	The project will prepare and adopt a financial strategy at the beginning of implementation, involving both national resources and international cooperation financing.
Limited institutional coordination and unclear institutional responsibilities at national and regional level	Low to medium	National institutions of the Amazon countries are relatively consolidated with defined line of authority. The project design also provides activities that will support institutional strengthening, and training of human resources for the implementation of the SAP
Basin states not willing to release their data and be subjected to the quality assurance measures that have been proposed to ensure confidence in the quality of the data in the database.	Low	The countries have a long-standing history of joint coordination, including data exchange, also evidenced by their contributions of data to the existing Integrated Information System (IIS) established during the SAP formulation system. The project will provide the technical support to further strengthen the data exchange. The development of the Regional Amazon

		Observatory at ACTO will provide additional support.
A lack of political will to implement the legal and institutional reforms in the basin countries.	Low	Through ACTO, countries have a history of coordination and, willingness to implement joint management activities. The proposed reforms were proposed by the countries themselves and are the result of extensive stakeholder's consultations within the various sectors. The project will provide the necessary technical support to strengthen basin wide management including the enhanced institutional capacity of ACTO.
Poor coordination among various projects supported by different entities leading to sub-optimal results delivery or duplication of efforts.	Low	ACTO has demonstrated a strong programme coordination capacity since the establishment of its Permanent Secretariat and continues to coordinate the various projects and regional initiatives in its portfolio. The project will maintain close collaboration and coordination with all relevant initiatives under the guidance of ACTO.
Scenarios underestimate frequency, extent, magnitude, etc. of climate change and extreme weather	Medium	Climate change and extreme weather are non-deterministic and non-linear phenomena. Nevertheless, during the last decade hydro-meteorological data which will support project execution have been relatively consistent for the Amazon Basin.

5. Coordination. Outline the coordination with other relevant GEF-financed and other initiatives.

The SAP implementation will act as a framework for the coordination of relevant ongoing projects potentially linkable with the SAP implementation. The interaction and coordination with other relevant GEF and non-GEF financed initiatives will be done through the project coordination unit, information sharing and joint activities and events. Representatives of other projects will be invited to the Project Steering Committee meetings.

The project will actively link with the following operational GEF projects in the region:

- 4085 - (WB BD) Brazil Amazon Region Protected Areas Program Phase 2;
- 5755 - (UNDP MFA)[29] Bolivia Sustainable Management of Forest Ecosystems in Amazonia by Indigenous and Local Communities to Generate Multiple Environmental and Social Benefits;
- 9055 - (UNDP MFA) Ecuador Sustainable Development of the Ecuadorian Amazon: Integrated Management of Multiple Use Landscapes and High Value Conservation Forests;
- 9272 - (WB MFA) Amazon Sustainable Landscapes Program.
- 5384 - (WB/CAF) Adaptation to the Impact of Climate Change in Water Resources for the Andean Region

The project will also coordinate with the *Amazon Sustainable Landscapes Program (9272)*, which aims to protect globally significant biodiversity and implement policies to foster sustainable land use and restoration of native vegetation cover in Brazil, Colombia and Peru. The project interventions are based on four interrelated components: 1. Integrated Amazon Protected Area, including protected areas creation, improved management and sustainable

[29] Multi Focal Area

financing; 2. Integrated Landscape Management, contributing to climate change resilience and enhancing sustainable land use by improving forest and land management and reducing carbon emissions from deforestation; 3. Policies for Protected and Productive Landscapes, incorporating conservation and sustainable use of biodiversity principles and biodiversity management principles into selected government sectors; and 4. Capacity Building and Regional Cooperation, providing opportunities for South-South cooperation and learning related *inter alia* to policy, legal and regulatory frameworks to address deforestation.

In the case of Brazil, the GEF Amazon project will coordinate with the Amazon Sustainable Landscapes Program to support (i) the Brazilian 2020 National Goals for Biodiversity (targets 14 and 15), established in Resolution no 6 of September 2013 and consistent with Brazil's contribution to global climate change mitigation and adaptation efforts; (ii) the National Policy for Climate Change - NPCC, launched by the Brazilian government in December 2009 (Law 12.187/2009) which commits Brazil to a 36.1% to 38.9% reduction in GHG emissions by 2020, and (ii) to improve the knowledge-base of local communities, concerning climate change, protection of ecosystems and natural resources.

