



Amazon Sustainable Landscapes Program - Phase II

Part I: Program Information

GEF ID

10198

Program Type

PFD

Type of Trust Fund

GET

Program Title

Amazon Sustainable Landscapes Program - Phase II

Countries

Regional, Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname

Agency(ies)

World Bank, CI, FAO, IFAD, UNDP, UNIDO, CAF, WWF-US

Other Executing Partner(s)

Executing Partner Type

Governments of Participating Countries

Government

Other Participating Institutions

Others

GEF Focal Area

Multi Focal Area

Taxonomy

Forestry - Including HCVF and REDD+, Mainstreaming, Biodiversity, Artisanal and Scale Gold Mining, Mercury, Chemicals and Waste, Focal Areas, Gender results areas, Gender Equality, Capacity Development, Access and control over natural resources, Participation and leadership, Influencing models, Integrated Programs, Land Degradation, Strengthen institutional capacity and decision-making, Behavior change, Communications, Stakeholders, Awareness Raising, Strategic Communications, Private Sector, Indigenous Peoples, Type of Engagement, Partnership, Participation, Information Dissemination, Consultation, Civil Society, Non-Governmental Organization, Academia, Community Based Organization, Local Communities, Beneficiaries, Forest, Amazon, Sustainable Land Management, Climate Change, Climate Change Mitigation, Agriculture, Forestry, and Other Land Use, Landscape Restoration, Food Systems, Land Use and Restoration, Knowledge Generation, Capacity, Knowledge and Research, Training, Knowledge Exchange, South-South, Learning, Theory of change, Innovation, Forest and Landscape Restoration, Ecosystem-based Adaptation, Climate Change Adaptation, United Nations Framework Convention on Climate Change, Paris Agreement, Agriculture and agrobiodiversity, Biomes, Tropical Rain Forests, Protected Areas and Landscapes, Productive Landscapes, Terrestrial Protected Areas, Community Based Natural Resource Mngt, Financial and Accounting, Conservation Trust Funds, Conservation Finance, Sustainable Development Goals, Sustainable Livelihoods, Community-Based Natural Resource Management, Sustainable Forest, SMEs, Financial intermediaries and market facilitators, Gender Mainstreaming, Sex-disaggregated indicators, Workshop

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 0

Duration

60 In Months

Agency Fee(\$)

7,947,473

Program Commitment DeadlineSubmission Date

12/14/2020

5/6/2019

Impact ProgramIP-Food-Land-Restoration **No**

IP-Sustainable Cities **No**

IP-Sustainable Forest Management Amazon **Yes**

IP-Sustainable Forest Management Congo **No**

IP-Sustainable Forest Management Drylands **No**

Other Program **No**

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Expected Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
IP SFM Amazon	<ul style="list-style-type: none"> • Increased area of globally significant forest ecosystems in new protected areas; improved protected area financial sustainability and management effectiveness; • increased area of native forests managed sustainably; • reduction in the loss of native forests; • increase in area of restored forest ecosystems; • improved and coordinated management of freshwater ecosystems; • sector policies and regulations that are increasingly favorable for the reduction of deforestation through an integrated landscape and sector-based approach 	GET	88,305,273	509,513,896
Total Program Cost (\$)			88,305,273	509,513,896

B. Indicative Project description summary**Program Objective**

To improve integrated landscape management and conservation of ecosystems in targeted areas in the Amazon region.

Program Component	Financing Type	Program Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 1- Integrated Protected Landscapes	Investment	<p>1.1. Increased area of globally significant forest and freshwater ecosystems under legal protection (e.g., national/sub-national protected areas, heritage sites, RAMSAR sites, indigenous lands, etc.)</p> <p>1.2. Strengthened protected area management (including indigenous lands/subnational, national and trans-border level)</p> <p>1.3. Enhanced long term financing for national protected area systems</p>	GET	21,901,938	152,440,787
Component 2- Integrated Productive Landscapes	Investment	<p>2.1 Increased areas of forests and watersheds brought under sustainable land and water management (SLWM) practices</p> <p>2.2 Increased capacity for and participation in sustainable forest- and freshwater-friendly value chains</p> <p>2.3 Increased area restored or at least undergoing restoration or regeneration</p>	GET	35,468,023	197,306,258

Component 3 - Policies/Incentives for Protected and Productive Landscapes	Investment	<p>3.1 Strengthened capacity to enforce policy and regulatory frameworks for natural resource conservation/sustainable use and combatting illegal activities</p> <p>3.2 Mainstreaming environmental concerns into economic sectors which currently lead to land clearing and forest degradation (agriculture, forestry, extractive industries, infrastructure)</p> <p>3.3. Increased participatory governance and planning for landscape connectivity, including watersheds (sub-national, national and multi-national levels)</p> <p>3.4. Enhanced technical support and financial incentives for adoption of SLWM.</p> <p>3.5. Strengthened environmental and social monitoring frameworks, systems and tools</p>	GET	10,371,387	65,359,585
component 4-Capacity Building and Regional Coordination	Technical Assistance	<p>4.1 Strengthened implementation capacity among national project stakeholders</p> <p>4.2 Strengthened capacity for regional coordination to manage terrestrial and freshwater ecosystems.</p> <p>4.3 Increased stakeholder knowledge on conservation and SLWM in the Amazon</p> <p>4.4 Strengthened Program level monitoring and evaluation system</p>	GET	16,752,097	72,975,094
Sub Total (\$)				84,493,445	488,081,724
Program Management Cost (PMC) ⓘ					
			GET	3,811,828	21,432,172
Sub Total(\$)				3,811,828	21,432,172
Total Program Cost(\$)				88,305,273	509,513,896

C. Co-Financing for the Program by Source, by Name and by Type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
GEF Agency	CAF	Loans	Investment mobilized	9,104,978
GEF Agency	CAF	Grant	Investment mobilized	35,000
Government	Colombia: National government agencies (MADS, PNN, SINCHI, IDEAM, MARD)	In-kind	Recurrent expenditures	12,500,000
Government	Sustainable Development Fund - Colombia Peace Fund (Carbon Tax (5%, 25%))	Public Investment	Investment mobilized	30,000,000
Government	Colombia: Regional government agencies (Department governments and Regional Autonomous Corporations)	In-kind	Recurrent expenditures	8,000,000
Government	Ecuador: Ministry of Environment	In-kind	Recurrent expenditures	30,000,000
Government	Ecuador: Technical Secretariat of the Special Amazonian Territorial Circumscription (CTEA)	Public Investment	Recurrent expenditures	10,000,000
GEF Agency	World Wildlife Fund, Inc.	In-kind	Recurrent expenditures	378,000
GEF Agency	Conservation International	In-kind	Recurrent expenditures	1,000,000
CSO	World Wildlife Fund, Ecuador	In-kind	Recurrent expenditures	2,000,000
Donor Agency	Ecuador: ProAmazonía	Grant	Recurrent expenditures	3,000,000

Donor Agency	REDD Early Movers (REM) in Ecuador	Grant	Recurrent expenditures	10,000,000
CSO	WWF Guianas	Grant	Recurrent expenditures	1,836,143
GEF Agency	Conservation International	Grant	Investment mobilized	1,000,000
GEF Agency	WWF US	In-kind	Recurrent expenditures	660,000
Private Sector	Variety Woods and Rong An Inc.	In-kind	Recurrent expenditures	140,000
Government	Guyana: Environmental Protection Agency	In-kind	Recurrent expenditures	2,158,173
Government	Guyana: Protected Areas Commission	In-kind	Recurrent expenditures	3,187,975
Government	Guyana Forestry Commission	In-kind	Recurrent expenditures	500,000
Government	Guyana Geology and Mines Commission	In-kind	Recurrent expenditures	700,000
Government	Guyana: Ministry of Natural Resources	In-kind	Recurrent expenditures	500,000
Government	Guyana: Department of Environment	In-kind	Recurrent expenditures	50,000
Government	Guyana Lands and Surveys Commission	In-kind	Recurrent expenditures	6,077,000
CSO	Indigenous organizations in Peru	In-kind	Recurrent expenditures	500,000

Government	Bolivia: SERNAP	In-kind	Recurrent expenditures	18,725,052
Government	Bolivia: SISCO SPAP	Unknown at this stage	Investment mobilized	2,543,973
Donor Agency	Italian Government Cooperation	Grant	Investment mobilized	617,602
Government	Brazil: Ministry of Environment	In-kind	Recurrent expenditures	17,500,000
Government	Brazil: State Environmental Agencies	In-kind	Recurrent expenditures	10,400,000
Government	Brazil: Legal Provisions (from regulations governing environmental compensation)	Grant	Recurrent expenditures	5,500,000
Donor Agency	USAID (Amazon Biological Resource Conservation Program)	Grant	Recurrent expenditures	35,000,000
CSO	Conservation International - Brazil	In-kind	Recurrent expenditures	7,100,000
CSO	FUNBIO	In-kind	Recurrent expenditures	20,500,000
GEF Agency	World Bank	Grant	Investment mobilized	20,000,000
CSO	Gordon and Betty Moore Foundation	Grant	Investment mobilized	1,000,000
CSO	Andes Amazon Fund (management plan PNN Chibiriquete)	Grant	Investment mobilized	1,000,000
CSO	Conservation and Sustainable Development Foundation (with funds from Andes Amazon Fund and RainForest)	Grant	Investment mobilized	1,000,000

Donor Agency	NICFI- KFW-GIZ -UK (Defra) (jointly donating to Colombia - REM Vision Amazonia Program)	Grant	Investment mobilized	25,000,000
Donor Agency	NICFI- (Colombia - Ambiente para la PAZ)	Grant	Investment mobilized	2,000,000
Donor Agency	USAID	Grant	Investment mobilized	3,800,000
Donor Agency	KfW Sustainable Strategy for Colombia's SINAP	Grant	Investment mobilized	1,000,000
Donor Agency	GIZ (Colombia: AMPAZ)	Grant	Investment mobilized	3,000,000
Donor Agency	Netherlands (through International Tropical Timber Organization (ITTO))	Grant	Investment mobilized	2,000,000
Donor Agency	European Union (Colombia- MASCAPAZ Project, PNN Project)	Grant	Investment mobilized	4,000,000
GEF Agency	Green Climate Fund WB Colombia Project	Grant	Investment mobilized	5,000,000
GEF Agency	World Bank - Multipurpose Cadaster Project	Loans	Investment mobilized	10,000,000
Donor Agency	SECO, FIP, USAID, AECID.	Grant	Investment mobilized	5,000,000
GEF Agency	FAO, UNIDO	Grant	Investment mobilized	4,000,000
GEF Agency	IFAD	Loans	Recurrent expenditures	5,000,000
Private Sector	Candela Peru, Stingray Aquarium SAC, Natura, Cámara de Comercio de Pueblos Indígenas del Perú, National Society of Industry, others.	In-kind	Recurrent expenditures	500,000

Government	Peru: Ministry of the Environment, Ministry of Agriculture and Irrigation, Ministry of Production.	Public Investment	Investment mobilized	78,000,000
Government	Peru: Regional and local governments.	Public Investment	Investment mobilized	27,000,000
CSO	NGOs (e.g., ACT, WWF, Tropenbos, IICA)	Grant	Recurrent expenditures	500,000
CSO	NGOs (e.g., ACT, WWF, Tropenbos, IICA)	In-kind	Recurrent expenditures	250,000
CSO	NGOs (e.g., ACT, WWF, Tropenbos, IICA)	Grant	Investment mobilized	250,000
Private Sector	Suriname Forestry, mining, tourism and agricultural sectors	Grant	Recurrent expenditures	1,750,000
Private Sector	Suriname Forestry, mining, tourism and agricultural sectors	In-kind	Recurrent expenditures	1,500,000
Private Sector	Suriname Forestry, mining, tourism and agricultural sectors	Grant	Investment mobilized	750,000
Government	Suriname: Ministry of Finance	Grant	Recurrent expenditures	225,000
Government	Suriname: Ministry of Finance	Grant	Investment mobilized	19,775,000
Government	Suriname Line ministries: RGB, MNH, SBB, LVV, Ministry of Trade, Industry and Tourism and Ministry of Regional Development	Grant	Recurrent expenditures	2,500,000
Government	Suriname Line ministries: RGB, MNH, SBB, LVV, Ministry of Trade, Industry and Tourism and Ministry of Regional Development	In-kind	Recurrent expenditures	1,500,000
Government	Suriname Line ministries: RGB, MNH, SBB, LVV, Ministry of Trade, Industry and Tourism and Ministry of Regional Development	Grant	Investment mobilized	1,000,000

CSO	Gordon and Betty Moore Foundation	In-kind	Recurrent expenditures	20,000,000
GEF Agency	World Bank	In-kind	Recurrent expenditures	10,000,000
			Total Program Cost(\$)	509,513,896

Describe how any "Investment Mobilized" was identified

Of the total USD 509 million estimated at this stage for cofinancing for the ASL2 Program, USD 265 million (52%) has been mobilized as in direct investment. This cofinancing is derived from diverse sources including donor agencies, private sector, foundations, international NGOs and others.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
CAF	GET	Bolivia	Biodiversity	BD STAR Allocation	6,900,226	621,020	7,521,246
CAF	GET	Bolivia	Multi Focal Area	IP SFM Amazon Set-Aside	3,155,963	284,037	3,440,000
World Bank	GET	Brazil	Biodiversity	BD STAR Allocation	13,577,982	1,222,018	14,800,000
World Bank	GET	Brazil	Multi Focal Area	IP SFM Amazon Set-Aside	5,706,422	513,578	6,220,000
World Bank	GET	Colombia	Biodiversity	BD STAR Allocation	9,043,250	813,893	9,857,143
World Bank	GET	Colombia	Climate Change	CC STAR Allocation	2,712,975	244,168	2,957,143
World Bank	GET	Colombia	Land Degradation	LD STAR Allocation	904,325	81,389	985,714
World Bank	GET	Colombia	Multi Focal Area	IP SFM Amazon Set-Aside	5,706,422	513,578	6,220,000
CI	GET	Ecuador	Biodiversity	BD STAR Allocation	1,734,862	156,138	1,891,000
CI	GET	Ecuador	Multi Focal Area	IP SFM Amazon Set-Aside	1,018,348	91,652	1,110,000
WWF-US	GET	Ecuador	Biodiversity	BD STAR Allocation	1,734,863	156,137	1,891,000
WWF-US	GET	Ecuador	Land Degradation	LD STAR Allocation	458,715	41,285	500,000
WWF-US	GET	Ecuador	Multi Focal Area	IP SFM Amazon Set-Aside	1,018,348	91,652	1,110,000
WWF-US	GET	Guyana	Biodiversity	BD STAR Allocation	3,519,725	316,775	3,836,500
WWF-US	GET	Guyana	Multi Focal Area	IP SFM Amazon Set-Aside	1,633,028	146,972	1,780,000

FAO	GET	Peru	Biodiversity	BD STAR Allocation	5,302,797	477,250	5,780,047
IFAD	GET	Peru	Biodiversity	BD STAR Allocation	1,320,684	118,862	1,439,546
UNIDO	GET	Peru	Biodiversity	BD STAR Allocation	2,285,453	205,691	2,491,144
UNIDO	GET	Peru	Climate Change	CC STAR Allocation	900,120	81,011	981,131
FAO	GET	Peru	Land Degradation	LD STAR Allocation	900,120	81,011	981,131
UNIDO	GET	Peru	Multi Focal Area	IP SFM Amazon Set-Aside	1,979,110	178,120	2,157,230
FAO	GET	Peru	Multi Focal Area	IP SFM Amazon Set-Aside	1,516,551	136,490	1,653,041
IFAD	GET	Peru	Multi Focal Area	IP SFM Amazon Set-Aside	1,394,248	125,482	1,519,730
UNDP	GET	Suriname	Biodiversity	BD STAR Allocation	1,766,055	158,945	1,925,000
UNDP	GET	Suriname	Climate Change	CC STAR Allocation	883,028	79,472	962,500
UNDP	GET	Suriname	Land Degradation	LD STAR Allocation	883,028	79,472	962,500
UNDP	GET	Suriname	Multi Focal Area	IP SFM Amazon Set-Aside	1,633,027	146,973	1,780,000
CI	GET	Ecuador	Land Degradation	LD STAR Allocation	458,717	41,283	500,000
World Bank	GET	Regional	Multi Focal Area	IP SFM Amazon Set-Aside	8,256,881	743,119	9,000,000
Total GEF Resources(\$)					88,305,273	7,947,473	96,252,746

Core Indicators

Indicator 1 Terrestrial protected areas created or under improved management for conservation and sustainable use ⓘ

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
31,733,872.00	0.00	0.00	0.00

Indicator 1.1 Terrestrial Protected Areas Newly created ⓘ

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

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness ⓘ

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
31,733,872.00	0.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Ha (Expected at PIF) ⓘ	Ha (Expected at CEO Endorsement) ⓘ	Total Ha (Achieved at MTR) ⓘ	Total Ha (Achieved at TE) ⓘ	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
global		Protected Landscape/Seascape	31,733,872.00						

Indicator 3 Area of land restored ⓘ

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
18600.00	0.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural land restored ⓘ

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

Indicator 3.2 Area of Forest and Forest Land restored ⓘ

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
18,600.00			

Indicator 3.3 Area of natural grass and shrublands restored ⓘ

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

Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored ⓘ

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

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
16490729.00	0.00	0.00	0.00

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
16,490,729.00			

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Type/Name of Third Party Certification

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided 

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Documents (Please upload document(s) that justifies the HC VF)

Title

Submitted

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	29862205.00	0.00	0.00	0.00
Expected metric tons of CO ₂ e (indirect)	0.00	0.00	0.00	0.00

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	29,862,205.00			
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting	2020			
Duration of accounting	5			

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector ⓘ

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)				
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable) ⓘ

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable) ⓘ

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

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

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	14,506			
Male	17,715			
Total	32221	0	0	0

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

Program contributes to the following Aichi targets: Targets 4, 12, 14, 18 and 19 (details in section 7 consistency with national priorities). Green Gas Emissions mitigation estimates are based on Ex-Ante Carbon-balance Tool (EX-ACT) developed by FAO, except for Ecuador and Guyana that follow their official methodologies. The methodology measures carbon-balance defined as the net balance from all greenhouse gases (GHGs) expressed in CO₂equivalent that were emitted or sequestered due to project implementation as compared to a business-as-usual scenario.

Part II. Programmatic Justification

1a. Program Description

1) Global environmental problems, root causes and barriers that need to be addressed

1. The Amazon rainforest is an important constituent of the global biosphere and a global public good that benefits humankind by supporting an array of ecosystem services. It is home to possibly a quarter of the world's terrestrial species, accounts for about 15% of global terrestrial photosynthesis, provides a major carbon sink, and drives atmospheric circulation and precipitation across South America and beyond. However, the Amazon rainforest is also one of the most threatened environments worldwide, with deforestation a particularly pressing problem, mostly in the form of agricultural expansion. Since 1970, about 15% of the Amazon rainforest, an area larger than France, has been lost, and deforestation is expected to continue despite efforts to control it[1].

2. The Amazon is the world's largest rainforest and river system[2], comprising 670 million hectares (ha) of forest and 100 million ha of freshwater ecosystems. It sits within the world's largest river basin, extending 611.8 million ha and covering 44% of South America[3]. The Amazon ranges across eight countries (Brazil 59%, Peru 11%, Colombia 8%, Venezuela 7%, Bolivia 6%, Guyana 4%, Suriname 2% and Ecuador 2%), as well as the overseas territory of French Guiana (1%)[4]. It hosts various ecosystems – notably forest, savannah, river and wetland - with exceptional biodiversity richness (much of which is still unknown). To cite but a few numbers, it hosts 40% of the world's remaining rainforest and an impressive variety of wetlands, covering about 14% of the territory. The population of the Amazon is estimated at 34 million people including over 350 indigenous groups. The region includes 210 million ha of protected areas and around 3,000 indigenous territories covering over 200 million ha. The land-uses of the Amazon are approximately 80% forest[5] and 20% agriculture and livestock production[6]. Other land-uses accounting for small shares include cities[7], industrial plants and roads.

3. Conserving the Amazon biome is of critical global, regional and local importance. The Amazon's biodiversity is a global treasure of exceptional richness. It is home to about 40,000 plant species, over 2,500 species of freshwater fish, 1,300 species of birds, 427 species of mammals, 400 species of amphibians and 370 species of reptiles[8]; including many endemic and endangered plant and animal species, such as the jaguar (*Panthera onca*), the Amazon river dolphin (*Inia geoffrensis*) and the giant pirarucu (*Arapaima gigas*) as well as many fish species that evolved with flooded rainforests to feed on fruits and other tree-borne foods. As well as its intrinsic existence ethical value for human civilization and option value (e.g., for future generations), it provides numerous ecosystem services.

4. Regarding carbon sequestration and global climate change, the carbon balance of global tropical ecosystems continues to be debated, but the amounts stored in the forests and soils of the Amazon are huge. While numbers may differ, it is estimated that about 90-140 billion metric tons of carbon (i.e., 340-513 billion tons eq CO₂) are stored in the Amazon trees. If that carbon is released into the atmosphere through deforestation and forest degradation, global warming could be significantly accelerated.

5. In terms of carbon dynamics, top-down atmospheric approaches suggest a role as a carbon sink, making conservation of its forests an important tool in combatting climate change. However, bottom-up ecological approaches imply that, as a result of increased deforestation and reduced tree density, the tropical forests of the Americas, including the Amazon, could in fact be already acting as a moderate net carbon source instead of a sink, releasing 325 ± 73 million tons of CO₂ equivalent each year^[9].

6. The Amazon forests also contribute to local and regional climate patterns. Water cycles and air movements are strongly influenced by the Amazon. Evapotranspiration is a key process in regional hydrological and climate patterns, with the Amazon ecosystems returning around $9,600 \text{ km}^3 \text{ yr}^{-1}$ of rainwater to the atmosphere. The Amazon forest plays an active role in rain patterns, from the formation of raindrops^[10], through triggering the rainy season and regulating its patterns, to influencing wind patterns from the Atlantic Ocean^[11]. 30-50% of rainfall in the Amazon basin comprises recycled evaporation and part of this water vapor is transported by wind to other parts of the continent where it plays a significant role in feeding rainfall in key remote regions especially for agriculture production, e.g., Rio de La Plata basin and the Argentina Pampas^{[12],[13]}.

7. In addition to their role in biodiversity conservation, carbon storage and climate regulation, the complex biogeographic interactions of the Amazon provide numerous ecosystem services (as defined in the 2005 Millennium Ecosystem Assessment^[14]). They include, *inter alia*: (a) *provisioning* material goods (e.g., wood, medicines) and food (e.g., Brazil nuts, fruits, but also fish^[15]), as well as clean freshwater; (b) *regulating* hydrological and biogeochemical cycles, as well as regional and global climate, providing energy and sediment/nutrient deposition in floodplains; (c) sustaining *cultural* practices; and (d) *supporting* the provision of habitat, contributing to the maintenance and generation of regional biodiversity. Additionally, the Amazon's extensive riverine network plays an important role as a transportation system.

8. In the late 15th century, the total number of indigenous people was estimated to be over 6 million^[16]. There are currently 390 indigenous villages in the Amazon, plus 66 living in voluntary isolation, together accounting for more than 2.5 million indigenous people with a unique cultural diversity, based on a holistic relationship to their territory^[17]. The forests and waters of the Amazon have provided the basis for the development of traditional knowledge and practices by the local populations, especially indigenous peoples and their cultures. Thanks to such knowledge, indigenous peoples have lived in harmony with nature for centuries. Such knowledge has intrinsic value and is also useful for identifying species that may be used, for example, in the medical sector, but also to conserve forest and aquatic ecosystems. For example, the Tisame people of the Bolivian Amazon use about 20% of all plants consumed for medicinal purposes^[18].

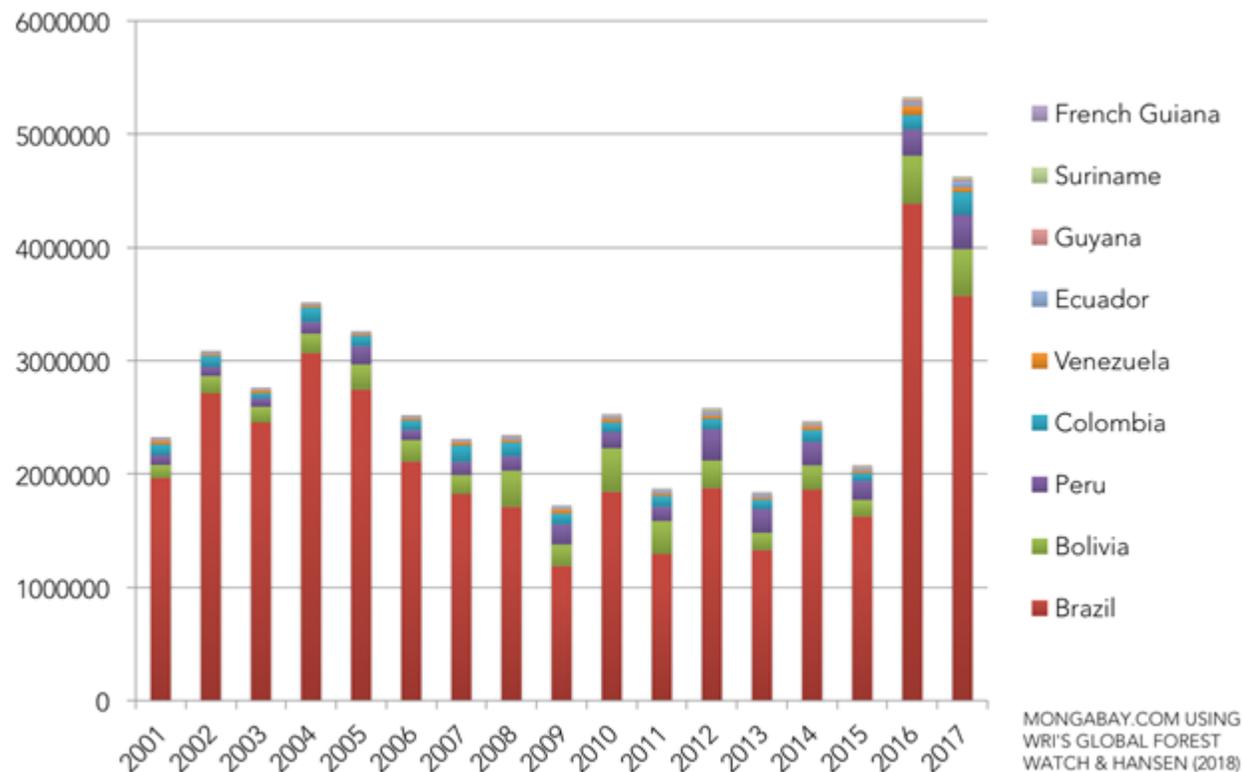
9. The ecosystem services provided by the Amazon forest are tremendously important, however, economic valuations of these remains scarce. The Amazon's contribution to Brazil's economy on an annual basis is around USD 8.2 billion^[19]. From this total, USD 3.3 billion come from privately owned forest areas and USD 3 billion are derived from protected areas, including strict protection, sustainable use areas, and indigenous lands. Another USD 1.9 billion per year come from non-designated forest areas. Their conversion to other land-uses could affect agricultural production due to the impact of deforestation on rainfall reduction, which is estimated to be USD 422 million losses annually, the equivalent to 35% of the net profit from the soy industry in the Brazilian Mato Grosso State, the largest soy producer. In Peru, tourism has managed to raise approximately 82 million soles (USD 24.55 million) in 18 PNAs in 8 years. As

such, the sustainable use of these forests not only conserves biodiversity and associated ecological processes, but also ensures the high productivity of agricultural production. Taking another example, migratory fish (e.g., catfish) is the source of more than two thirds of the protein that feed the millions of people living on the banks of the Amazon rivers and beyond. Additionally, willingness to pay studies demonstrate that there is a value attributed by the general public to the Amazon and the cultural and natural elements it comprises^[20].

Amazon Under Pressure

10. Deforestation and forest degradation: The Amazon forest and freshwater ecosystems, and the global, regional and local services they provide, are, however, at risk of deforestation and degradation (as illustrated by Map 1). Deforestation trends continue or are increasing again (Figure 1). In Brazil for example, after 10 years of successful efforts to curb deforestation^[21], the trend has been going up again in the last 4 years^[22] (see below). Similarly, the Colombian Institute of Hydrology, Meteorology and Environmental Studies (IDEAM), through the forest and carbon monitoring system, has estimated that between 1990 and 2017, the country lost more than 6.7 million ha to deforestation. The worst year was 2017, when 219,973 ha were lost, an increase of 23% from 2016. Deforestation reached 554,232 ha in 2016 and 2017 in the Bolivian forests. New deforestation fronts are also opening in the Andean Amazon and the Guiana Shield^[23]. Aside from deforestation, another important threat that is more difficult to define and monitor is forest degradation.

Figure 1: Annual forest loss in the Amazon Biome, 2001-2017



Source: <https://news.mongabay.com/2015/05/whats-the-current-deforestation-rate-in-the-amazon-rainforest/>

11. Deforestation in the Amazon biome is leading to a dramatic loss in biodiversity. For example, a recent study shows that under projected trends of continuing deforestation, up to 57% of all Amazon tree species are likely to become globally threatened, including rare species^[24]. The loss occurs directly, through extraction of valuable resources, such as trees, endangered species, and their genetic material, but also indirectly by reducing the habitat for terrestrial and aquatic species. Deforestation also causes fragmentation, which is considered a key cause of biodiversity loss worldwide^[25]. In addition, the changing climate has further negative impacts on biodiversity. The capacity of the remaining forests and other natural habitats to continue sustaining biodiversity will depend on the size, quality and connectivity of the remaining habitat patches, but also how they will respond to climate change and invasive species^[26].

MAP 1: DEFORESTATION OF THE AMAZON FOREST



12. Protected areas and indigenous territories are important tools for combating carbon emissions and biodiversity loss. About half of the Amazon is currently designated as a protected area or as indigenous territory^[27], however, despite this, certain forest and freshwater ecosystems are under-represented and there are connectivity gaps. Additionally, although the designated areas overall have lower deforestation rates than the rest of the Amazon^[28], they are still experiencing deforestation. In 2012, a study by the Geo-referenced Information Project (RAISG), a network of non-governmental organizations (NGOs) and environmental groups, found that 80% of protected areas and 95% of indigenous territories were affected by some combination of road, oil and gas, mining, energy development, fire, and deforestation. More recently, the 2018 RAISG map shows, for example, that 36 million ha of indigenous territories and 22 million ha of protected areas overlap with mining areas (including all stages from areas under investigation to areas in exploitation); 4.8 million ha of indigenous territories and 5.5 million ha of protected areas are deforested; and 16,900 km of roads are overlapping with indigenous territories and 9,100 km of roads overlapping with protected areas.

13. Another consequence of deforestation and forest degradation is the release of the carbon they sequester into the atmosphere – and given the high levels of sequestration in the Amazon the release of even a portion of the carbon stored could accelerate global warming significantly. The total committed gross carbon emissions in the Amazon basin generated by deforestation (above and below ground biomass) between 2000 and 2010 was 666 ± 269 million tons of CO_2 equivalent yr^{-1} ($0.18 \pm 0.07 \text{ Pg C yr}^{-1}$)^[29]. Reducing deforestation would thus play a key role in regulating global climate^[30].

14. Water pollution: Pollution of the Amazon river network is a growing issue with different components. Mercury from alluvial gold mining is the main hazardous pollutant in the region's water, soil, sediments and air^[31]. In the Amazon, it is estimated that artisanal and small-scale gold mining (ASGM) is responsible for 71% of all mercury emissions, exceeding 200 metric tons per year. In the Guyanas, a study estimates that emissions related to ASGM are directly responsible for the contamination of about 6,000 km of waterbodies^[32]. Another potential source of water pollution is oil spills, many of which have already occurred in the Amazon, leading to significant impacts on biodiversity and freshwater^[33]. Other sources of pollution include the use of pesticides and chemical products from the agricultural industry, sediments linked to tree removal, intensive transportation activities as well as household and industrial effluents released into the rivers^[34].

15. Water pollution has impacts on aquatic life, but also on human population's health, for example through ingestion of mercury directly or through the food chain, even miles away (e.g., Paramaribo, the capital of Suriname, has significant levels of mercury despite being far from mines^[35]).

16. In addition to the challenge of water pollution, a recent study shows that the extent of surface water in the Amazon has been reducing over the last 33 years by 35,000 ha per year on average (1.15 million ha between 1985 and 2017), with the most rapid changes occurring after 2010 (averaging nearly 140,000 ha/year). The process is accentuated in wetlands and flood plains along rivers and lakes. Statistical tests do not allow a direct link between deforestation and reduced surface water to be made (areas with high forest cover experience similar surface water reduction than deforested areas). However, while further research is needed to assess the role played by climate change in this trend, the research gives a further proof that climate in the Amazon is changing with dry years being drier than would have been expected in the past^[36].

17. Climate change: Trends related to climate change impacts are being observed. The Amazon is experiencing a warming process estimated between 0.6 and 0.7°C and projections suggest an increase of 4°C and reduction of rainfall by 40% in the Amazon by the end of the 21st century. Data already show an increase in the number of droughts and in the length of the dry season^[37], which are directly related to the increasing frequency and intensity of fires, also associated with increased forest fragmentation. These impacts are likely to exacerbate the problems related to deforestation and degradation.

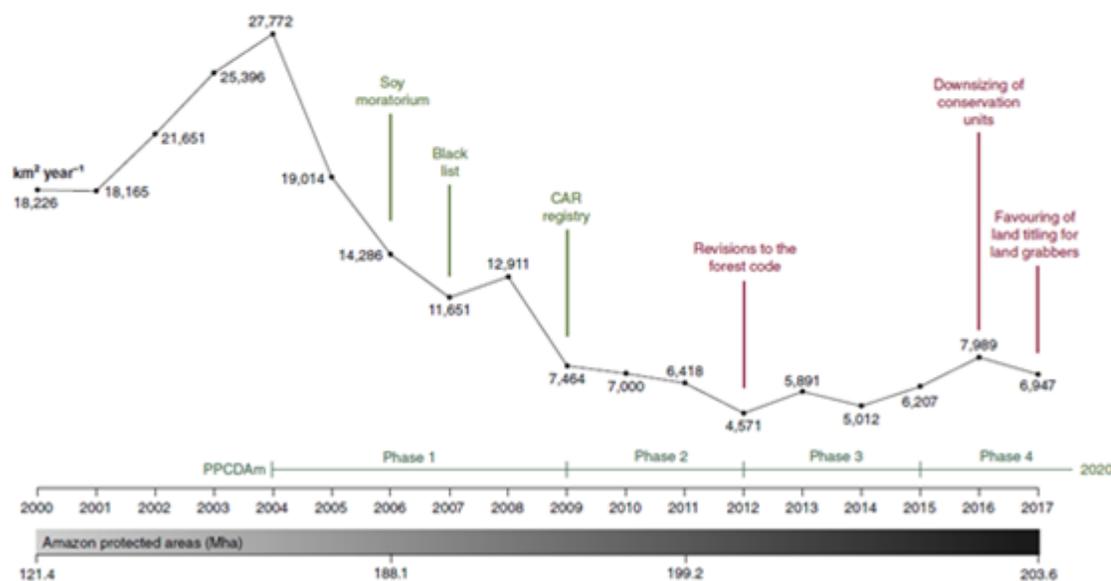
18. Problem statement: Deforestation, degradation, fragmentation, over-exploitation of forest and freshwater of the Amazon have far-reaching consequences in terms of biodiversity loss, carbon storage and thus global climate change, and regional and local water supply, including for South-American agriculture. As about 80% of the territory consists of forests, it is the area where efforts should be concentrated. As approximately half of the Amazon is under some form of legal protection (protected area or indigenous territory), such protection needs to be reinforced against human and climatic risks. The remaining half needs improved territorial planning and sustainable management to avoid forest loss, provide livelihoods for indigenous

peoples and local communities, and serve as the basis of sustainable social and economic development of the Amazon countries. Together, these actions will improve the resilience of the Amazonian biome to climate change, reducing the risk of reaching a tipping point[38].