In the case of Peru the project supports (i) the Ministry of Environment (MINAM) in the case of its Climate Change Strategy, that will allow the coordination among sectors and the articulation between different government levels; (ii) the National Environmental Plan (2011-2021) and (iii) the National System of Natural Protected Areas (SINANPE) to increase Peru´s National Protected Areas.

In Colombia the project coordinates with Regional Governments, Ministry of the Environment, Colombian Research Institutes and more specifically with the National Parks Unit (Parques Nacionales de Colombia), and the Amazon Research Institute (Sinchi), (i) to establish land use zoning plans, management of protected areas, general sustainable development and climate change activities and community management of fisheries; and (ii) with the initiative Corazón de la Amazonía Colombiana to promote sustainability in an area of ca. 11 million ha with the Chiribiquete National Park, La Paya, Macarena, Tinigua, Cahuinari, Yaigojé-Apaporis National Parks, and the Nukak National Natural Reserve. Opportunities for coordination with this initiative and basin-wide cooperation and learning will be explored and defined during the PPG phase.

The Project will also closely work with the second phase of ACTO/ANA/ABC Project funded by Brazil and executed with the technical support of the Brazilian National Water Agency through ACTO Agency, whose objective is to provide technical support to the creation and implementation of a hydro-meteorological monitoring system for the Amazon Basin.

In addition, the project will endeavour to seek synergies with non-GEF projects with similar objectives funded from national and international sources, including:

Amazon Fund Projects[30]

- Strengthening environmental management in the Amazon (IMAZON)
- Ethnic-Environmental protection for isolated or recently contacted indigenous people in the Amazon (CTI)
- Strengthening Territorial and Environmental Management of Indigenous Land in the Amazon (TNC-BR)
- Environmental Monitoring via Satellite in the Amazon Biome (INPE-FICAPE)
- Empowering Environmental Monitoring and Control in Order to Combat Illegal Deforestation in the Brazilian Amazon (IBAMA)

[30] The Amazon Fund (established in 2008 and funded from Brazil, Petrobras and Noway and Germany) is aimed at raising donations for non-reimbursable investments in efforts to prevent, monitor and combat deforestation, as well as to promote the preservation and sustainable use in the Brazilian Amazon (with opportunities for regional projects as seen in ACTO managed forest monitoring project). The Amazon Fund is managed by the BNDES, the Brazilian Development Bank, which also raise funds, facilitate contracts etc.

- Monitoring of forest coverage in the Regional Amazon, Management (ACTO)

World Fisheries Trust: Fisheries, Aquaculture and Food Security in the Bolivian Amazon,

Green Climate Fund: Building the Resilience of Wetlands in the Province of Datem del Marañón, Peru

***6. Consistency with National Priorities*.** Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes ☒ /no☐). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The Project is consistent with the expectations of the regional SAP agreed by countries and supports: (i) National policies on water/environment management, and (ii) NAPs, NAPAs, and SDGs as indicated above in section 2. For example, **Component 3, SA1**: *Implementation of a Regional Water Quality Monitoring System for the Rivers of the Amazon Basin* is consistent with the following conventions:

- Artisanal and Small-scale Gold Mining (SCGM) National Action Plans (NAPs), the main policy mechanism for control of mercury in the Amazon Basin,
- The Stockholm Convention ratified by the ACTO member countries and the corresponding National Implementation Plan (NIPs) defining the main problems and related solutions
- The 2030 Agenda for Sustainable Development, Sustainable Development Goals (SDG) 6 and 13 (global priority for improving sanitation and wastewater management), the Johannesburg Plan of Implementation (JPOI) and the Addis Ababa Action Agenda.
- The GPA Global Wastewater Initiative (GWI), Global Programme of Nutrient Management (GPNM), etc.

The proposed Project will consolidate ongoing and planned activities in implementing countries' obligations for elimination of chemicals as per requirements of the Stockholm Convention, and will contribute to the achievement of key objectives of the NIPs and their mainstreaming and will advance the institutional and policy reforms in close consideration of IWRM.