BOX 1: DEFORESTATION TRENDS IN THE BRAZILIAN AMAZON

Brazil implemented a series of targeted interrelated policies and actions that consistently reversed Brazilian Amazon deforestation, achieving an 84% reduction from 2004-2012, and contributed significantly to improving governance and transparency (Figure 2). These initiatives included, expanding the protected area network by 60%— with many of these established as green barriers to impede deforestation in regions beset with land conflicts; recognition of indigenous lands; land titling and allocation of federal public lands (Terra Legal Program); satellite-based monitoring and enforcement to reduce illegal logging and deforestation, including imposing fines and embargoes; pursuit of fake environmental licenses and enforcement of rules by public prosecutors to ensure that the beef industry excluded illegal deforesters from its supply chain; banning access to credit for rural landowners in the high deforestation 'blacklisted' municipalities; putting in place a soy moratorium for recently cleared lands; and, more recently, making the rural environmental registry (CAR) mandatory. More generally, environmental regulations were strengthened and environmental harm was designated a crime. These actions individually and cumulatively served to raise awareness among stakeholders and discourage deforestation by private land owners.

FIGURE 2: ANNUAL DEFORESTATION RATES IN THE BRAZILIAN AMAZON FROM THE OFFICIAL MONITORING PROGRAM (PRODES) 2000-2017 WITH THE MAIN EVENTS THAT INFLUENCED DEFORESTATION REDUCTION (IN GREEN) AND THE RECENT REVERSALS (IN RED).



Legend: PPCDAm is the Portuguese acronym for Action Plan for Deforestation Prevention and Control in the Legal Amazon. CAR Registry is the rural cadaster, made mandatory by the Brazilian forest legislation (Forest Code). Black list refers to the date upon which the municipalities with the highest deforestation rate was made public.

Source: Soares Filho, B and Rajao R (2018) Traditional conservation strategy still the best option. Nature sustainability Volume 1, 6082610

Proximate drivers and root causes of deforestation and degradation in the Amazon

19. The current deforestation, degradation, fragmentation and over-exploitation of the Amazon forest and freshwater, stated above as the major problem to be addressed, are a direct result of drivers that are caused by several and synergistic root causes.

20. The main direct drivers are described below and clustered as follows: (a) unplanned land use expansion and unsustainable land/ water use practices, including from the following sectors: livestock, agriculture, fishing, extractives (minerals and oil/gas); (b) illegal activities (land grabbing, timber, gold, illicit crops, wildlife); (c) infrastructure (roads and hydropower); and (d) climate change (extreme climate events, fires). These direct drivers can be observed in varying degrees in the individual countries hosting the Amazon[39]. There is rarely a single direct cause for deforestation, instead in any given place several causes may be at play. The root causes generally associated to the proximate drivers of deforestation and degradation in the Amazon include: (a) high economic incentives and returns for conversion compared to standing forest values; (b) limited state capacity and resources for monitoring and enforcement; (c) weak governance over natural resources management; (d) market failures, including lower returns from sustainable legal use of wild animals/plants and timber; (e) weak/insecure land tenure; and (f) inadequate perception of the importance of conserving natural resources from the Amazon. The section below describes proximate drivers and root causes, and their relationships.

a) Unplanned land use expansion and unsustainable land/water use practices.

21. *Livestock and Agriculture:* Illegal timber exploration followed by agricultural expansion is, by far, the leading direct land-use change driver associated with deforestation in the Amazon and other tropical rainforests around the world. The opening of pastures for cattle ranching occurs in areas where mature forests have been previously degraded by selective logging of high value timbers or cleared by small farmers practicing slash and burn agriculture. Cattle ranching continues to be a significant driver of deforestation despite the phasing out of policies that incentivized low productivity commodity production. Due to the increasing global demand for soy meal and livestock feed, cattle production is displaced to the deforestation frontier and off productive land, thereby directly contributing to deforestation. A root cause of this displacement is the difference in land prices between the initial and future ranch land. Alone, the deforestation caused by cattle ranching in the whole Amazon is responsible for the release of 340 million tons of carbon to the atmosphere every year, equivalent to 3.4% of current global emissions[40]. Beyond forest conversion, selective logging and cattle pastures increase the risk of fire and are a significant driver of riparian and aquatic ecosystems degradation, causing soil erosion, river siltation and contamination with organic matter. Illegal crops such as coca farming pose further ecological and health risks, driving deforestation and chemical contamination in Peru and Colombia.

22. Amazonian countries face a huge challenge to handle these complex and different root causes to convert forests to croplands and pasture in the Amazon. Land use modeling simulations indicate the deforestation in Brazil decreases the Amazonian carbon sink role and triggers decreases in precipitation with negative effects on pasture and soybean productivity[41]. For pasture the reduction will be 30% and 34% respectively by 2050 under each of the following two scenarios: governance with environmental law implementation and business-as-usual where the current challenges to reduce conversion rates and to

create protected areas continue to be the same. For soybean, the negative impact in yield due to rising temperatures would be 24% and 28% respectively for each scenario. A decline by up to 65% from 2041-2060 is predicted in the biomass on the ground as a consequence of forest conversion and negative climate change feedback on primary ecosystem productivity,

23. Similar patterns are present in north-western Amazonia in Colombia where land use changes and deforestation are outcomes of complex root causes connecting dramatically forest conversion with pasture conversion[42]. Land use simulations for 2030 were developed evaluating forest loss, increased pasture conversion, forest fragmentation/degradation, and secondary vegetation regeneration. These include a business-as-usual scenario and two alternative ones, 50% reduction in the forest-pasture conversion and improved pasture management and zero forest conversion. An increase of 7.92% in deforestation (3,387,898 ha) and 52.5% in pastures (2,012,087 ha) is predicted in the business-as-usual scenario. The two alternative scenarios indicate, respectively, a smaller forest loss (1,998,299 ha or 4.6% and 612,989 ha or 1.4%) and a pasture increase of only 362,966 ha in the first alternative scenario and a reduction of 316,705 ha in the second alternative scenario. The consolidation of a colonization front by means of this small-scale deforestation pattern will transform the forest matrix of these landscapes into pasture dominated landscape, threatening the connectivity between the northern and southern parts of the Colombian Amazon. The results stress the importance of land sparing/land sharing discussion[43] to promote sustainable cattle ranching intensification, which would avoid deforestation by making better use of existing pastures.

24. About 83% of the expansion of the Brazilian herd from 147 million head of cattle in 1990 to approximately 200 million in 2007 occurred in the Brazilian Amazon. The rate of growth of the cattle herd from 2005 to 2012 in the northern Brazil was around 30%. Although the most important Brazilian cattle production region in volume and scale is the center-west, there is a clear migration of the herd to the northern states of Brazil, as the land use in areas previously occupied by livestock has and continues to be gradually changed to soybean, corn and other crops[44].

25. High economic incentives for conversion, compared to standing forest values, is the main root cause for unplanned land use expansion and unsustainable land/water use practices. The relationship between livestock and deforestation in the Amazon has been the object of a long debate. Since the 1990s, livestock production has been an increasingly important driver of deforestation over vast regions of Amazon, the root cause being the lack of viable alternatives (agriculture, forestry and agroforestry) with the required extractive, productive and fiscal mechanisms to generate economic value[45]. Root causes driving the deforestation from livestock in the Amazon include a set of different biological and market features where land markets; ancillary benefits not linked production (e.g., access to land, high fertility of soils in the first years of exploitation); and larger national macroeconomy contexts and choices from economic agents, act in synergistic way against the public policies to promote efficiency and law enforcement along this production chain. In more recent years, in the context of the land sparing/land sharing debate, sustainable intensification of the cattle ranching production chain has been considered as one important strategy to reduce deforestation along the agricultural frontier and to free up more suitable land for soybean and other grain production.

26. Due to the particularly low productivity of pastures in the Brazilian Amazon, sustainable intensification of the cattle ranching production chain is a key part of Brazilian Low Carbon Agriculture and of the National Determined Contribution to Paris Agreement. The major risks to this strategy are low demand/implementation in the key low productivity areas where it could make difference and the rebound effect (in other parts of the Amazon) whereby this intensification effort instead of decreasing demand for forest conversion actually increases it due increased profitability. Using a spatially explicit rent model,

30-year Net Present Values (NPVs) of extensive cattle ranching across the Brazilian Amazon were calculated based on the following variables: local effects of biophysical characteristics (e.g., soils, climate, vegetation, relief), infrastructure, land prices, and distance to markets and slaughterhouses[46]. The model output indicated where extensive ranching is profitable and how land acquisition affects profitability. In 17% to 80% of land in the Amazon, NPVs are moderate to high under extensive production systems if the holder accesses the area by land grabbing. In addition, 9% to 13% of land in the Amazon has positive NPVs only if the land is settled and not purchased, indicating that land speculation is and is likely to continue to be an important factor in extensive cattle ranching profitability. In this context, intensification policies such as concessional loans for degraded pasture recovery, better pasture management and more efficient production systems will only work if the part of the policy is complemented with technical assistance and law enforcement, especially with respect to land tenure and the Native Vegetation Protection Law, discouraging land speculation and increasing accountability for land management practices and traceability for animals.

27. *Fishing*: A direct driver of degradation of the Amazon fish stock is unsustainable fishing. Fishing is an important economic activity in the Amazon basin, for both commercial and nutritional values, as it generates USD 50 million in sales and thousands of people depend on fish for food[47]. Selective fishing however, endangers both the exploited species and the ecosystem to which they belong, causing irreversible damage. One of the root causes of overfishing is the limited state capacity and resources for monitoring and enforcement of sustainable fishing quotas. Also, local and/or traditional practices may no longer be sustainable following recent socio-economic changes in indigenous populations and increased access to markets[48]. *Arapaima spp.* (locally known as *Paiche* or *Pirarucu*), for example, has been overfished and is now the subject of fisheries regulations in several Brazilian Amazon States[49], while it is invasive in the Bolivian Amazon and certain part of the Peruvian Amazon. Invasive species have significant local impacts, competing with and displacing native species and potentially causing irreversible changes in aquatic environments. Overfishing in one country may also affect fish populations in other countries (e.g., Bolivian fish stocks are affected by overfishing in the Madre de Dios region in Peru and in the low and medium basin of the Madera river in Brazil)[50], especially migratory fish species (which account for a large part of species fished). In addition to fishing for local and regional markets, international trade for aquarium lovers causes damaging impacts, the Amazon being the main source of exotic fish species[51].

28. *Extractives*: The importance of extractive sectors as deforestation drivers, GHG emitters, and sources of threat to local communities' rights, has been increasing in tropical forests around the world, including in the Amazon^[52]. The social and environmental impacts of infrastructure expansion on forest conversion have been broadly investigated, however, extractive industry effects on forest conversion and degradation; point and no-point source pollution; the encroachment on local communities' rights; and their negative synergies with infrastructure expansion need to be better addressed, predicted, prevented and mitigated.

29. Large industrial complexes have arisen, primarily in the eastern Amazon where there are important reserves of industrial minerals, including bauxite, iron ore, manganese, zinc, tin, copper, kaolin and nickel, as well as less common mineral resources used for modern technology such as zirconium, tantalum, titanium, beryllium and niobium found in Precambrian rock[53]. In addition to devastating impacts on the landscape and water contamination with dangerous substances such as the mercury used in ore extraction, the enormous energy needs of the industrial mining and ore processing industries create a demand which drives deforestation for charcoal and damming of rivers for hydropower. Although the impacts on forests from legal mining operations are usually considered smaller (1-2%) compared to other drivers, improved estimates in Brazil's Amazon found impacts ten times higher than previously thought, taking into account the full impact of all mining operations[54]. Mining-induced deforestation, namely that occurring beyond operational lease boundaries, is

neglected in environmental licensing and a comprehensive understanding of impacts of mining operations is lacking. There is a significant increase in forest conversion in the Amazon up to 70 km around the lease boundaries (1.17 million ha between 2005 and 2015, corresponding to 9% of all Amazon forest loss during the period and 12 times more than deforestation that occurred within the mining lease boundaries)[55]. Resource extraction and the associated infrastructure trigger negative feedback loops and have direct and indirect effects on deforestation, such as from the establishment of mining infrastructure; urban and agriculture expansion to provide goods and services for the growing workforce, immigrant population and mineral commodity supply chains. Environmental licensing processes must consider both on- and off-lease sources of deforestation to mitigate adverse impacts of mining and conserve tropical forests.

30. The western Amazon is considered to be the world's second largest unexplored region of hydrocarbon potential. There has been a sharp increase in the number of lots approved for hydrocarbon exploration across the Amazon, increasing from 30 lots approved in 2002 to 151 in 2006. This trend is only accelerating, as of 2012, there were 246 blocks open for bidding, under tender or under exploration[56]. Forty-four million ha have been given in concession, 85% of which are in the exploration phase and 15% in the production phase[57]. In 2018, mapping evaluated that oil lots (including potential, awaiting authorization to explore, in exploration or in exploitation) overlapped with 6 million ha of protected areas and 11 million ha of indigenous territories[58]. The major threat from an imminent oil and gas exploration in most Amazonian countries is this overlap with protected areas, with a risk of protected area downgrading, downsizing, and degazettement (PADDD) and possible changes in land uses. The most severe direct environmental impacts of hydrocarbon exploration and exploitation include oil spills and the improper discharge of the salt-laden waters used to process the crude oil, all of which can have long-term impacts on the health of local inhabitants and ecosystems. Over the long term, the threat is, as mentioned above, the deforestation induced by the negative synergy with infrastructure and population movements.

b) Illegal activities

31. Deforestation, degradation and over-exploitation of forest and freshwater resources is driven by many illegal activities such as land grabbing, illegal logging and gold mining, illicit crops (such as coca) and wildlife trade. The main root causes of illegal activities are weak governance and corruption. Weak governance is also indirectly affecting other drivers (e.g., expansion of livestock is facilitated by land grabbing, resulting from inappropriate governance of land titles). Governance issues include harmonization at different levels (from local through to regional), where legal or implementation differences in different countries induces leakage effects (criminals cross borders and what they do in the new country might not be illegal anymore or not prosecuted in the same way as the previous country they came from). This discourages law enforcement in the more stringent country. Another aspect is the fight against corruption, going from local corruption where local officials are bribed to not see an illegal truck load; to large-scale, organized corruption that influences the decision for example about the need for new infrastructures.

32. *Land grabbing.* There are different definitions for land grabbing and most of them are related to large-scale acquisition of land for commercial or industrial purposes, such as agricultural and biofuel production, mining and logging concessions, big infrastructure development or tourism, without the proper processes and procedures to take into account social and environmental rights and impacts. This kind of grabbing is present in Amazon countries but

is not a major driver^[59]. In most cases, such processes are a mix of legal and illegal activities. Most of the transactions operate on a legal basis, with support from the National authorities, but the negotiations/consultations and environmental impacts evaluations are not correctly implemented.

33. In Brazil, the situation is different. The land grabbing process is mainly illegal and focused on public areas. It is associated with high social and environmental costs and has been a constant threat, creating conflict and undermining land use planning initiatives for a sustainable development framework. There are no recent numbers about the magnitude of the problem due to difficulties in obtaining information about criminal activities, but Brazilian estimates from 1999 indicate 21 million ha had been illegally grabbed in the states fully located in the Amazon biogeographical region^[60]. In 2006, the estimate for Pará state was 30 million ha^[61]. Due to poorly managed land demand and supply, this driver is present all along the Brazilian deforestation frontier and is grounded in a vicious cycle involving corruption, weak governance, criminals taking possession of forested public or local communities lands and replacing forests by pasture in order to add value (a pasture land can be worth three times more than a forested area in the illegal land market); and farmers from other regions in search of less expensive and larger areas. The conversion from forested areas to low productivity cattle ranching usually starts with illegal selective high value timber extraction. Next step in this chain is land division and irregular sale. Forest conversion alone, after extraction of hardwoods, increases the land price, very often funding the costs of farm implementation and livestock expansion.

34. *Illegal timber.* Illegal logging is an important driver leading directly to forest degradation and indirectly to deforestation. Selective logging of high value species is one of the first spatially diffuse impacts in the land use conversion process. The illegal selective timber extraction adopts logging practices (such as skid trails, felling, yards, etc.) with high impact on the remaining forest, creating the conditions to start a degradation process based on destruction of low forest strata that increases vulnerability to fires and invasive species. This process, after a few years, usually culminates with the complete conversion to other land uses, especially low productivity cattle ranching. Around the world and in national markets of Amazonian countries, high demand for timber products, weak rule of law, difficulties regarding the implementation of forest surveillance and poorly implemented trade rules are root causes leading to logging that destroys nature and wildlife, damages communities, and distorts trade. Illegal logging is the most important barrier to establishing a high-level sustainable forestry production chain exploring timber markets. Well-regulated and properly enforced forest management in the Amazon can contribute to improve local livelihoods and to achieve conservation goals.

35. To illustrate the challenge, in the Brazilian state of Pará^[62], the total logged area between August 2015 and July 2016 was 150,300 ha, of which 44% was illegal logging occurring predominantly (81%) in private or non-allocated/disputed federal lands. While this number represents a 62% reduction in illegality in comparison with the previous period (2011-2012), the state's forest management in the same period worsened, with a 53% increase (26,300 ha) of the lowest management standard. Similar trends are observed elsewhere, for example in Mato Grosso where, between 2011-2012^[63], an area of 197,700 ha was logged, 54% of which illegally, and almost totally (96%) in private or non-allocated/disputed federal lands, while forest management worsened, with a 63% annual increase (41,200 ha) of the lowest management standard. A similar analytical approach^[64] for the same state but applied by another organization and for a longer period (August 2013 to July 2016) found 195,600 ha (41%) illegally logged, 66% placed in private lands and 24% in not allocated lands. In Colombia, it is estimated that 42% of timber sold is illegal, of which between 20% and 40% comes from the Amazon^[65]. Gradual improvements in the enforcement of forest and trade laws and regulations in the wood production chain has been helping reduce illegality, but the current level continues to be an important factor to undermine and impede legal trade at a scale that would make it economically viable and more attractive than non-forest-based land uses.

36. A perverse result of the growing enforcement pressure is the emergence of more sophisticated illegal schemes. For example, high value timber has been illegally harvested under fraudulent permits and represents a serious and widespread threat of overexploitation for key species in the mature forest structure^[66]. This practice of falsifying timber inventory data by increasing the number of available trees in one property provides legal cover to transport and market illegally cut wood from other regions. The discrepancies identified in the timber volumes, through a comparative analysis between values estimated in national forest inventory and identified in the logging permits, clearly indicate a systematic and intentional overestimation bias in number of trees and trunk measures. As these inaccuracies are clearly not random and are related to a small subset of logging permits, they probably are the consequence of corruption practices rather than taxonomic identification mistakes. Almost half of top wood production was illegally harvested in 2015 and 2016. 13 other less valuable commercial species have been named as a high value species, to serve as legal cover for illegally cut trees, especially in protected areas and indigenous territories. Timber inventories submitted to regulatory agencies must be scrutinized for plausibility and verified by field audits to combat this pervasive fraud.

37. *Gold:* Illegal mining has experienced highs in recent years due to spiking gold prices. RAISG maps indicate there are at least 2,312 sites, the majority of which are in Venezuela, followed by Brazil, Ecuador and Peru, and 245 areas spread over six Amazonian countries^[67] related to the prospecting or extraction of minerals such as gold, diamonds and coltan. These 245 extraction areas are distributed mainly in Madre de Dios, Peru (110), and in Tapajós, Brazil (132), with the remaining three in Bolivia. The most common form of gold mining in the Amazon is that conducted by illegal small-scale miners, ranging from single miners using rudimentary tools to better organized and equipped teams, using barges and dredgers. These practices have important cumulative impacts from mercury misuse and excavations/scars in river bed and banks especially in Guyana, Suriname and Peru, with serious effects on human health and the environment. In the Madre de Dios region of Peru alone, the total impact of small-scale gold mining activities has been estimated to have degraded more than 116,000 ha of critical wetlands^[68]. In the areas where there are gold rushes as Tapajós, there are a series of negative collateral effects related to human migration, unplanned urban expansion, creation of unofficial road networks and deforestation for agricultural activities for local consumption.

38. *Illicit crops:* In many areas of the Colombian Amazon, the cultivation of coca represented a major income source for thousands of settlers that had lived in misery for several decades and suffered from low returns of their land and low prices for their products^[69]. In 2001, 42% of the estimated 145,000 ha used for coca 'plantations' in Colombia were in the Amazon, in the departments of Putumayo and Caquetá. In 1996, the Colombian government started massive aerial 'fumigations' of coca plantations, however, these repressive measures have not succeeded in eliminating coca plantations and, moreover, have caused additional environment problems and even further deforestation.

39. Deforestation followed by land occupation is one of the most common actions of criminal groups dedicated to illicit cultivation and illegal mining. While the impact of illicit crops has been smaller in mountainous terrain above 800 m above sea level, in the plains these crops have driven large scale deforestation. Some regions have been devastated by illegal coca and then abandoned. Sometime later, these areas have shifted to livestock production, leading to forest degradation and replacement by more open vegetation physiognomies. The indirect impact of coca production on deforestation is hence much larger than the actual area used for cultivation, since abandoned plots tend to convert to agricultural frontiers and sites used for small-scale agriculture, cattle ranching and further land clearing in the surrounding area^[70]. Illicit crops have also invaded some protected areas. For instance, 60 ha of coca plantations were found in 2015 in the Chiribiquete National Park. According to the United Nations Office on Drugs and Crime (UNODC), by 2016 there were more than 40,000 ha planted with coca in the Amazon.

40. *Wildlife*: Together with illegal timber trade, the illegal capture and trade in wild species, including exotic fish, presents another threat to the region's biodiversity. Between 2005-2014 exports of live parrots averaged around 12 000 birds per year, nearly all of wild sourced from Suriname, Guyana and Peru[71]. Although the relative importance of this driver is smaller than others, the reduction of the illegal wildlife trade level in the Amazon through detection and stronger enforcement efforts has a strong potential to leverage long-term cooperation across regional and national governments with positive collateral effects to improve the general perception about environmental governance. There are also important opportunities for knowledge sharing and capacity building around this theme, for instance, the Brazilian and Peruvian environmental crime judicial systems could inspire models for other countries, especially to reduce failures at the prosecution stage, due to inappropriately built cases, or to build experience for the prosecution of this kind of crimes.

c) Infrastructure

41. *Roads*: 96,500 km of roads exist in the Amazon, a number expected to increase sharply in the coming years, with major roads currently being planned in both the Peruvian and Bolivian Amazon [72]. Transportation is essential for national and regional development but, when poorly planned, the negative impacts can exceed the short-term benefits. In the Amazon, the building of new roads or improvement of existing roads has facilitated uncontrolled migration to otherwise inaccessible areas resulting in increased land-grabbing, deforestation, and expansion of unsustainable extractive activities, a trend that becomes evident through satellite imagery. The access to remote areas with insufficient consideration of secondary and cumulative impacts has been a major deforestation and forest degradation driver. Main roads usually trigger the implementation of local road networks with strong connections with illegal activities such as timber logging and gold extraction.

42. Lessons learned from the Brazilian experience demonstrate the importance of *ex-ante* land occupation planning processes. These have been embedded in environmental licensing processes for new roads, for example, this has resulted in the establishment of an Area under Provisional Administrative Limitation (ALAP) around BR 163 and BR 319, two of the main roads in the Brazilian Amazon. This public policy allows the federal government, *inter alia*, to establish a broad swath of land around both sides of the road where it applies an immediate suspension of all activities with potential damage to the environment and/or local communities, except for ongoing environmental licensed economic and/or public activities. This temporary moratorium gives time for a multi-stakeholder consultation process to discuss and develop an environmental zoning plan, defining the best areas for different land uses and biodiversity conservation through different types of protected areas, organized as a landscape mosaic[73].

43. *Hydropower*: Amazon river basin connectivity is the basis for numerous and key biological, physical and human systems. The number of new hydropower development and their impacts over this connectivity have been previously underestimated (different sources estimate between 142 existing/under construction and 160 proposed dams[74] and 154 existing and 277 dams under construction[75]). There is a consensus about the lack of appropriate knowledge about the fragmentation effects on the tributary networks of six of the eight major Andean Amazon river basins. The future dams under discussion could result in other significant impacts in connectivity over the mainstems of five major systems (Napo, Marañón, Ucayali, Beni, and Mamoré). In terms of biodiversity, there are 671 freshwater fish species identified to date. This does not include the many undescribed species in the Andean headwaters of the Amazon (higher than 500 meters above sea level). These fish species are threatened by the dam network, particularly endemic and migratory species. This fragmentation encroaches upon spawning grounds and habitats and affects seasonal migration. This diversity is also at risk from waterway development and

river sedimentation and pollution, particularly mercury. This has consequences not only in terms of the ecological value of aquatic species, but also in terms of their economic and nutritional values. Regarding the physiographical system, as the Andean rivers are the major source of most of the sediment in the mainstream Amazon, connectivity breaks could generate significant changes in river channel structure and floodplain geomorphology and their associated ecosystem services.

d) Climate Change

44. Many of the drivers related to deforestation are accentuated under the influence of climate change (extreme climate events - droughts/ floods, fires, hydrological cycle, rain patterns, forest degradation tipping point). Growing evidence^[76] regarding the intricate relationship between vegetation and climate in the Amazon, feeds the ongoing debate as to how much deforestation would trigger a tipping point, changing the hydrological cycle to the extent that the rainforest is no longer viable^[77]. This tipping point would jeopardize the Amazon's role in delivering winter rains for several regions of the La Plata Basin as well as its continuing capacity to mitigate GHGs emissions and offer ecosystem-based adaptation solutions. Conversely, in addition to the traditional drivers of deforestation and degradation, the impact of global climate change elsewhere is also affecting Amazonian ecosystem dynamics. The potential impacts of a 4°C increase in temperature alone (isolated from synergistic effects with other variables) would trigger a tipping point leading to a degraded, savanna-like, vegetation in central, southern and eastern Amazon. The negative interactions between regional and large-scale variables, such as climate change, sea surface temperature, deforestation, degradation and fragmentation, fire and invasive species, set in motion a vicious cycle affecting forest resilience.

45. A 20-25% deforestation threshold could also trigger a tipping point, with a sharp move to forest replacement by non-forest ecosystems in eastern, southern and central Amazonia, with diminished rainfall and a longer dry season. The negative synergy of deforestation, climate change, and widespread fires are at the heart of this change. In addition to turning a carbon sink into a carbon source, this ecosystem replacement would release massive carbon emissions into the atmosphere, accelerating the global warming process and its associated negative socio-environmental impacts. The sequence of extreme climate events (floods – 2009, 2012 and 2014; droughts – 2005, 2010 and 2015-2016) and the two decades of increases in the length of the dry season in southern and eastern Amazon, could be the first signs of an oscillating pattern in the whole complex system, where resilience could be compromised beyond a point of no-return. This is particularly important in central and eastern Amazon, where the wetter atmospheric boundary layer created by forest evaporation and transpiration is a critical precipitation factor. Safeguarding the role of the Amazonian hydrological cycle for South American countries and for their agriculture production will require not only controlling deforestation, but also restoring parts of the lost forest, to keep the system securely away from the uncertainty around the tipping point thresholds.

46. The growing human presence in the Amazon along the last 30 years has raised substantially the observed frequencies, suggesting that the current fire return interval is 5-11 times more frequent than the estimated natural fire regime. This increased frequency changes forest structure and composition, with the decrease of many large trees and dominance of light demanding species including vines. Thus, a naturally high humidity and rainfall abundant area becomes drier and consequently more susceptible to fire occurrence. Fires are commonly due to escaping fires from agricultural areas; cleaning techniques in the deforestation process; and the illegal and gradual forest degradation processes adopted to avoid remote sensing detection. The concurrent forest

fragmentation process also creates a favourable environment for fire recurrence. Another important reinforcing factor is the increase of forest flammability due to extreme droughts and large-scale variation in seasonal precipitation patterns caused by sea surface anomalies, such as the El Niño phenomenon[78], associated with a reduction of aerosol production in the northern hemisphere.

47. Although deforestation emissions have been decreasing in Brazil, emissions caused by fire have increased in severe drought years (76% decline in deforestation rates over the 2003-2015 period versus 36% increase in fire incidence during the 2015 drought in comparison to the previous 12 years)[79]. In 2015, the gross emission from these forest fires alone corresponded to more than half of that from forest deforestation from land use change. The increasing importance of fires, associated with the higher severe and extreme drought frequency, is one key aspect of climate change as a root cause of forest degradation in the Amazon. The increased carbon emissions from fires driven by recurrent droughts has the potential to undermine the Brazilian emission reduction from deforestation and consequently to affect the backbone of its National Determined Contribution to Paris Agreement. New agricultural and protected area practices and management procedures will be necessary to reduce the fire vulnerability of natural areas, fire risk and avoid carbon emissions in the context of the increased number of fire and extreme drought events.

Barriers

Given the pressures, drivers, root causes and interactions described above, several key barriers to maintaining the ecological resilience of the Amazon biogeographical region, and thus supporting an environmentally, economically and socially sustainable development of the Amazon basin have been identified by the Amazon Sustainable Landscapes Program (ASL2 Program) participating countries. The nine main barriers that stand in the way of transformational change to achieve the ASL vision and which the Program will address, are presented in

48. Table 1.

Table 1: IDENTIFIED BARRIERS THAT ASL2 WILL SEEK TO ADDRESS AND HOW IT WILL DO SO

Barrier	Explanation	ASL2 interventions to address barrier
Shortcomings in protected areas institutional framework, management and financing	Parts of the Amazon still lack protection to ensure ecosystem representativity. This is the case, for example, for flooded forest and swamps along the many tributaries in the Amazon. Similarly, in Guyana, new protected areas need designation, while additional Ramsar sites should be designated throughout the Amazon.	ASL2 will support activities to increase the area under legal protection (at national/subnational levels) focusing on forest and freshwater ecosystems that are under-represented and with the potential to close connectivity gaps. (Component 1)
	Many protected areas still lack adequate management capacity and means for ensuring effective management and control of	ASL2 will support activities to improve management effectiveness in tar

<p>y and means for ensuring effective management and control of these areas, to ensure that biodiversity is conserved, sustainable development supported, and deforestation avoided. These include training, equipment, monitoring, concertation mechanisms with neighboring communities, among others.</p> <p>In some cases, management is under resourced, impacting the ability to conduct effective conservation and protection activities. This also includes indigenous lands that lack the support to design and implement land use plans according to their traditional knowledge, in coordination with adjacent protected areas.</p>	<p>geted protected area (including indigenous lands/subnational, national and trans-border level).</p> <p>(Component 1)</p>
<p>Gaps in legal frameworks exist, for example, Bolivia's protected area institutional framework needs to be updated.</p> <p>Many protected areas in the Amazon have the potential to become tourism assets that can generate income and jobs for local communities however this aspect has not been systematically looked at to identify key elements to develop this potential.</p>	<p>The program will strengthen governance of environmental and indigenous authorities allowing for better management and adoption of regulatory frameworks.</p> <p>ASL2 will also investigate the provision of technical support and use of financial incentives to promote protected areas conservation (including tourism opportunities)</p> <p>(Component 3)</p>
<p>The long-term financing of the region's protected areas is an issue that all countries continue to face, despite innovations and progress in some countries through the Finance for Permanence funds (PFP)^[80]. Protected areas need to increase access to financing from private sector through tourism concessions, fees, etc.</p>	<p>Based on results from ASL1, the program will support long-term financing instruments.</p> <p>(Component 1)</p>
<p>Another shortcoming is the insufficient knowledge/consideration of connectivity issues between existing protected areas and between protected areas and their surrounding productive landscapes. Climate change is expected to have far-reaching impacts for the Amazon, requiring some new thinking in terms of pr</p>	<p>ASL2 will promote knowledge generation (this may include new modeling tools) and sharing of issues that have been prioritized by the countries. This includes protected area man</p>

	<p>protected area prioritization and management to ensure long-term adaptation and resilience.</p>	<p>agement, connectivity in broader landscapes and impacts of climate change.</p> <p>(Component 4)</p>
<p>Shortcomings in national policy and legal frameworks with respect to sustainable development and zero net deforestation</p>	<p>In addition to the shortcomings related to protected areas mentioned above, sectoral policies and legal frameworks in all countries insufficiently support sustainable development, particularly the sectors driving deforestation and degradation, and fail to appropriately value ecosystem services. Additionally, cumulative impacts of planned works are insufficiently considered and may result in further fragmentation and increased negative impacts.</p>	<p>ASL2 will support activities to mainstream environmental concerns into economic sectors which currently lead to land clearing and forest degradation (agriculture, forestry, extractive industries, infrastructure)</p> <p>It will also promote activities to increase capacity to enforce policy and regulatory frameworks for natural resource sustainable use and combatting illegal activities.</p> <p>(Component 3)</p>
<p>Limited financial products/mechanisms to ensure sustainable production/zero deforestation</p>	<p>Financial incentives for farmers and ranchers have not been appropriately designed and implemented to promote more efficient land uses, recover degraded areas with sustainable agricultural, ranching and forestry activities and promote ecological connectivity to protect water resources and reduce soil erosion. For example, generic subsidies for expansion of livestock activity should target investment in pasture reform and management improvement aimed at income improvements through productivity, instead of broad support for generic expansion activities. Similarly, incentives are often inadequate for promoting sustainable and best practices in extractive sectors such as timber and gold in Guyana. Similarly, credit may be difficult for small farmers to access, and likewise medium and larger scale farmers may have difficulty in linking with investors. There is a need for more accessible and innovative financial instruments, which focus on sustainable production chains or reducing deforestation. Moreover, banks and other financial providers frequently do not have criteria for nor screen adequately to ensure sustainability dimensions are considered in their financing decision making.</p>	<p>ASL2 will support the adoption or strengthening of financial incentives that promote the adoption of SLWM. This would include promoting partnerships with existing credit lines and/or other innovative financial instruments with a focus on more sustainable production chains, and business development.</p> <p>(Component 3)</p>