Under the UNCCD, the ACTO member countries are implementing National Action Programs (NAPs). The proposed Project will contribute to the achievement of the key objectives of the NAPs regarding Resource Use & Conservation as follows:

- Coordination of public awareness and education program and, organization and facilitation of consultations as necessary in Component **1, SA***: Promoting and developing regional cultural, educational and artistic activities related to water resources and climate change in the Amazon Basin*
- Prevention and mitigation of land degradation in **Component 3, SAs**: a) *Protection of Coastal zones of Amazon countries, which are under the influence of sea level rise and the dynamics of changing coastlines; b) Monitoring Erosion Transport and Sedimentation (ETS) and mitigation of the impacts of erosion in the Amazon Basin.*
- Development of SAs to address Responses to Droughts: Water Quality Protection: protection against chemical pollution in **Component 3, SA1**; Public Education, Capacity Building and Networking and **Component 3, Output 3.2**: *Comprehensive training program for the above mentioned monitoring systems; including a Regional network of qualified laboratories and technicians, inclusive of QA/QC; statistics, interpretation, etc.; and a Gender sensitive citizen science training program for local community on water management delivered in partnership with GEF SGP.*

The proposed actions in Component 2 which will be utilizing STAR resources provided by Venezuela are in line with the country's Intended Nationally Determined Contributions (INDC) strategy, which is looking to work on pollution control, promote green infrastructure, biodiversity conservation and land use management as well as water

resources management with an emphasis on community participation. It is also committing to strengthen its hydromet network and hydro-climate forecasting capacity in response to extreme climate events. The advancement of integrated basin wide water resources management through this project will help Venezuela meeting its commitments as embodies in its INDC.

It should be noted however that, in the majority of the countries, effective implementation of the strategies and plans outlined under the frameworks of the conventions requires realignment and reform of the national policy, legislative and institutional arrangements. These strategies and plans need to be mainstreamed into national development frameworks. These frameworks typically include national development strategies, land use and land development policies, plans and associated regulations, water supply/management laws, forestry and wildlife laws and laws concerning pollution, public and environmental health. In the majority of the countries the enabling environment does not facilitate integrated management approaches as advocated under the convention obligations. These are important barriers that persist and that the project will seek to address.

In summary, the project contributes to national, regional and global priorities through the following actions:

- Implementing a regional water quality monitoring system for the Amazon Basin. (SDG 6 – Water and Sanitation, Targets 6.3 and 6.5; Aichi Target 8, Operational objective 3, Output 3.1)
- Conservation and sustainable use of water resources in the headwaters and lower basin with predominance of moorlands and wetlands. (SDG 6 – Water and Sanitation, Target 6.6; Aichi Targets 14, 7, 3, Strategic Goal 1; Strategic objective 3, Output 3.1)
- Reducing the vulnerability of bio-aquatic ecosystems of the Amazon Basin. (SDG 6 – Water and Sanitation, Target 6.6; Aichi Targets 6, Aichi sub-goal 2.1. Aichi Strategic Goal 1, Strategic objective 3, output 3.1)
- Erosion transport and sedimentation (ETS) Monitoring and mitigation measures in the Amazon Basin. (SDG 6 – Water and Sanitation, Target 6.3; Aichi Target 8, Strategic objective 3, Output 3.1)
- Implementation of Hydro-meteorological Monitoring Network in the Amazon Basin. (SDG 13 – Climate Change, Target 13.1, Operational objective 3, Output 3.1)
- Up-scaling of Forecasting and Alert Systems for extreme hydroclimatic events (droughts and floods). (SDG 13 Climate Change, Target 13.3, Strategic objective 2, Output 2.1)
- Protection of Coastal zones from the effects of the Amazon basin and considering sea level rise. (SDG 14 – Oceans, Target 14.2, Strategic Objective B. Target 10, Strategic objective 2, Output 2.2)
- Development and implementation of adaptation measures to mitigate the loss of glaciers in the Amazonian Andes. (SDG 6 Water and Sanitation, 13 Climate Change, Targets 6.1 and 13.1, Strategic objective 2, Output 2.3)
- Implementation of an integrated regional information platform on IWRM and reporting based on TWAP indicators in the Amazon Basin. (SDG 6 – Water and Sanitation, Target 6.5, Strategic objective 1, Output 1.1)
- Promoting and developing regional cultural, educational and artistic activities related to water resources and climate change in the Amazon Basin. (SDG 13 Climate Change and 4 Quality Education, Targets 13.3 and 4.7, Aichi Target 6, Strategic objective 1, Output 1.1)
- Support the strengthening of institutional frameworks to improve the management of water resources. (SDG 6 – Water and Sanitation, Strategic objective 1, Output 1.2).