<p>Weak governance for integrated landscape management, across sectors and levels of government (subnational through regional)</p>	<p>In the Amazon as a whole, there are shortcomings in procedures, policies and inter-sectoral governance structures for integrated landscape planning, land-use management and conservation of resources. In addition, limited land-use planning reduces the likelihood of adopting environmentally compatible uses in productive areas and increases the risk of landscape fragmentation, in turn reducing ecosystem resilience. Integrated landscape management is further weakened by insufficient participation mechanisms for involving stakeholders including the private sector, indigenous peoples and local communities, women and vulnerable groups.</p>	<p>ASL2 will support activities to strengthen land-use planning policies and management at all scales and across sectors.</p> <p>ASL2 will also increase participatory governance for improving land-use planning and landscape connectivity, including convening relevant stakeholders.</p> <p>(Component 3)</p>
	<p>Weak governance with respect to land tenure is also found systematically in the participating countries and is caused by several factors, <i>inter alia</i>, lack of control over public lands; incipient, unreliable private land property registries with incomplete and/or outdated coverage and without spatial information; and non-integrated registries of public and private lands.</p>	<p>ASL2 will not directly address the lack of reliable land property registries and titling but will strengthen capacity of public staff and involve agencies with competencies in land tenure and in land planning processes.</p> <p>(Component 3)</p>
	<p>Issues of shared concern (e.g., illegal species trade including exotic fish, international watersheds) are not yet fully identified and capacity and mechanisms for two or more concerned countries to work together could be strengthened.</p>	<p>ASL2 will promote sharing of knowledge, identification of and coordination on issues of shared concern, to address them collectively among interested countries.</p> <p>(Component 4)</p>
<p>Weak capacity and coordination to enforce policies and regulations</p>	<p>Enforcement of policies and regulations is a challenge throughout the region. Capacity limitations in terms of monitoring and detection (e.g., poor knowledge base about the structure, size, and processes of illegal wildlife, timber networks and artisanal mining, low capacity and knowledge about species identification), personnel and equipment, are common, particularly in remote areas which are difficult to access and control because of high costs of monitoring and enforcement activities. In addition, corruption at the local level (e.g., bribing local authorities for all</p>	<p>ASL will deliver activities to increase capacity to enforce policy and regulations for natural resource conservation and sustainable use, including combatting illegal activities. It will also develop/strengthen monitoring systems and tools that will facilitate enforcement of regulations.</p> <p>(Component 3)</p>

	<p>owing an illegal transport to occur) impedes efficient enforcement.</p> <p>Similarly, legal frameworks and the capacity of judicial and public prosecution systems are variable. Legislation is often complex, and the lack of homogeneity as well as inconsistencies in the law and its application across sub-national and national governments creates a disincentive to enforcement campaigns due to leakage effects in the region. These factors, along with non-deterrent penalties, imply a low risk for these criminal activities, in comparison with its profitability. Similarly, poorly implemented trade rules can further undermine enforcement efforts.</p>	<p>The program will support management effectiveness in protected areas which includes prevention, vigilance and control mechanisms.</p> <p>(Component 1)</p>
	<p>More generally, there is also limited regional coordination and prioritization to address common problems. Weak coordination across sub-national and national governments, across correlated institutions (notably biodiversity, police and legal institutions) as well as insufficient cooperation with international agencies and destination countries still impede efficient combating of illegal species and timber trade at all levels. Such lack of regional coherence in laws and policies among the Amazonian countries likely exacerbate the pressures on the Amazon.</p>	<p>The program will promote coordination and dialogue among countries to identify policy gaps and potential for harmonization of regulations and practices around issues of common concern, including law enforcement.</p> <p>(Component 4)</p>
<p>Poorly connected/sectoral strategies and plans at all levels (sub-national through regional)</p>	<p>In most Amazon countries, planning at large scale is permitting the designation of all types of protected areas, however, there often remain some areas with unclear land uses designation. These are generally the first to be subject to uncontrolled deforestation. Furthermore, local and state planning by development and economic development sectors (agriculture, infrastructure, rural development, etc..) often do not consider biodiversity, climate and other environmental factors. Development economic and ecological zoning in an integrated manner with key stakeholders of each sector is critical to ensuring social and environmental sustainability of the Amazon.</p> <p>In general, sectoral public policies have been implemented in the Amazon region in silos, with weak communication, coordination</p>	<p>ASL2 will support activities to mainstream environmental concerns into economic sectors which currently lead to land clearing and forest degradation (agriculture, forestry, extractive industries, infrastructure)</p> <p>(Component 3)</p>

	<p>on and cooperation (the three steps process to reach synergistic effects among people, activities and organizations). This barrier, associated with poor planning, lack of cost-benefit analysis and results monitoring, undermines and compromises long-term, large scale and sustainable changes. Furthermore, sectoral development policies fail to take adequately into account the complexities of tropical forest landscapes, agricultural frontier dynamics and the indirect implications of sector growth.</p>	
<p>Knowledge and innovation gaps, insufficient knowledge transfers and awareness</p>	<p>Individual and institutional stakeholders are lacking enough for a to exchange knowledge at all geographic levels and across technical areas (biodiversity, carbon, agriculture, forest, law, markets, etc.). Similarly, knowledge management systems are emerging but need further strengthening, including for systematizing best practices and experiences for improving integrated landscape management and conservation, as well as needing to reach a wider audience. An issue is that of data compatibility and insufficient spatial understanding of the pressures facing the Amazon. More in-depth research and analysis of themes of national and/or regional concern are also needed. Such knowledge would need to be transferred to the broader public to build awareness of deforestation, degradation and freshwater issues and increase understanding about the value of conserving the Amazon; and to decision-makers so that they take fully informed decisions. Finally, there is an overall need to promote innovation in data analysis and use (including big data), financial diversification, market transformation and new technologies, and to build technical and institutional capacity among resource users and managers at all levels.</p>	<p>ASL2 will foster knowledge management and learning exchanges among the participant country projects and an expanded community involved in the region's conservation and sustainable development. The program will facilitate the transfer of experience and best practices between stakeholders, contributing to capacity building, dissemination of innovation and promoting scaling up of successful activities and approaches emerging from the national projects as well as those of other partner initiatives.</p> <p>(Component 4)</p>
<p>Insufficient technical extension and networks for SLWM</p>	<p>The lack of knowledge about economic alternatives and/or sustainable practices for people living in the areas, especially in and around protected areas, is still a major obstacle to large scale adoption of sustainable practices in the Amazon. Farmers require levels of technical knowledge and capacity, and initial financial investment, which may not at present be easily accessible. Areas in which such technical knowledge may be lacking include, <i>inter alia</i>, the establishment of set aside forestry reserves;</p>	<p>ASL2 will support activities at subnational and national levels to promote dissemination of information on, and uptake and implementation of sustainable land and water management practices.</p> <p>(Component 2)</p>

	<p>agroforestry models based on high value products such as cocoa or coffee; cattle and farming techniques to improve productivity; sustainable forest management; and the application of integrated pest and integrated nutrient management systems to reduce agrochemicals use. Extension services are often weak and there are still insufficient technical and institutional capacities and data to ensure best practices and standards are implemented, including lack of enough or independent networks to disseminate existing information about sustainable practices. The current frameworks perpetuate unsustainable models of production development and forest exploitation with serious negative impacts on Amazonian biodiversity.</p>	
<p>Insufficient markets for sustainable production systems</p>	<p>Sustainable value chains include emergence of new products, scaling-up of existing forest- and freshwater-friendly production chains from production through to market and strengthened requirements in existing value chains.</p> <p>In addition to the need for improved financial mechanism and incentives discussed above, new sustainable products need to meet consumer demand and reach their relevant markets, but small and medium scale producers face limited understanding of demand and access to markets and how to improve efficiency; similarly cooperatives, community and producer associations lack capacity for business development, planning and operation, leading to low capacity for and participation in sustainable forest-friendly production chains, particularly in community and private lands. These new products may include non-timber forest products, products from agroforestry production, aquaculture with native species of commercial value, and community-based ecotourism.</p> <p>Existing value chains have increasingly seen commitments by big companies to increase sustainability. However, several barriers exist at different levels of the production chain. While consumer demand for sustainable products (e.g., fair trade labels, forest stewardship certifications) is growing, it is difficult to ens</p>	<p>ASL2 will support activities at subnational and national levels to develop or strengthen sustainable value chains. This will include research and feasibility studies, capacity building for producer organizations, processing techniques to add value and marketing, benefit sharing mechanisms, commercial and financial alliances with the private sector, among others.</p> <p>(Component 2)</p>

ure traceability all along the chain to the plot of land the product comes from. In addition, many consumers still are unaware of consequences of their consumption choices or do not prioritize certified products. This allows illegal trade to enter the market, undermining and impeding legal trade.

2) Baseline scenario and any associated baseline program/projects

49. In response to the threats that the Amazon is facing from deforestation, degradation, fragmentation and over-exploitation of forest and freshwater ecosystems, significant strides in the conservation and sustainable development agenda have been achieved thanks to countries' own public funds and grants by various donors for national and regional activities.

50. Nationally, each Amazon country has achieved significant results. Protected areas coverage in the Amazon is close to the established international commitment targets, forest degradation and habitat loss are being monitored, local communities have increasing levels of rights recognition, and some policies are being introduced to tax deforestation, although they are not yet fully implemented. These actions have dramatically slowed the rate of deforestation in the Amazon and are the building blocks for the ASL Program.

51. In support of government actions, NGOs, civil society organizations (CSOs), private donors, bilateral and multilateral agencies have all made significant investments over the past decades in support of this agenda. These funds have promoted on the ground investments, capacity building, policy reforms, innovation and community and indigenous peoples' livelihoods. The ASL Program builds on these investments and many of the on-going Amazon regional initiatives to ensure that the Program is efficient, cost-effective and transformational. ASL is a partnership among key players and therefore counts on each and everyone involved in securing the long-term future of the Amazon ecosystems and the prosperity of local populations.

52. This section presents an overview of the key complementary national and regional initiatives, programs and projects which constitute the baseline for, and upon which the ASL2 Program will seek to build and coordinate/collaborate. Detailed country-specific baseline programs and projects are presented in each of the child projects. The ASL2 Program's baseline has three distinct elements. The first element is what the national governments presenting a child project are doing to address the threats that the Amazon is facing in their own countries. The second element is what the implementing agencies are currently doing in support to the Amazon and issues of relevance to the ASL program. The third element are the regional and global programs that are addressing the drivers, root causes and barriers described earlier.

National baseline

53. Each of the Amazonian countries is working to tackle the challenges and reconcile social and economic development needs with conservation of the complex web of ecosystems on which they and the future of the planet depend. Nationally each country has advanced significantly on the conservation agenda. Nevertheless, given the current political and economic scenarios in the region, all countries individually and jointly face the risk that greater development pressure might hinder further conservation advances and stop the development agenda from turning from a net loss to a net gain framework for biodiversity and the planet at large.

54. Bolivia: The policy framework for protected areas, biodiversity conservation and land use encompasses the State Planning System (SPIE) law, Mother Earth and Integral Development for the well Living Framework Law (Law 300), Mother Earth Rights Law and others (Environment law), offering a strong policy framework to ensure an integrated landscape approach and sustainable use. The Bolivian Constitution states that the Amazon is a strategic protection area for sustainable development due to its high environmental sensitivity. Bolivia aims to ensure the conservation of the Amazon through an improved Plurinational System of protected areas and strategic ecosystems management. Sustainable agriculture is promoted with a focus on agroecology and organic production.

55. The main challenges encountered in the Bolivian Amazon are land use change, wildlife crime, deforestation, land grabbing, illegal activities, illegal mining activities, non-planned tourism activities, and climate change. Reports of deforestation in protected areas and inside Indigenous Native Campesino Autonomous entities (AIOCs) indicate that the levels of deforestation in such areas are significantly lower than those in other areas.

56. The project will build on previous efforts supported by the Global Environmental Facility (GEF), and on recently completed and other ongoing efforts to consolidate the Plurinational System of protected areas and strategic ecosystems, including initiatives implemented by National Service of Protected Areas (SERNAP) and the General Directorate for Biodiversity (DGBAP) with EU Funds. Additionally, the project builds on the baseline established by various sustainable development programs and efforts made by countless local, national and international institutions such as Herencia, Wildlife Conservation Society (WCS), Fundacion Noel Kempff Mercado, among others. As examples, the Noel Kempff Mercado Climate Action Project (NKCAP) is preserving the rich, biologically diverse ecosystems of northeastern Bolivia's Noel Kempff Mercado National Park and WWF Bolivia has a Forestry Program that promotes the strengthening of capacities for indigenous communities in forest management and their integration in the market through forest-industry links as well as responsible forestry trade through the creation of a preferential demand for legal wood forthcoming from forests that are well managed.

57. Brazil: The Brazilian government has supported many policies to create a new vision for development in the Amazon and ensured that adequate funding is provided to implement the policies. The Brazilian Government has removed many development-oriented policies that stimulated deforestation. The Legal Amazon Deforestation Prevention and Control Plan (PPCDAM, 2005) is the most comprehensive plan. The most recent advancements in land tenure issues in the Brazilian Amazon granted by the combination of protected areas, the Terra Legal Program (federal lands controlled by the Ministry of Agrarian Development were allocated to conservation, indigenous issues, small scale farming regularization and colonization, in this order of priority) and the Rural Cadaster opens new windows of opportunity to discuss the integration of protected areas and restoration on a wider landscape.

58. Alongside this opportunity, there are development projects announced for the Brazilian Amazon- such as roads, railways and dams, that could shift the public's perception and place more pressure on natural resources in the Brazilian Amazon. Brazil has managed to significantly reduce deforestation rates, achieving an 84% reduction between 2004 and 2012 due to *inter alia* enforcement operations, monitoring technology and land tenure strategies, and despite an uptick in rates in 2016 and 2017, aims to achieve a zero illegal deforestation policy for the Brazilian Amazon. But the next step in the development for the region, with large scale infrastructure, development and the granted legal tenure over land, could compromise the current strategies in terms of changing local policies and economic practices - detaching people and the economy itself from the forest and potentially leading to unsustainable practices.

59. Brazil has expanded its protected areas to cover 27% of the Brazilian Amazon through the Amazonia Protected Areas program (*Programa Áreas Protegidas da Amazônia* - ARPA), a partnership with the GEF, World Bank Group (WBG), World Wildlife Fund (WWF) and KfW (German development Bank) that started in 1998. Since then, other partners have contributed to ARPA, including Inter-American Development Bank (IDB), Fundo Amazônia (through the Brazil National Environmental and Social Development Bank - BNDES), Moore Foundation, among others. ARPA most recently, established a Transition Fund with an estimated value of around USD 215 million. A network of Indigenous Lands (ILs) was established by the government that protects an additional 25% of the Brazilian Amazon. With all these efforts, Brazil has made impressive achievements over the last decade by reducing its deforestation from 2,777,200 ha in 2004 to 641,800 ha in 2012 while growing its economy by 300% during the same period.

60. In 2018, efforts to continue protecting the Amazon were aggregated under the CONECTA Program that aims to promote ecosystem connectivity and landscape management in the Brazilian territory through a combination of integrated public policies to promote sustainable development in ways which will reinforce the synergies between nature conservation, maintenance of ecological processes and economic and cultural social prosperity, and contribute to a reduction of the effects of climate change on the environment. Brazil's ASL1 project, builds on this experience and aims to strengthen biodiversity conservation, reduce deforestation and improve community livelihoods. Given the complexity of achieving the paradigm shifts and behavioral changes needed to successfully manage protected areas and foster the emerging sustainable forest-based economy, a long-term approach is critical, justifying the proposed consolidation and scaling up of these efforts under ASL2.

61. Colombia: During the past two decades, many initiatives funded through international cooperation have been carried out in the Colombian Amazon, especially for biodiversity conservation and indigenous groups based on sustainable development. Numerous national and international NGOs, as well as the Regional Governments, Ministry of the Environment, Regional Autonomous Corporations, National Natural Parks, and Colombian Research Institutes, are the main agencies that implement those initiatives. Major donors have been, among others, the GEF, the McArthur Foundation, and Gordon and Betty Moore Foundation, the Netherlands and the US Agency for International Development (USAID)-Inter-American Institute for Cooperation on Agriculture (IICA) initiative.

62. Most initiatives carried out during the past five years focused on land use zoning plans, establishment and management of protected areas, general sustainable development strategies, and more recently climate change. The National Parks Unit (*Parques Nacionales de Colombia*), and the Amazon Research Institute (Sinchi), take part in some of these initiatives. A national initiative of conservation and development has an Amazon component implemented in

alliance with Conservation International (CI), focusing on community management of fisheries. The Colombian National Patrimony Fund focuses its interventions in the Middle Caquetá River and Amazon piedmont, on the strengthening of protected area management, biodiversity conservation and REDD+ demonstration projects. Most projects and initiatives include a component of indigenous governance.

63. Colombia's current interventions in the Amazon have been aligned with the Amazon Vision, launched in 2013 by the Government as an initiative that promotes a low-carbon development model and a goal of zero net deforestation by the year 2020. Under the Amazon Vision umbrella, there are several ongoing projects and processed including from bilateral/multi cooperation: (a) REDD Early Movers (REM) program for results-based finance based on verified emission reductions from reduced deforestation supported by Norway, Germany and the United Kingdom; (b) USAID support to the Conservation and Governance Program for landscape-level conservation efforts as an integral strategy to address threats to the Amazonian biome; (c) EU support of subnational projects to strengthen the environmental system and promote sustainable development as directed in the Peace accords.

64. The baseline also includes GEF support, with the GEF-5 Heart of the Amazon project and its 2017 GEF-6 expansion, when Colombia joined the ASL. The United Nations Development Programme (UNDP) supports a component, focused on strengthening the capacity of local institutions working with communities and victims of past armed conflict to promote sustainable production initiatives and low-carbon development strategies.

65. Ecuador: The government of Ecuador has put in place several policies and plans to support the sustainable development of the Amazon. The National Development Plan guarantees the rights of nature, aims at conserving, recuperating and regulating the management of natural heritage; foment a sustainable economy, bio-economy; and promotes environmentally responsible production and consumption. It promotes the protection of the Amazon Basin at a regional level and affirms Ecuador's interculturality and pluri-nationality and safeguards ancestral territories and strengthens community governance and self-determination.

66. The Organic Law for Integrated Planning of the Special Amazonian Territorial Circumscription (CTEA) establishes an integrated approach to planning, economy, education, culture and environment in the Amazon. The Integral Plan for the Amazon (2016-2035) seeks a sustainable development model in the Amazon to conserve natural and cultural heritage, protect people's' rights, strengthen capacities, and diversify production. The Technical Secretariat of the CTEA has two related strategies: (a) manage and execute comprehensive participatory planning, through community integration processes that consolidate a culture of peace and sustainability, to preserve biodiversity and achieve the sustainable development of the Amazon, and (b). promote bio trade to diversify the productive matrix. The annual budget for the Amazon region is USD 400 million.

67. The Ministry of Environment of Ecuador developed an investment portfolio of Implementation Plans for the REDD+ Action Plan to guide key actions in various areas. The ASL2 child project will support it in filling gaps in the implementation of the key actions in the following Plans: (a) Territorial Planning Tools and Indigenous Peoples; (b) Conservation, Reforestation and Bio Economy; and (c) Agroforestry Systems with Cacao, Coffee and Sustainable Cattle, including *inter alia* strengthening the institutional and legal framework for integrated productive and protected landscape management and connectivity corridors and improving application and uptake of sustainable forest-friendly production practices. The Socio Bosque Program (PSB) provides economic incentives to

private and community landowners with native ecosystems who commit to conserving those areas for 20 years. The program has 2,656 agreements to conserve 1.6 million ha, benefiting 175,300 people, with an annual investment of USD 10.5 million in incentives. Since 2018, PSB has invested more than USD 80.8 million. The project will work closely with PSB partners that seek to develop bio economy initiatives with timber and non-timber products. The “Integrated Amazon Program for the Conservation of Forests and Sustainable Production” (PROAmazonía) is a USD 53.6 million investment. ProAmazonia aims to implement a part of the REDD+ action plan in the CTEA. The ASL2 child project will coordinate closely with ProAmazonia as the interventions are in related landscapes.

68. The government of Ecuador through the support of UNDP is implementing the GEF-6 project “Sustainable Development of the Ecuadorian Amazon: Integrated Management of Multiple Use Landscapes and High Value Conservation Forests”. This project aims to catalyze the transformation of land use planning and management in the Ecuadorian Amazon (CTEA) by building a governance and sustainable production framework based on a landscape approach and optimizing ecosystem services and livelihoods. The project will be aligned with the Development and Territorial Plans (*Planes de Desarrollo y Ordenamiento Territorial* – PDOTs) to support their implementation. WWF-Ecuador has been working in the Napo-Aguarico-Putumayo landscape since 2011 in the implementation of conservation and natural resource management actions, strengthening the effectiveness of protected area management and, with indigenous and rural communities, supporting the development of production systems, community tourism ventures, and ecological monitoring and citizen science. CI is currently working in the Santiago watershed on the implementation of a conservation program with a landscape approach, including: protected area management effectiveness improvement, territorial planning and governance strengthening, sustainable production initiatives, biodiversity and hydrological monitoring, and environmental education and communication.

69. Guyana: The Government of Guyana has carried out several policies and legislation to support its natural resources and environment capital. The Protected Areas Act, 2011, provides for the management and expansion of a National Protected Area System (NPAS), which can include state, indigenous PAs and privately managed lands. The Protected Areas Commission (PAC) is responsible for implementing the Act and is currently working toward growing the NPAS, with the drafting of its protected area expansion strategy (2018). The Protected Area Trust supports long-term financing of the NPAS through its management of the Protected Area Trust Fund. The Forests Act, 2009, promotes sustainable management of state forests and provisions exist for the establishment of specially protected areas. The Amerindian Act, 2006, addresses conservation and resource management in indigenous territories. The exercise of traditional-use rights over forests, wildlife and other resources by indigenous communities are provided for under the Amerindian Act, 2006 and maintained under the other mentioned legislation.

70. In 2016 the Government of Guyana committed to protecting an additional 2 million ha under the national protected area system for which the PAC is finalizing a protected area expansion strategy. The project area is currently monitored by Guyana’s Monitoring Reporting and Verification system (MRVS) for REDD+, with deforestation and degradation being remotely calculated. Geological surveys are being conducted by the Guyana Geology and Mines Commission (GGMC). Extractive industries in the project area are following several regulations and Guyana Forestry Commission (GFC) and GGMC staff conduct minimal enforcement and compliance activities of timber and mining operations. WWF-Guianas new project to protect freshwater and forest in the Guianas is supporting mercury-phase out and responsible mining nationally by improving practices, market access and value chain, and strengthening policies and transboundary cooperation. The Iwokrama Reserve, as part of the NPAS is alongside the productive landscape and is managed to demonstrate sustainable forest management. KMPA connected to the proposed new protected area, is actively managed by PAC. A new project includes infrastructure and capacity

building under a third KFW project, totaling USD 5 million. The Guyana Lands and Surveys Commission (GLSC), through its ongoing 'Sustainable Land Development and Management Project', (2018-2021) will develop a harmonized national land policy and legislative framework. North Rupununi Wetlands integrated landscape planning and management initiative is led by an association of Indigenous communities (North Rupununi District Development Board), in partnership with the Government and supported by WWF, CI and Chicago Field Museum. WWF conservation program supports community-based conservation, sustainable livelihoods and Community MRVS with more than 40 communities in the wider Rupununi landscape. The project "Strengthening the network of Protected Areas in the Guiana Shield" from 2017 - 2020 led by Amazonian Park of French Guiana (*Parc Amazonien de Guyane*), with Guyana's PAC and Ministry of Planning of Suriname, will strengthen expansion and management efforts of Guiana Shield protected areas. Also, a GEF-6 project was approved in 2018: "Strengthening the Enabling Framework for Biodiversity Mainstreaming and Mercury Reduction in Small and Medium-scale Gold Mining Operations" which aims to strengthen the regulatory framework and institutional capacity for the management of small and medium-scale gold mining and promote greater adoption of environmentally-friendly mining techniques in order to protect globally significant biodiversity, reduce mercury contamination, enhance local livelihoods and human health.

71. Peru: The project has a robust baseline comprising projects, budgetary programs and public investment projects that are implemented in the selected regions/provinces. The Ministry of Environment implements the National Forest Conservation Program with an estimated total budget of USD 12.3 million for 2019-2021. Twelve budgetary programs are expected to be implemented during the 2019-2021 period, including an important number of public investment projects in the provinces. Budgetary programs have an estimated total budget of USD 29.6 million per year. They will be implemented by the Ministry of Environment (solid wastes, conservation and sustainable use of biodiversity and ecosystems); Ministry of Production (productive entrepreneurial development; aquaculture; artisanal fishing); National Council of Science, Technology and Innovation (science, technology and innovation); Ministry of Foreign Trade and Tourism (improvement of tourist destinations); and Ministry of Agriculture (water resources for agricultural use; reduction of land degradation; support for trading, sustainable use of forest resources and wildlife). Public investment projects are estimated at a total of USD 68.9 million (2019-2020).

72. In Atalaya, USD 14.7 million are allocated to erosion control, wildlife conservation, and sustainable use of forest biodiversity. In Loreto, USD 8.2 million are allocated to forest conservation in native communities, fishing production chain, official land register, rural land titling and registration, forest conservation and sustainable management of wildlife. In Satipo, USD 8.6 million are allocated to recovery of degraded soils on slopes; recovery of water regulation services; protected areas; improvement of soil productive capacity; and technical irrigation systems. In Putumayo, USD 7.5 million are allocated to territorial management and forest technical assistance. At the national level, several initiatives are implemented, including actions in the regions. The Forest Investment Fund (2019-2023) has a budget of USD 50 million. SERFOR implements the 2019-2020 Forestry Programme with a budget of USD 11.7 million.

73. The National System of Science, Technology and Technological Innovation implements the Project to Improve and Expand Services (2019-2021) with a budget of USD 71.8 million. The Project Improved Levels of Productive Innovation at the National Level (2019-2021) with a budget of USD 86.7 million. The National Program for Innovation in Fisheries and Aquaculture (2019-2020) with a budget of USD 88.2 million. Projects financed by the DCI, USAID, and other sources contribute with more than USD 4 million. Most of these funds are concentrated on increasing forest conservation and value, increasing agroforestry productivity, and enabling conditions.

74. Suriname: The Ministry of Spatial Planning, Land and Forest Management (RGB) has a nature conservation department with a staff of approximately 100, including 43 rangers. Field infrastructure was heavily damaged during the 1986 internal war and has not been fully rebuilt to date. A public foundation, Stinasu manages nature tourism activities in three of the more popular protected areas, including the Brownsberg Nature Park, Raleigh Falls in the Central Suriname Nature Reserve (CSNR) and Babunsanti, located within the Galibi Nature Reserve. Under the baseline scenario, given the vast area included in Suriname's protected area system, there is insufficient institutional capacity to adequately manage it and a need to introduce co-management models.

75. The 1954 Nature Conservation Act is still in force. A draft new nature conservation bill was submitted to the National Assembly in 2018, through efforts spearheaded by NGOs. International and domestic NGOs operating in Suriname have contributed to advocating for the adoption of progressive conservation legislation, inclusive management of natural resources and equitable benefits for indigenous and tribal (ITP) groups. Suriname is participating in regional projects on strengthening management of protected and productive landscapes, including the EU-funded 'Strengthening the network of protected areas in the Guianas' (RENFORESAP) project on the protected area networks in the Guiana Shield, and the Amazon Cooperation Treaty Organization's GEF-7 project on implementing the Strategic Action Program on sustainable management of transboundary water resources in the Amazon basin.

76. The RGB is responsible for management of forest resources and the Ministry of Natural Resources (MNH) is responsible for mining and water resource management. Four forestry companies have obtained certification by the Forest Stewardship Council, covering a cumulative area of 362,740 ha. Most of the community forests are outsourced by the communities to third party contractors/enterprises. The Foundation for Forest Management and Production Control (SBB) is promoting sustainable forest management (SFM) approaches, including reduced impact logging. The agency also plans on evaluating under-utilized species. SBB issues licenses for utilization of Non-Timber Forest Products (NTFPs) in commercial forests. There are no licenses required for NTFP utilization in community forests, and therefore, there are limited data on NTFPs exploited in these forests. The government is undertaking a revision to the outdated Mining Code, with improved provisions regarding environmental and social impact assessment, addressing artisanal and small-scale mining risks and higher environmental standards regarding mine reclamation. The 7-year GEF-6 project running from 2019-2025 is supporting the government in reducing the environmental impacts of the ASGM sector and will complement this child project under ASL2. A National Tourism Strategy 2030 was completed in 2018 and provides a vision for promoting nature and cultural tourism in Suriname, to further diversify the economy.

Implementing Agencies and GEF baseline

77. The GEF, WBG, UNDP, WWF, CI, Food and Agriculture Organization (FAO), UNIDO, IFAD and CAF are all part of the ASL2 Program and some of their previous and current work in the region and globally constitute an important baseline for the program and to ensure that the sum of the parts is greater than if these organizations were working on their own.

78. Global Environment Facility: The GEF has made significant investments in innovative approaches to advance the conservation and sustainable use of biodiversity and the sustainable management of international waters in the Amazon Basin and particularly within Brazil, Ecuador, Colombia and Peru. Most of these previous investments are associated with conservation and sustainable use of biodiversity at the national level. While these efforts have produced significant reductions in deforestation and resulted in measurable biodiversity outcomes, prior to GEF-6, they had yet to look beyond the immediate need to

react to spatially-explicit deforestation and comprehensively address the mounting deforestation caused by several root causes in the Amazon Basin. As many of these root causes are Pan-Amazonian in nature, not only are national actions needed, but collaboration across borders is a critical component of any long-term strategy. This is the reason why during GEF-6, the GEF supported the first phase of the Amazon Sustainable Landscapes Program (ASL1 Program).

79. The ASL1 Program was approved by the GEF Council in October 2015, as an Integrated Approach Pilot (IAP), with incentives for an integrated regional approach under the Sustainable Forest Management Strategy. ASL1 brought together the three countries which house the most significant proportions of the Amazon biome: Brazil, Colombia and Peru, and which together account for over three-quarters of the Amazon biome. The ASL1 Program (with financing of USD 113 million by the GEF and estimated cofinancing of USD 684 million) comprises four national projects, as well as a project for regional coordination, and aims to significantly reduce deforestation and promote efficient land use in the Amazon region, by addressing key issues across the complex set of drivers of deforestation and barriers to sustainable land use, and promoting regional cooperation and knowledge exchange with the goal of generating scalable results in reducing deforestation and the loss and fragmentation of natural habitats, as well as preventing the extinction of endangered species and improving their conservation status.

80. World Bank Group (WBG): The WBG has had a long-term involvement in the Brazilian Amazon since 1992 with the implementation of the G7 Rain Forest Pilot Program and more recently through the ARPA program funded by the GEF and the Acre project in Brazil (ACRE: BR MST Acre Social Economic Inclusion - (P107146); ARPA: BR GEF Amazon Region PAs Phase 2 - (P114810)). In addition, the WBG approved in 2015 the Forest Conservation and Sustainability in the Heart of the Colombian Amazon project (P144271), also funded by GEF and that is supporting avoided deforestation and protected areas development.

81. The WBG Forest Action Plan FY16-20 includes Focus Area 1 on Sustainable Forestry (Protect and Optimize the Management of Natural Forests), Focus Area 2 on Smart Interventions in Other Economic sectors (Inform Decision Making on Land Use) and a Climate Change and Resilience Cross-Cutting theme. Furthermore, the WBG Climate Change Action Plan (2016), specifically its Priority III (Scale Up Climate Action), is delivering on forestry and land restoration as key components of a climate smart land use. At the regional level, the LAC Strategy Update for 2016 on Sustainability and Resilience Low-Carbon Growth is being implemented in many countries in the Amazon. The WBG Environment and Natural Resources Global Practice has ample experience and technical expertise on climate change strategies and interventions, particularly on reforestation, climate-smart agriculture and policy and financing mechanisms for conservation and climate change that can be applied to reduce deforestation rates in the Amazon and support climate change and biodiversity friendly development. They recently launched with the Republic of Seychelles the world's first sovereign blue bond—a pioneering financial instrument designed to support sustainable marine and fisheries projects. This could be applicable for some of the value chain products from the Amazon.

82. PROFOR, is a multi-donor partnership led by the WBG that generates innovative, cutting-edge knowledge and tools to advance sustainable management of forest resources for poverty reduction, economic growth, climate mitigation and adaptation, and conservation benefits. PROFOR has been supporting the underlying analytics to understand and advance cross sectoral forest smart interventions. These lessons could be of relevance to ASL. BioCarbon Fund Initiative for Sustainable Forest Landscapes (BioCF-ISFL), led by the WBG in collaboration with forest countries around the world, aims to reduce emissions

from the land sector through smarter land use planning, policies, and practices. The ISFL is a pioneering initiative that enables countries and private sector actors to adopt changes from the way farmers work on the ground to the way policies are made at the international level. This initiative supports sustainable landscapes, climate-smart land use, and green supply chains and the experts and activities could be approaches under ASL.

83. International Consortium on Combatting Wildlife Crime (ICWC) is a collaborative initiative of the CITES Secretariat, INTERPOL, the United Nations Office on Drugs and Crime (UNODC), the World Bank, and the World Customs Organization (WCO), to strengthen criminal justice systems and provide coordinated support at national, regional and international level to combat wildlife and forest crime. It has recently begun to move into a much higher gear through the development of its Strategic Program 2016-2020, and concerted outreach to key donors to secure funding. It has now secured USD 20 million, the European Commission (DG DEVCO) and the UK (Defra) being the largest contributors with USD 15 million and USD 5 million respectively. The World Bank will implement the USD 1.2 million donated by the UK to develop Anti-money laundering (AML) activities.

84. The WBG's Finance, Competitiveness and Innovation Global Practice (FCI) combines expertise in the financial sector with expertise in private sector development to foster private-sector led growth and help create markets in client countries. They are integrated between the World Bank and IFC Global Practice to promote inclusive and sustainable growth in a transforming world through finance and private sector solutions. They deliver tailored development solutions to countries and the global community at large, working with their public and private sector clients and they structure and implement comprehensive financial sector and private sector solutions that bring together World Bank knowledge, financial products (loans, credits, guarantees, and risk-management products), convening services, and IFC advisory services. The FCI can support ASL to deliver financial innovation through private sector partnerships.

85. United Nations Development Programme: The UNDP and the United Nations Volunteers Programme (UNV), in coordination with the Sustainable Development Solutions Network for the Amazon (SDSN Amazon), the Amazonas Sustainable Foundation (FAS) and ACTO are collaborating to support national projects and programs in the Amazon for the collection and dissemination of sustainable solutions from communities, increase of local knowledge management and community resilience, strengthening of research and knowledge networks, and sensitization at all levels regarding the "The Amazon that we want" vision in the framework of the 2030 Agenda and Sustainable Development Goals. One of its aims is to establish an Amazon Solutions Platform using a GIS tool that allows the sharing of information on solutions located on a map. ASL through its donor roundtable will assess the ways to collaborate with this initiative.

86. World Wildlife Fund: WWF has been supporting projects in the Amazon since 2001 with an emphasis on: (a) the consolidation of a network of protected areas that is representative of the region's biodiversity; (b) the promotion of sustainable use of natural resources to provide incentives to maintain the natural habitat; and (c) the promotion of sustainability of their programs through communication and education.

87. Food and Agriculture Organization: FAO has been coordinating the Integration of Amazon Biome Protected Areas (IAPA) project, financed by the European Union, which seeks to create a network around the protected areas systems located in the Amazon region. The project started as a support to the regional Amazon Vision initiative for preserving the diversity of the Amazon biome based on the ecosystems, proposed in 2008 by the Latin American

Technical Cooperation Network in National Parks, other protected areas and wildlife (REDPARQUES). Its objective is to contribute to increased ecosystem resilience to the effects of climate change, by safeguarding the provision of goods and services that benefit biodiversity, communities and local economies. IAPA is in its last year of implementation but there is a possibility that the EU will renew their funding. ASL has started discussion with IAPA how to ensure strong collaboration between the two programs.

Bi-national and Regional Baseline:

88. Other initiatives and programs that constitute the ASL2 Program include existing bi-national, regional and global agreements or collaborative platforms with which ASL can develop specific partnerships, joint activities or simply exchange knowledge.