In conclusion, the proposed project is consistent with the requirements and priorities of the ACTO member countries and their regional and global commitment to relevant convention.

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

Knowledge management is key to support and sustain SAP implementation. It will rely on several activities**:**

- Creation of appropriate communication and marketing products to facilitate the sustainability of the SAP implementation (including donor roundtables; region-wide Amazon Day; Mayors roundtables)
- Implementation of an integrated regional information platform on IWRM and reporting system based on TWAP indicators in the Amazon Basin, as an important IWRM management tool
- A comprehensive indicator based (including inputs, process, socio-economics, governance, stress reduction, environmental status etc.) monitoring and reporting system for SAP implementation
- Innovative ICT applications and web portal to enable stakeholders to communicate and access a common pool of knowledge on SAP implementation.
- A community of practice for basin-wide multi-sectorial platform for knowledge exchange and awareness building on socio-economic and ecological issues
- GEF IW: LEARN compliant website; participation in regional and global fora; preparation of at least 3 experience notes and twinning activities

The proposed project will continue the efforts of the first phase and will use the website to share project outputs and reports, press releases, etc. with the ACTO countries and relevant stakeholders. The SAP is being mainstreamed into the programme of the ACTO. National KM systems will also be linked to the project website.

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

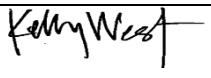
A. RECORD OF ENDORSEMENT[31] OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

(Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this SGP OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*
Ms. Mrs. Cynthia Silva Maturana	Vice Ministra de Medio Ambiente Biodiversidad Gestion y Desarollo Forestal	Ministerio de Medio Ambiente y Agua	**19/09/2017**
Ms. Claudia Vasquez Marazzani	Head of the International Affairs Office	**MINISTRY OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT, COLOMBIA**	**02/03/2017**
Mr. Marcelo Moises de Paula	General Coordinator for External Financing	**MINISTRY OF PLANNING BUDGET AND MANAGEMENT, BRAZIL**	**03/21/2017**
Mrs.Diana Priscila Martucci Larrea	Coordinator General of Environmental Planning	**MINISTRY OF ENVIRONMENT, ECUADOR**	**02/13/2017**
Dr. Indarjit Ramdass	Executive Director	**ENVIRONMENTAL PROTECTION AGENCY, GUYANA**	**02/01/2017**
Mr. Jose Antonio Gonzalez Norris	Director of the International Cooperation and Negotiations Directorate	**MINSTRY OF ENVRIONMENT, PERU**	**03/03/2017**
Ms. Nataly PLET	Environmental Policy Officer at the Cabinet of the President	**OFFICE OF THE PRESIDENT OF THE REPUBLIC OF SURINAME**	**02/03/2017**
Ms Mariangel Perez Ramirez	General Director International Affairs	**MINSTRY OF EXTERNAL AFFAIRS, VENEZUELA**	**03/10/2017**

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies[32] and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	Signature	Date *(MM/dd/yyyy)*	Project Contact Person	Telephone	Email
Kelly West, Senior Programme Manager & Global Environment Facility Coordinator		September 29, 2017	Isabelle Van der Beck Task Manager	+1-202-974-1314	Isabelle.vanderbeck@unep.org

[31] For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

[32] GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT

Corporate Services Division UN Environment UN Environment					

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required **GEF Project Agency Certification of Ceiling Information Template** to be attached as an annex to the PIF.