89. Bi- and multi-national initiatives: Individual countries have launched various collaborative initiatives. These include inter alia: (a) Colombia and Peru for the collaborative management of the Putumayo basin; (b) Colombia and Peru to combat wildlife trafficking; (c) Colombia and Ecuador to combat wildlife trafficking; (d) Colombia and Ecuador on land use planning and investments in productive development in their mutual border region; (e) Peru and Ecuador's joint plan supporting the implementation of bi-national and national priority development projects in their mutual border region; (f) Guyana, Suriname and French Guiana's RENFORESAP project (2017-2020), including addressing issues related to ecotourism, sustainable management of natural resources, illegal artisanal gold mining and cultural patrimony; (g) the San Francisco Declaration (September 2018) by Governors from the Amazon to implement actions against climate change and deforestation; and (h) the Regional Initiative for the Conservation and Sustainable Use of Amazon wetlands, a Ramsar initiative launched in 2017 by Bolivia, Brazil, Colombia, Ecuador and Venezuela, emphasizing the importance of joint action for wetland conservation.

90. The Gordon and Betty Moore Foundation: GBMF is a major financier of the Amazon and Andes biome. They plan to invest around USD 100 million in projects during the next five years. They will continue to focus on three priority strategies to help reinforce and advance effective management of protected areas and indigenous lands across Brazil, Peru, Colombia, Ecuador and Bolivia that grantees have helped conserve: (a) Individual conservation units - creating and consolidating already existing individual indigenous lands and protected areas; (b) Land-use planning - conserving forest cover by incorporating protected areas and indigenous lands into relevant state, municipal or district jurisdictional development and land-use plans; and (c) Protected area systems - securing long-term, effective funding mechanisms for national park systems, as well as effective monitoring and management systems informed through participatory processes. A group of 37 NGOs working in the Amazon Basin has come together in the last 5 months to share views and recommendations to address infrastructure, conservation, and human rights at adequate scales. With GBMF support and the leadership of The Nature Conservancy, the group has drafted a set of shared principles and interventions to address infrastructure development (including roads, energy, and extractive industries) as a starting point towards developing a new and inclusive working agenda for infrastructure for the Amazon. The recommendations promote application of the mitigation hierarchy (planning, licensing and compensation) along with principles of participation, inclusiveness, and transparency. Collaboration between GBMF and ASL is of paramount importance as they address issues such as infrastructure planning at a regional level that will complement the work that national countries plan to do under this theme. Additionally, most of the funding from GBMF goes to NGOs work and is a good complement to the work ASL will be doing with governments.

91. Amazon Cooperation Treaty Organization: The ACTO, established under the Amazon Cooperation Treaty signed in 1978, is an inter-governmental organization providing a platform for political and regional dialogue with the aim to encourage sustainable development and social inclusion, and to support the harmonious development of the Amazon. Its current jointly agreed Amazonian Strategic Cooperation Agenda (2010-2018) focuses on two main axes: (a) conservation and sustainable use of renewable natural resources and (b) sustainable development. ACTO's current initiatives include:

- Strategic Action Program (SAP) for the Integrated Management of Water Resources of the Amazon Basin, to ensure future national, regional, and international support for the implementation of key strategic actions in benefit of the peoples and ecosystems of the Amazon Basin: with a focus on: (a) Strengthening Integrated Water Resources Management; (b) Institutional Adaptation to Climate Variability and Change; (c) Knowledge Management.
- Regional Action in Water Resources: to strengthen management of water resources, and promote integration and technical cooperation among countries, including a Hydrometeorological Network of the Amazon Basin.
- Monitoring Forest Cover in the Amazon Region: to support development and implementation of integrated systems for monitoring forest cover with an emphasis on deforestation, land occupation, changes in land use and sustainable forest management.
- Institutional Strengthening of the Member Countries of ACTO in Ecologically Responsible Forest Management and Biodiversity Conservation in Managed Forests of the Amazon: to build capacity for sustainable management and conservation of biodiversity in public and private forests, including community forests.
- Regional projects for the Management, Monitoring and Control of Wild Fauna and Flora Species Threatened by Trade and Management, Monitoring and Control of Wild Fauna and Flora Species Threatened by Trade: both aim to improve management efficiency and effectiveness, monitoring and control of wild species threatened by trade, especially CITES species.
- Indigenous Peoples in Border Regions: to contribute to standards for control and surveillance of indigenous peoples in border regions, and protocols for traditional knowledge exchange on land and biodiversity management for the formulation of indigenous communities' life plans, with focus on health standards and traditional knowledge.
- Regional Amazon Observatory: a virtual forum for facilitating information flow between ACTO member governments and institutions.
- Network of Amazonian Research Centers: to strengthen the scientific and technical research capacity across a range of relevant topics and future regional monitoring networks and information management programs.
- A new project is currently under preparation for GEF approval on the theme of fires.

92. Amazonian Network of Georeferenced Socio-Environmental Information: RAISG was established in 2007 with the objective of analyzing the Amazon region as a single unit and providing decentralized and public intelligence to enable the region to be better understood, valued and protected. RAISG compiles and manages information and analysis of basin-wide dynamics developed by civil society organizations from the Amazonian countries (Bolivia, Brazil, Colombia, Ecuador, Perú, Venezuela, Guyana, Suriname, and French Guiana), presented in the form of maps and publications. To date, this network of private institutions produced the most comprehensive mapping of drivers of deforestation for the region, which has been used to consolidate a wide-ranging regional view.

93. Citizen Science for the Amazon Project: The project utilizes a citizen science approach to generate information about fish and water at a basin-wide scale, and to engage citizen scientists as informed, empowered stakeholders for the sustainable management of fisheries and the conservation of wetlands. Established in 2012 and led by the WCS, its aims to preserve the Amazon's freshwater ecosystems and improve its inhabitants' livelihoods.

94. The Amazon Waters Initiative: This initiative, led by WCS, is a coalition of more than 25 governments, research institutions, and civil society organizations that seeks to maintain the integrity of the vast, interlinked and dynamic Amazon freshwater system to support human wellbeing, wildlife, and the environments on which they depend. It seeks to promote a vision of the Amazon Basin in which the region is valued not just for its rich tropical forests and its importance for carbon storage, but also for its role as the world's greatest and most diverse freshwater system. The Amazon Waters Initiative focuses action in three areas: (a) Sustainably managing critical fisheries at adequate scales, especially those for migratory fish that cross various jurisdictions and include multiple large basins; (b) Strengthening management of wetlands critical to wildlife, human livelihoods, and ecosystem function; (c) Minimizing the environmental impacts of infrastructure and extractive industries like oil, gas, and mining on the Amazon's aquatic systems.

95. SMART Partnership: WCS is a founding member of the SMART Partnership, a group of conservation organizations that share a mission to conserve biodiversity, reduce the impacts of illegal extraction and trade of natural resources, strengthen law enforcement related to biodiversity conservation, and strengthen overall management of conservation areas. In collaboration with governments, communities, and local and international conservation organizations, more than 140 sites globally are implementing the SMART Approach, and eight countries have committed to implementation across their protected area system. Within Latin America, Colombia was the first country to adopt SMART at the national level, however this system-level commitment is now being replicated in Peru, and pilot testing of SMART is beginning in other Amazonian countries including Ecuador and Bolivia.

96. The Tropical Forest Alliance 2020: This is a global public-private partnership in which partners take voluntary actions, individually and in combination, to reduce the tropical deforestation associated with the sourcing of commodities such as palm oil, soy, beef, and paper and pulp. The Tropical Forest Alliance 2020 and its partner countries, companies, and civil society organizations work together to: (a) improve planning and management related to tropical forest conservation, agricultural land use and land tenure; ii) Share best practices for tropical forest and ecosystem conservation and commodity production, including working with smallholder farmers and other producers on sustainable agricultural intensification, promoting the use of degraded lands and reforestation; iii) Provide expertise and knowledge to assist with the development of commodity and processed-commodity markets that promote the conservation of tropical forests; and iv) Improve monitoring of tropical deforestation and forest degradation to measure progress.

97. Latin American Technical Cooperation Network on National Parks, other Protected Areas and Wildlife: REDPARQUES is a technical mechanism founded in 1983 comprising public and private institutions and specialists from the member countries working in the realm of protected areas and wildlife. Member countries are: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Uruguay, and Venezuela. REDPARQUES have two on-going initiatives: Integration of Amazon Biome Protected Areas (IAPA), that seeks to create a network around protected areas systems located in the Amazon region, with funds from the European Union, is currently being discussed for an additional phase beyond June 2019; and Protected Areas Natural Solution against Climate Change (NASCC) that seeks to help communities and nature adapt to climate change.

98. Latin American and Caribbean Network of Environmental Funds: RedLAC, established in 1999, promotes the interrelationships of Environmental Funds in the LAC region through capacity building and knowledge management initiatives that contribute to biodiversity conservation and sustainable development. They have supported over 900 protected areas and administer 53 endowment funds. RedLAC has 21 members from more than 17 countries located in Mesoamerica, South America, and the Caribbean Islands. Most of the ASL2 countries are active participants, and efforts to improve protected area financial sustainability will build upon and tap into the lessons and experience disseminated through this forum.

99. Hivos People Unlimited: Hivos is a global initiative founded in 1968, has launched a program to combat deforestation in the Amazon and seek enforcement of the land rights of the indigenous peoples living there. It combines human rights activism, state of the art technology, international law and local knowledge to pinpoint where deforestation is occurring and act through appropriate legal channels. The program (2017-2020, Euro 14.8 M) is launching activities Brazil, Ecuador and Peru, covering a total of 8 million ha. The initiative is implemented by Hivos and Greenpeace in coalition with COICA, International Institute of Social Studies, Digital Democracy, World Resources Institute, University of Maryland, INTERPOL, Both ENDS, Witness and ARTICLE 19.

100. Global Landscape Forum: The forum is the world's largest knowledge-led platform on sustainable land use, dedicated to achieving the Sustainable Development Goals and Paris Climate Agreement. They have connected 3,900 organizations and 150,000 participants to their gatherings in Warsaw, Lima, London, Paris, Marrakech, Jakarta, Bonn, Washington D.C. and Nairobi – and reached over 231.5 million from 185 countries. They are greening Africa through the AFR100 and Latin America through Initiative 20x20. Furthermore, they are fighting to save the world's peatlands through the Global Peatlands Initiative and its coastal communities through the Blue Carbon Partnership.

101. USAID Amazon better socio-environmental practices: The project acts at site level, country level (Brasil, Colombia and Peru) and regional level, and aims to foster an economy respectful of the environment, reducing the negative impacts of megaprojects in the sectors of roads, hydroelectricity, oil & gas and mining. It began in September 2018.

Baseline synthesis

102. These are some of the most relevant initiatives to the Amazon Sustainable Landscape Program that will play an important role during the implementation phase of ASL-2 Program. Additional discussions will be carried out on an on-going basis to identify additional initiatives, ensure that coordination takes place and that duplication of efforts is avoided.

103. In the business-as-usual scenario, each ASL national project could partner individually with these initiatives but acting collectively with the other projects towards a common goal is more challenging. Actions are not covering the whole territory and weaknesses still impede addressing the drivers of environmental threats. For instance, the establishment of new protected areas and improvement of the management effectiveness of new and existing

conservation and resource management areas, can help contain the expansion of deforestation, but they need to be better integrated into sustainable development models under landscape approaches.

104. The proposed ASL2 Program builds on ASL1 and the past and ongoing work in the Amazon by governments and other players described above. There is a need to continue, expand and strengthen ongoing efforts to contain deforestation in areas where the conservation of closed-canopy forests is paramount for the stability of the ecosystem and associated environmental services, including climate change regulation. Without proper policies and investments in and around the protected areas and integrated landscape management centered around sustainable land and water management and improving ecological connectivity, there is high risk of the Amazon ecosystem reaching a tipping point of runaway natural forest dieback due to drought and fire that would be immensely difficult to stop. In the business-as-usual (BAU) scenario of this analysis these threats persist.

3) Proposed alternative scenario with a brief description of expected outcomes and components of the program

105. While there have been significant efforts made in each of the participating countries over the past decades to conserve and manage the Amazon basin, including launching ASL1 in Brazil, Colombia and Peru, there remain significant challenges. ASL2 will seek to build upon these ongoing efforts, expanding the geographic scope, improving protected area systems including for wetlands/freshwater ecosystems, implementing integrated forest landscape approaches and helping reinforce and improve coordination of actions on the ground, fostering synergies between efforts within and between the participating countries.

106. The ASL2 Program includes seven countries, Brazil, Bolivia, Colombia, Ecuador, Guyana, Peru and Suriname, which together cover approximately 92% of the basin. The Program will invest in several instruments to develop a forest- and freshwater-based economy and consequently reduce deforestation in areas where the conservation of Amazonian ecosystems is of paramount importance for the health of terrestrial and freshwater ecosystems and associated ecosystem services, including climate change regulation. The Program seeks to contribute to maintaining the ecological integrity of the Amazon biome. It was designed to address key issues across the complex set of root causes of deforestation and barriers for sustainable land use. It reflects lessons learned from other programs and the current thinking of many organizations. It prioritizes investments in areas where the countries agree that interventions are needed. These efforts will improve the overall management of the region and promote well-functioning ecosystems with healthy biodiversity, standing forests and free flowing rivers, ensuring the overall resilience of the biome.

107. Over the long-term, the ASL2 Program seeks to contribute to move from a business-as-usual scenario characterized by forest conversion into low productivity cattle ranching and other unsustainable land uses to forest-and freshwater-friendly landscapes. The ultimate outcome of this process would be to maintain and restore the ecological resilience of the Amazon biogeographical region. A landscape mosaic made up of well-managed protected areas and indigenous territories, with sustainable use in the surrounding landscapes, will conserve biodiversity and assure the required connectivity for key ecosystems and species to adapt to climate change. Adding more value for sustainable timber and non-timber (including aquatic) production chains and strengthening ecosystem services will improve local communities and indigenous populations livelihoods and conserve key ecosystem services for local, national and global societies by reducing global GHG emissions, enhancing adaptation for extreme climate change events, maintaining regional rainfall patterns, etc.

108. The ASL2 Program's overarching theory of change narrative (Figure 3), as well as that of each of its seven national projects and its regional coordination project, build upon the root causes, drivers, solutions and barriers presented earlier and are founded on the logic that the ecological resilience of the Amazon biogeographical region can be maintained if: (a) protected areas' size, management and financing are increased so that a representative area of the Amazon is effectively conserved under various regimes (protected areas, indigenous lands, Ramsar sites, etc.); (b) management of productive landscapes between protected areas is improved, in particular that agriculture, forest and degraded lands and fresh water systems are adequately managed, with zero illegal deforestation tolerance, and increased productivity and adoption of land sparing approaches; (c) governance and incentives for protected and productive landscapes are enhanced through adoption of national policies and strategies which support sustainable development and aim to minimize deforestation and loss of ecosystem services; and (d) key technical and institutional stakeholder capacity and regional cooperation are strengthened. A collaborative approach that combines these four elements with national and regional action can constitute the foundation of a truly integrated landscape management approach in the region.

109. The ASL1 Program launched a set of activities to tackle these key elements in three Amazonian countries, Brazil, Colombia and Peru. In line with the overarching pathways of change, the Program focuses on designing and implementing collaborative approaches to conservation and productive land use which provide for livelihoods while also preserving the ecological integrity and global environmental value of this critical ecosystem/biome. ASL1 is structured around four key themes: (a) expanding and improving the effectiveness and financial sustainability of protected areas; (b) reducing the loss of and promoting recovery and sustainable management of native forests; (c) strengthening the policy and regulatory environment in favor of forest-friendly sectorial development; and (d) promoting knowledge and technology exchange and capacity building among stakeholders within and across countries.

110. Key lessons learned from the implementation of ASL1^[81] and other projects in the region include: (a) a shared vision/common shared framework is critical for effective joint actions in the Amazon, built in collaboration with governments and implementing agencies, but also other stakeholders, requiring adaptive management, flexibility, political know-how and understanding of the positioning of each stakeholder; (b) establishing relationships with multiple stakeholders in each national project builds program support and can facilitate political buy-in for project activities; (c) an environment of trust where different stakeholders (national and local governments, NGOs, scientists, international agencies and donors, local communities, et al.) can interact is key to successful coordination; (d) building trust requires finding common issues and a common language that cuts across national and institutional borders; (e) capacity-building is not limited to formal initiatives (training, workshops, etc.), but is also achieved while preparing and implementing projects, through preparatory and organizational work; (f) the link between culture and natural resources is important and must be considered; (g) managing expectations is necessary to ensure that planned activities are do-able within the resources available for each child project. A gap in ASL1 was the lack of focus on freshwater issues, which will now be considered in ASL2. Lessons learned from the Amazon Water Initiative include the fact that people think about the Amazon as a forest, however freshwater ecosystems are also threatened and need urgent action.