Annex A: Summary of the SAP Strategic Actions

TRANSBOUNDARY PROBLEM	STRATEGIC ACTION (red highlighted SA are part of the PIF
Water Pollution	• Implementation of a Regional Water Quality Monitoring System for the Rivers of the Amazon Basin • Developing a groundwater use and protection program for public supply in the Amazon region. • Protecting, managing and monitoring aquifers in the Amazon river basins.
Deforestation	• Conservation and sustainable use of water resources in the headwaters and low parts of the Amazon Basin, with predominance of moorlands and wetlands.
Loss of Biodiversity	• Reducing the vulnerability of the most important bio-aquatic ecosystems of the Amazon Basin with special focus on the protection of endangered fish species and regulation of fishing activities.
Erosion, Sediment Transport and Sedimentation (ETS)	• Monitoring Hydric Erosion, Transport and Sedimentation (ETS) and mitigation of the impacts of erosion in the Amazon Basin.
Land Use Change	• Action program to respond to the impacts of current land occupation and land use dynamics on water resources in the Amazon Basin.
Extreme Hydroclimatic Events/ Loss of Glaciers	• Implementation of a regional Hydro -meteorological Monitoring Network in the Amazon Basin. • Up-scaling of Forecasting and Warning Systems for extreme hydro climatic events (droughts and floods) • Implementing a risk management model and increasing institutional adaptation to climate change in the Amazon Basin. • Developing and deploying the Integrated Monitoring System for Climate Change Vulnerability and Adaptation in the Amazon Basin. • Protection of Coastal zones of Amazon countries, which are adversely affected by sea level rise and the dynamics of changing coastlines. • Development and implementation of adaptation measures to mitigate the impacts on water supply due to the loss of glaciers in the Amazonian Andes
Developing an integrated regional information platform.	• Implementation of an integrated regional information platform on IWRM.
Strengthening Scientific Knowledge	• Increasing scientific knowledge about water resources and relevant topics of the ACTO Amazonian Strategic Cooperation Agenda. • Deploying rainwater-harvesting systems to provide safe water to isolated riverside communities of the Amazon Basin. • Implementing regional agro-technology systems for terraced vegetable gardens and fisheries in floodplain forest communities.
Regional Cultural and Educational Activities	• Promoting and developing regional cultural, educational and artistic activities related to water resources and climate change in the Amazon Basin
Legal and Institutional Frameworks	• Support the strengthening of institutional frameworks to improve the basin-wide IWRM

ANNEX B: Existing national policies upon which the SAP implementation builds on

The following policies in ACTO countries are focused on water management and provide to a different degree the enabling environment for the SAP implementation.

Bolivia: Political Constitution of the State, 2009 (Art. 16, 20, 373-377), Water Law, 1906, Law 031, "Andrés Ibañez" Autonomies and Decentralization Framework (2010), Law 037, Mother Earth and Integral Development Framework for Living Well (2012), National Basins Plan (2007), Regional Climate Change Adaptation Mechanism (2007), Patriotic Agenda towards 2025, Law 535 on Mining and Metallurgy (2014), Law 1700, Forest Law (1996).

Brazil: National Water Resources Policy (Law 9.433 / 1997), CONAMA Resolution 357/2005; National Climate Change Plan (PNMC), 2008, National Climate Change Policy, 2009

Colombia: National Policy for Integrated Water Resource Management (2010); Law 373/1997- Water Saving and Efficient Usage Program; Decree 1076 of 2015: Single Regulatory Decree for the Environment and Sustainable Development Sector; National Climate Change Adaptation Plan: ABC Conceptual Adaptation Bases, Conceptual Framework and guiding principles (2012). Amazonia Vision Program: Sustainable Development and Zero Net Deforestation by 2020

Ecuador: Water Law, 1973; Organic Law for Water Resources, Uses and Exploitation, 2014; National Climate Change Strategy, 2012-2015.

Guyana: National Climate Change Adaptation Policy and Implementation Plan, 2011; Water and Sanitation Law Low Carbon Development strategy (2013); National Biodiversity and Action Plan (2015), Guyana National Integrated Disaster Risk Management Strategy.

Peru: Water Resources Law and National Water Resources Policy and Strategy (29338/2009); State Policy 33 on Water Resources, National Climate Change Strategy Action Plan of Adaptation and Mitigation cope to the Climate Change, 2011-2021

Suriname: Drilling Act (1952), Mining Act (1986/1997), Water Supply Act (1938), Draft Act on the Extraction of Groundwater, Draft Act on Groundwater Protection, Draft Act Water Quality Supervision.

Venezuela: Water Law, 2007; Homeland Plan (2013-2019); National Biodiversity Conservation Strategy (2010-2020); Organic Law for the Provision of Potable Water and Sanitation Services (2001)

ANNEX C: Stakeholder mapping

Relevant Stakeholders from civil society organizations engaged in national TDA/SAP workshops and the development of the SAP who are anticipated to be actively involved in the implementation of the SAP.

Institutions	Role in project
BOLIVIA: Ministerio de Recursos Hídricos y Riego, Ministerio de Desarrollo Rural, Agropecuario, Zonas de seguridad FRONTERIZA, Servicio Nacional de Meteorología e Hidrología –Servicio Nacional de Hidrografía Naval (SNHN) (regionales Trinidad y Riberalta), Instituto Nacional de Innovación Agropecuaria Forestal, INIAF, Secretaría de Desarrollo Sostenible y Medio Ambiente Gobernación- Santa Cruz, Secretaria de Medio Ambiente, Cambio Climático y Desarrollo Agropecuario de la Gobernación del Beni, Secretaria de Medio Ambiente, Tierra y Agua de la Gobernación de Pando, Secretaria de los Derechos de la Madre Tierra, Gobernación del Cochabamba, Gobernación de La Paz, Universidad Autónoma del Beni (Beni), Universidad Mayor de San Simón (Cochabamba), Universidad Mayor de San Andrés (La Paz), Universidad Amazónica de Pando (Pando), Universidad Gabriel René Moreno (Santa Cruz), Unidad de Limnología y Recursos Acuáticos – UMSS, Centro de Investigación de Recursos Acuáticos – UAB, Instituto de Hidrología y Hidráulica UMSA, Agencia Para el Desarrollo de las Macroregiones y Zonas Fronterizas	Relevant Stakeholders from civil society organizations, Public and private institutions participating in national TDA/SAP workshops
SENAMHI, Ministerio de Relaciones Exteriores Fronteras y Aguas Intenacionales Transfonterizas de la Cancilleria Ministerio de Medio Ambiente y Agua - MMAYA	Focal Point and Relevant Stakeholders participating actively in the SAP development
BRASIL: SEMA – AP, FUNFA, , GOVERNO Amazonas, Fundação Vitoria Amazonia, UFOPA/ Universidade, WWF Brasil, SEMGRH/AMAZONAS, SEMA-MT, SDS Amazonas, ASINT/MVA, CPRM, Sec. De Estado e Desenvolvimento Ambiental – RO, UFAM, MME, IBAMA, ICMBIO, Museu Paraense Emilio Goeldi, CENSIPAM, Sec. Meio Ambiente – ACRE **Private sector organizations:** **Private and small to medium sized commercial fishing enterprises:** • Fishing area Lower Amazon Basin (mainly state of Pará and Amapá: Águia Pesca, Copesi, Guajará Pescados, JK Pesca, Natal Pesca, Pacifico Pesca, Samura Pesca, Tropical Pesca • Fishing area Upper Amazon Basin (Solimoes, Madeira, Rio Negro: Iranduba Ltda, Colonia de Pescadores Z9, Colonia de Pescadores de Autazes, Colonia de Pescadores de Carauari, Colonia de Pescadores de Itamarati, DMC Pescado, **Mining companies** • Vale, Samarco, CBMM, Alunorte, Albrás, Mineração Rio do Norte, Imerys Rio Caulim Capim **Logging sector:** Brazilian Tree Industry Association – Ibá (Indústria Brasileira de Árvores), comprising 70 Brazilian companies – an unprecedented union of four Brazilian forest-based products organizations that represents the wood panels segment, pulp and paper, biomass for energy and independent planted trees producers, Placab Industries., Leo Madeiras, Icomap, Ale	Relevant Stakeholders from civil society organizations, Public and private institutions participating in national TDA/SAP workshops

Madeiras, Aimex,Norte Com, Madepa, Mil Madeiras, Hore Madeiras, Madereira Amazonas.	
ANA- Agencia Nacional de Aguas, MMA, Ministério de Médio Ambiente	Focal Point and Relevant Stakeholders participating actively in the SAP development
COLOMBIA: Ministry of Foreign Affairs, Ministry of Environment and Sustainable Development- Hydric Management Resources Technical Direction, International Affair Office, Green and sustainable businesses Office, Governorates of Amazonas; Caquetá; Cauca; Guainía; Guaviare; ~~Goal~~; Nariño; Putumayo; Vaupes. Municipalities: Leticia; Florencia; Inírida; San José del Guaviare; Mocoa; Mitú. Corporation for the sustainable development of northern and eastern Amazon - CDA; Corpoamazonía - Corporation for the sustainable development of special management area of the Macarena; Corporation for the sustainable development of the Autonomous South Amazon Regions, Corporation of Nariño – Corponariño, Autonomous Regional Corporation of Cauca – CRC. Associations and Corporations: National Business Association of Colombia ANDI; Farmers Association of Colombia CINCSAC; Colombian Federation of Cattle - Fedegan; National Association of Natural Rubber -Fedecaucho; Hotel and Tourism Association of Colombia - National Authority of Aquaculture and Fisheries COTELCO – AUNAP, National Federation of Industries of Wood – Fedemaderas. Research and training institutions: Amazonian Institute for Scientific Research – SINCHI, National Learning Service SENA - Regional: Amazonas, Caquetá, Guainía, Putumayo, Vaupes National University of Colombia, National University for open and distance learning,	Relevant Stakeholders from civil society organizations, Public and private institutions participating in national TDA/SAP workshops
Gestión Integral del Recurso Hídrico del Colombia Dirección de Recurso Hídrico - Ministerio de Ambiente y Desarrollo Sostenible Ministerio de Ambiente y Desarrollo Sostenible de Colombia	Focal Point and Relevant Stakeholders participating actively in the SAP development
ECUADOR: Provincial de Gobiernos Parroquiales de Sucumbios, Junta de Agua El Oro, Junta de Agua de Archidona, Embotelladora Aguas de Mesa Sucumbios, Embotelladora Agua Purificada ECORAE, Asociación de Gobiernos Parroquiales Rurales de Orellana (ASOGOPAR-O), Proyecto Hidroelectrico Coca Codo Sinclair, SENPLADES, MAGAP, Ministerio de Turismo. Secretaria de Riegos Orellana,	Relevant Stakeholders from civil society organizations, Public and private institutions participating in national TDA/SAP workshops
SENAGUA DHN, Secretaria del Agua de Ecuador CIIFEN	Focal Point and Relevant Stakeholder participating actively in the SAP development
GUYANA: OTT-Hydromet, Guyana Water Inc., Guyana Forestry, Wildlife Management Authority, Protected Areas Commission, Guyana Red Cross Society, Ministry of Foreign Affairs, Guyana Forestry Commission, Ministry of Education-NCERD, Ministry of Natural Resources and the Environment, Environmental Protection Agency, Conservation, International, Ministry of Agriculture, Amerindian Peoples Association, Guyana Lands and Surveys Commission, Guyana Geology and Mines Commission, University of Guyana, Public Works, Ministry of Amerindian Affairs, Civil Defense Commission - CBDRM	Relevant Stakeholders from civil society organizations, Public and private institutions participating in national TDA/SAP workshops
Ministry of Public Works and Communication Department: Works Service Group, Guiana Water Incorporated	Focal Point and Relevant Stakeholders participating actively in the SAP development

PERU:UNAP Universidad, GOREL Gobierno Regional, Terra Nuova – ONG, IIAP Centro de Investigacion, IVITA – UNMSM Centro de Investigacion, ALA – Inambari, Institucion del Estado, PROCREL Gobierno Regional, MINAM – Loreto Institucion del Estado, IBC ONG, Colegio de Ingenieros del Peru Sociedad Civil, Gran Tierra, Energy del Peru – GTEP Empresa, Instituto Geologico Minero Metalurgico -, INGEMET (MEM) Institucion del Estado, UNAP – FIQ Universidad, RAHC Sociedad Civil, Direccion Regional Agraria – DRA Institucion del Estado, ANA – Iquitos Institucion del Estado, EPS Sedaloreto Institucion del Estado, Servicios Industriales de la Marina - SIMA Iquitos Empresa, Municipalidad de Yavari Gobierno local, GORE Pasco Gobierno Regional, GORE Ayacucho Gobierno Regional, GORE Ucayali Gobierno Regional, ALA – Pucallpa Institucion del Estado**;** Coordinadora de las Comunidades Nativas y Campesinas del Alto Nanay – CONACCUNAY Sociedad Civil, UNAP Gobierno Regional, SENAMHI Institucion del Estado, Direccion Regional de Energia y Minas – DREM Institucion del Estado, EPS Sedaloreto Institucion del Estado, Programa Regional de Manejo de Recursos Forestales y Fauna Silvestre - PRMRFFS GOREL Gobierno Regional**,** Autoridad Portuaria Institucion del Estado, UNAS Universidad, Instituto Geofisico del Peru – IGP Institucion del Estado, FENAMAD Sociedad Civil, Gobierno Regional de Apurimac Gobierno Regional, Direccion Regional de Relaciones Exteriores, ALA - Alto Mayo Institucion del Estado, ALA - Tingo Maria Institucion del Estado, Direccion Regional de Energia y Minas – DREM - Institucion del Estado, Amazonicos por la Amazonia – AMPA ONG, ALA – Bagua Institucion del Estado, AAA – Marañon Institucion del Estado, ALA - Chinchipe – Chamaya Institucion del Estado, Municipalidad de Alto Nanay Gobierno local**,** Servicio de Hidrografia y Navegación de la Amazonia – SHNA Institucion del Estado, DRA – Huanuco Institucion del Estado, , GOREMAD Gobierno Regional, Coordinadora de las Comunidades Nativas y Campesinas del Alto Nanay – CONACCUNAY Sociedad Civil, MINAM – Loreto Institucion del Estado, Municipalidad Distrital Alto Nanay Gobierno local, INIA Centro de Investigacion	Relevant Stakeholders from civil society organizations, Public and private institutions participating in national TDA/SAP workshops
ANA – Autoridad Nacional de Agua, Coordinador Nacional del Proyecto Autoridad Nacional del Agua, Unidad de Cooperación Internacional de la Autoridad Nacional del Agua, Conservacuión y Planeamiento de Recursos Hídricos IIAP (Iquitos) Jefe de la Autoridad Nacional del Agua -	Focal Point and Relevant Stakeholders participating actively in the SAP development
SURINAME: OIS/COICA, VIDS, NVB, PAHO, Hydraulic Department (OW), Meteorology Department (OW), Water Management/Planning (LVV), Drinking Water Provision (NH), Natural Resources (NH), Labor, Technology Development & Environment (ATM), Health (VG), Bureau of Health (VG), , Representative of the District Commissioner Coronie (RO), Representative of the District Commissioner Wanica (RO), Representative of the District Commissioner Paramaribo N-O (RO), Representative of the District Commissioner Saramacca (RO), Representative of the District Commissioner Commewijne (RO), Representative of the District Commissioner Sipaliwini (RO), IMWO, NZCS, National Herbarium, AdeK/Environment Sciences of the Faculty of Technology, Waterforum Suriname, OWMCP, Maritime Authority.	Relevant Stakeholders from civil society organizations, Public and private institutions participating in national TDA/SAP workshops
Foreign Affairs	Focal Point
VENEZUELA: Ministry of People's Power for Health, Ministry of People's Power for Indigenous Peoples, Ministry of People's Power for Foreign Affair, Ministry of People's Power for Eco-socialism and Water, Ministry of People's Power for Culture, Ministry of People's Power for defense, National Statistics Institute (INE), National Parks Institute (INPARQUES).	Relevant Stakeholders from civil society organizations, Public and private institutions participating in national TDA/SAP workshops

Oficina de Asuntos Multilaterales y de Integración del Ministerio del Poder Popular para Relaciones Exteriores Director General de Cuencas - Ministerio del Poder Popular para Ecosocialismo y Agua	Focal Point and Relevant Stakeholders participating actively in the SAP development

ANNEX D: Preliminary Theory of Change analysis of the UN Environment/GEF/ACTO Amazon SAP Implementation Project.