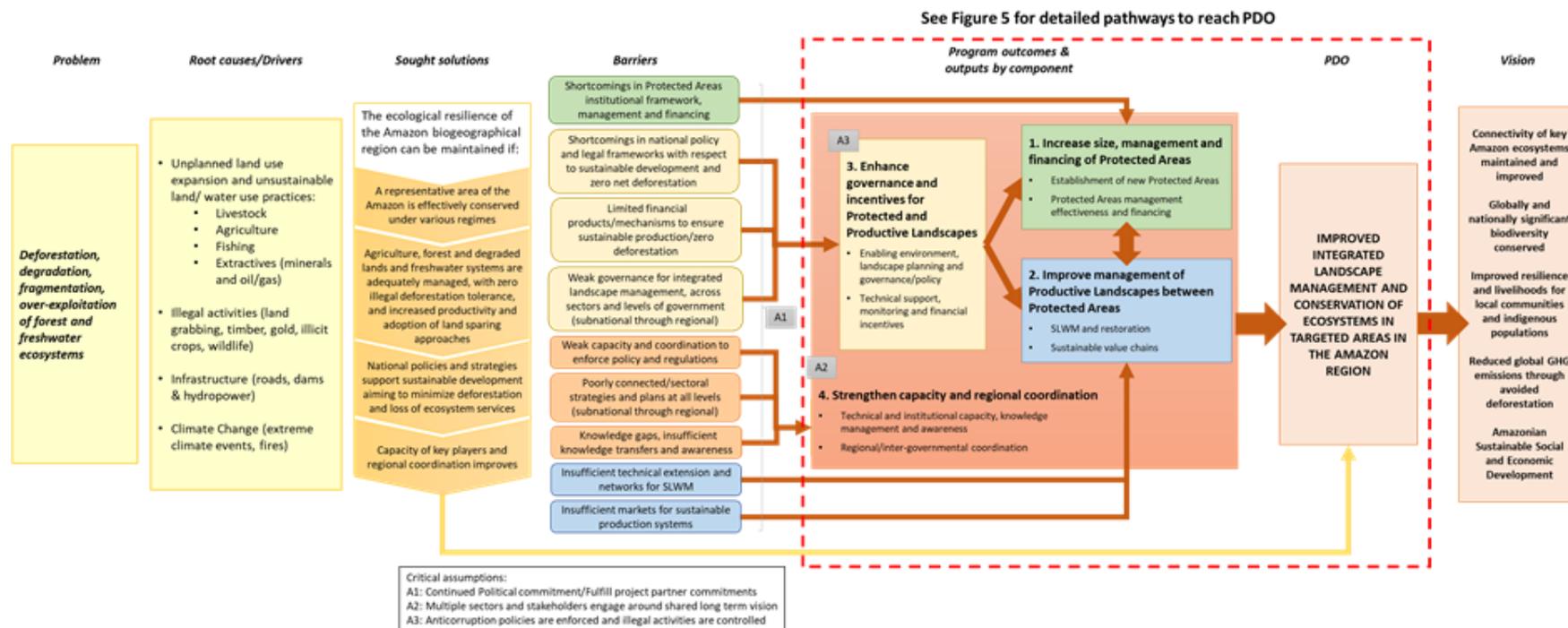
111. ASL2 will build upon this, seeking to: (a) strengthen and expand the initiatives launched under ASL1 in the original three countries and launch them in the four new countries (Bolivia, Ecuador, Guyana and Suriname), namely to increase the area under effective conservation, reduce deforestation, promote sustainable use and restoration of native vegetation and ensure the conservation of species, habitats, ecosystem services and cultural values; (b) expand the

range of thematic issues tackled from a predominantly terrestrial perspective to include the management of freshwater ecosystems and aquatic resources including strategic watersheds; and (c) advance the regional dimensions of the Program, enhancing the ongoing multi-country collaboration around knowledge exchange and learning and complementing it with concrete efforts to identify and jointly manage issues of shared concern on the ground.

112. Additionally, the approaches adopted under ASL2 will be designed to address cross cutting issues, including promoting terrestrial and freshwater ecosystem connectivity through enhanced integrated landscape planning and investment; strengthening governance with a view to reducing deforestation driven by illegal timber, land grabbing, low productivity cattle ranching and agriculture, infrastructure, etc. (e.g., through improved law enforcement, conflict resolution, sectoral agreements); increasing involvement of the private sector, including financial sector partners; increasing participation of women, indigenous people and vulnerable groups; testing and deploying state of the art technology and data management, and mainstreaming climate change mitigation and adaptation.

113. At the national level, the Program will support the expansion and consolidation of the terrestrial and freshwater area under legal protection, including both protected areas and indigenous territories; the development of integrated landscape management of selected regions and the improvement of policies and strategies for the integrated management of both protected and productive landscapes. All these interventions are aimed to reduce deforestation and ensure the protection of terrestrial and aquatic species and habitats. At the regional level, the Program will enhance regional coordination, collaboration and knowledge exchange and learning among all stakeholders. Acting on regional issues can no longer be postponed, as the Amazon region is increasingly accessible and gaining importance in the development agenda.

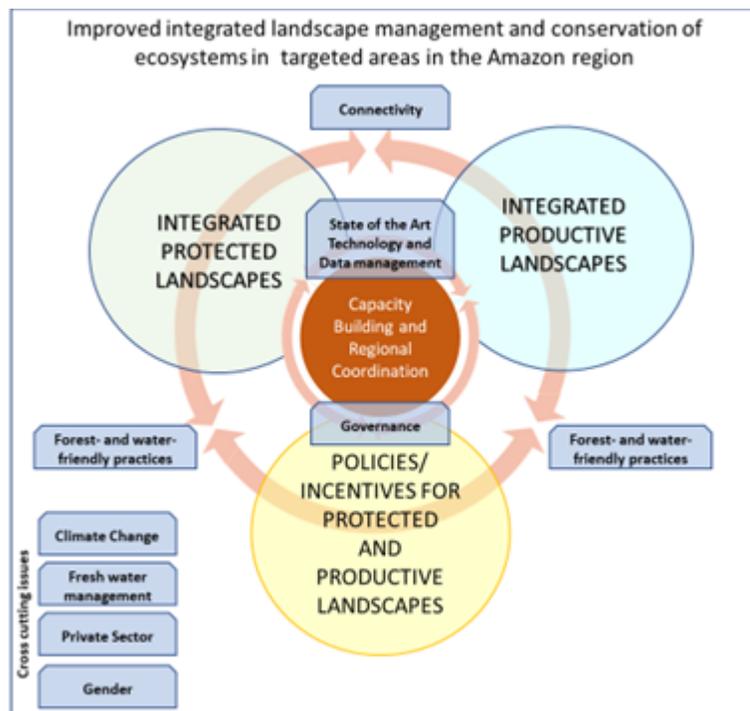
Figure 3: ASL2 THEORY OF CHANGE



Program Objective and Structure

114. Figure 4 depicts the overall ASL2 Program objective and structure, illustrating the interlinkages between the key elements of protected landscapes, productive landscapes, policies, and capacity building and coordination.

Figure 4: ASL2 Program Structure



Program Components

115. **Component 1 - Integrated Protected Landscapes:** This component will increase the conservation of biodiversity through the implementation of initiatives for protected areas [82] creation, improved management and sustainable financing at the system-wide level with a view to contributing to the establishment of a representative, effective and climatically resilient network of Amazon protected areas at subnational, national and regional levels. Approaches will be informed by Brazil, Colombia and Peru's Financing for Permanence experience and will complement existing national and regional efforts to develop and implement a long term strategic vision for integrated protected area systems, including support to: (a) create new protected areas, increasing the area of globally significant forest and freshwater ecosystems under legal protection, including *inter alia* national/regional protected areas, heritage sites, RAMSAR sites, and indigenous lands; (b) strengthen the management effectiveness of existing terrestrial and wetland protected areas and their respective buffer zones throughout the region; and (c) enhance the long-term financial sustainability of national Protected Area Systems.

116. Specific activities will vary between countries, however, are likely to include *inter alia*:

- (i) actions such as surveys, risk assessments, prioritizations, consultations and delineation/demarcation of new protected areas; preparation of legal protocols for declaration of new/expanded protected areas;

- (ii) identification and implementation of innovative participatory governance mechanisms (e.g., co-management, private sector concessioning, multi-protected area governance schemes);
- (iii) preparation and implementation of protected area and buffer zone management plans; protected area management capacity building; indigenous people life plans; and
- (iv) the design/strengthening of long-term financing mechanisms, which align and maximize the synergies between both public and private sources.

117. Approaches will seek to not only expand/improve protected areas individually but also collectively, taking into consideration the productive landscape in which they sit, and helping promote terrestrial and aquatic connectivity at a landscape level and climate change resilience – in turn contributing to landscape, ecosystem and species conservation and sustainable economic and social development.

Table 2: Contribution by participating countries to Component 1 Program outcomes

Outcome	Participating countries and estimated GEF Core Indicator targets (where relevant) ^[83]
Protected areas creation Increased area of globally significant forest and freshwater ecosystems under legal protection	Ecuador, Guyana and Peru are planning to designate new protected areas. <i>Ecuador: 50,000 ha of protected areas created</i> <i>Guyana: 800,000 ha of protected areas created</i> <i>Peru: 80,000 ha of protected areas created</i>
Strengthened protected area management	Countries will develop activities to improve management effectiveness of protected areas (including RAMSAR sites and national/subnational areas). <i>Bolivia: 6,201,415 ha of protected areas under improved management</i> <i>Brazil: 11,878,131 ha of protected areas under improved management</i> <i>Colombia: 6,707,757 ha of protected areas under improved management</i> <i>Ecuador: 200,000 ha of protected areas under improved management</i> <i>Peru: 4,306,369 ha of protected areas under improved management</i> <i>Suriname: 1,710,200 ha of protected areas under improved management</i> <i>Guyana will not track management effectiveness besides through the creation of</i>

	<p><i>on of the protected areas indicated in the target above</i></p> <p>In addition, Bolivia and Brazil will also measure outcomes in terms of improved governance and management for connectivity:</p> <p>Bolivia will improve the governance structure around its protected areas system.</p> <p>Brazil will strengthen sustainable governance arrangements and capacity to plan and manage landscape connectivity</p>
Enhanced long term financing for national protected area systems	Bolivia, Colombia, Guyana and Peru will work on strengthening long-term sustainable financing of their protected areas.

118. **Component 2 - Integrated Productive Landscapes:** This component aims to promote integrated landscape management with an emphasis on standing forest and watersheds located around protected areas, with a view to reducing deforestation, maintaining and restoring ecosystem connectivity, improving livelihoods and strengthening climate resilience. The component will support complementary strategies to: (a) increase the area of forests and watersheds brought under sustainable land and water management (SLWM) practices; (b) increase capacity for and participation in sustainable forest- and freshwater-friendly production chains; and (c) increase the area under restoration or regeneration schemes. It will seek to expand the geographic scope of and deepen efforts launched under ASL1.

119. Activities to be supported under the child projects might include *inter alia*:

- (i) development and adoption of sustainable production systems (e.g., integrated crop-livestock-forestry systems, agroforestry, sustainable forest management -timber and non-timber-, and fishery management);
- (ii) developing of new and strengthening/scaling up of existing forest- and freshwater-friendly production chains (from production through to market);
- (iii) strengthening cooperatives and community associations, and promoting development of small- and medium-enterprises;
- (iv) building capacity for and fostering sustainable, forest- and freshwater-friendly businesses (e.g., extraction of non-timber forest products, products from agroforestry production, aquaculture with native species of commercial value, and community-based ecotourism);
- (v) increasing access to innovative technologies/best practices with focus on adding more value, accessing markets and gaining efficiency; and increasing capacity for and uptake of these approaches (including access to financing), particularly in community and private lands; and

- (vi) enhancing capacity of all stakeholders to sustainably manage and restore ecosystems.

Table 3: Contribution by participating countries to Component 2 Program outcomes

Outcome	Participating countries and estimated GEF Core Indicator targets (where relevant) ^[84]
Increased areas brought under sustainable land and water management (SLWM) practices	<p>All countries will develop activities to increase the areas under sustainable practices.</p> <p><i>Bolivia: 7,124,915 ha of landscapes under improved practices</i></p> <p><i>Brazil: 8,229,090 ha of landscapes under improved practices</i></p> <p><i>Colombia: 1,016,724 ha of landscapes under improved practices</i></p> <p><i>Ecuador: 20,000 ha of landscapes under improved practices</i></p> <p><i>Guyana: 40,000 ha of landscapes under improved practices</i></p> <p><i>Peru: 15,000 ha of landscapes under improved practices</i></p> <p><i>Suriname: 45,000 ha of landscapes under improved practices</i></p>
Increased capacity for and participation in sustainable forest- and freshwater-friendly value chains	<p>All countries will include activities around productive practices and/or developing value chains, business models and markets for sustainable products from the Amazon.</p>
Increased area restored or at least undergoing restoration or regeneration	<p>Brazil, Colombia, Suriname and Peru will perform activities related to restoration or regeneration.</p> <p><i>Brazil: 1,200 ha of land restored</i></p> <p><i>Colombia: 9,000 ha of land restored</i></p> <p><i>Peru: 7,900 ha of land restored</i></p> <p><i>Suriname: 500 ha of land restored</i></p>

120. **Component 3 - Policies/Incentives for Protected and Productive Landscapes:** This component will seek to strengthen the enabling environment and tools for integrated management in both protected and productive landscapes, reinforcing the implementation of the on-the-ground actions supported under Components 1 and 2 aimed at sustainably reducing pressures on forests, watersheds and biodiversity, decreasing GHG emissions and restoring ecosystems in the respective child-project areas. To this end, the component will support the following key areas: (a) strengthening policy and regulatory enabling environment; (b) integrated landscape planning and governance; (c) technical support and financial incentives for SLWM; and (d) environmental and social monitoring.

121. Activities may include *inter alia*:

- (i) developing frameworks, agreements and tools for natural resource conservation/sustainable use and combatting illegal activities, at local, sub-national, national and multi-national levels;
- (ii) mainstreaming environmental concerns into economic sectors which currently lead to land clearing and forest degradation (cattle ranching, agriculture, extractive industries, infrastructure), including incorporating biodiversity conservation and sustainable use principles into policies, guidelines and/or instruments which engage the private sector, including the financial sector;
- (iii) increasing participatory governance and planning for improving land-use planning and landscape connectivity (including watersheds) at sub-national, national and multinational levels, including convening relevant stakeholders and facilitating the development of a common vision(s) as well as related implementation strategy(ies) and plan(s) ;
- (iv) enhancing technical support and financial incentives for adoption of SLWM, for example, providing technical extension services; exploring potential partnerships with existing credit lines and/or other innovative financial instruments (e.g., de-risking funds or impact investment funds - Agri3, Green&Fund, etc.) with a focus on more sustainable production chains, and business development;
- (v) strengthening environmental and social monitoring frameworks, systems, tools and capacity at local, sub-national, national and regional levels, potentially in partnership with private sector companies; and
- (vi) developing and applying spatial land use planning decision support systems working on big data to help ASL2 with the development and use of innovative analytical tools (e.g., climate risk modeling, "Spatial Agent" open data , ecosystem-based adaptation plans, data cubes, long-term time data series, environmental rural registers).

Table 4: Contribution by participating countries to Component 3 Program outcomes

Outcome	Participating countries and estimated GEF Core Indicator targets (where relevant) countries
Strengthened capacity to enforce policy and regulatory frameworks for natural resource conservation/sustainable use and combating illegal activities	All countries aim to implement activities related to strengthening the legal and institutional framework and/or improving policies, including mainstreaming of environmental issues into economic sectors, to create the enabling conditions for a sustainable use of the Amazon.
Increased participatory governance and planning for landscape connectivity, including watersheds (sub-national, national and multi-national levels)	All countries will enhance land-use planning, <i>inter alia</i> through policies, tools or effective intersectoral planning in target sites.
Enhanced technical support and financial incentives for adoption of SLWM	Brazil and Peru specifically mention technical support and/or incentives, although other countries may have related activities.
Increased participatory governance and planning for landscape connectivity, including watersheds (sub-national, national and multi-national levels)	Colombia and Suriname put a specific emphasis on participatory governance, although other countries may have related activities.

122. **Component 4 - Capacity Building and Regional Coordination:** Knowledge management and coordination will be fostered in the ASL Program, aiming to: (a) strengthen capacity for regional cooperation to manage terrestrial and freshwater ecosystems; (b) leverage partnerships with other institutions so as to expand knowledge and increase the reach of interventions; (c) increase stakeholder knowledge on conservation and sustainable land and water management practices in the Amazon; (d) strengthen implementation capacity among national project stakeholders and (e) strengthen both project and program level monitoring and evaluation system. The coordination project will serve as a platform and collaborate with other existing Amazon-wide platforms to help catalyze collaborative management across the Amazon in addition to providing a means for South-South targeted technical assistance amongst the participating countries. Figure 7 in Section 8 below, illustrates the expected knowledge and coordination flows of ASL2.

123. This component will support enhanced collaboration of the participating countries to improve the policy, regulatory and legal frameworks guiding development in the Amazon region, ensure that emerging knowledge from the region and the world is captured and capacity building activities are well tailored to the needs of the countries' and their varied stakeholder groups at all levels (indigenous and local communities, local farmers and producer associations, private sector, decision makers, etc.). Regional knowledge management efforts will be complemented by national level efforts funded via the national child projects, in a mutually reinforcing approach. The results of this collaboration, be it in research, best practices analysis, assessments, monitoring, and other areas, has the potential to disseminate lessons and successful practices thus helping strengthen individual country interventions on the ground.

124. The Program will aim to mirror successful initiatives such as Connect4Climate which communicates change and accelerates real-world solutions through partnerships, competitions, events, and knowledge sharing, connecting partners around the world. Research^[85] found that shared knowledge (horizontally – across actors and institutions, and vertically – across system levels and scales) enhances research and communication capacities; and mobilizes decision-makers to address problems at multiple governance levels. This will generate an influencing effect, expanding the results of the interventions in each national target area to a larger scale. Enhanced donor coordination and a better understanding of current financing flows will help build stronger investment collaboration to set up a more effective response for conserving and promoting sustainable development in the Amazon.

125. The Program component will include the activities related to knowledge management, communication and project monitoring developed by each national project as well as those under the regional coordination child project which will focus on improving coordination, access to information and capacity of stakeholders to implement national and regional activities under ASL2. By promoting strategic knowledge exchanges and innovations, and increasing partnerships with other regional actors, the coordination project will accelerate the stakeholders' learning, resulting in improved implementation and desired transformational changes. Promoting coordination in key strategic actions, will generate outcomes that have greater impact than if countries were working in isolation. In addition, collaboration and learning amongst neighboring countries and partners to tackle common threats and accelerate the implementation and upscaling of innovative approaches and best practices, is expected to generate an 'influencing effect' that will extend beyond the immediate target areas of each national project; e.g., public officials will have a strengthened capacity to promote conservation and sustainable productive activities in areas beyond those targeted by ASL. Partnerships with regional initiatives is expected to strengthen capacity and knowledge for conservation and sustainable development in further areas. In addition, the project will support the countries for coordination and capacity building to develop initiatives related to freshwater management across borders, potentially leading to an indirect outcome of expanded cooperative management in a watershed like the Putumayo.

126. The coordination project will advance the regional dimensions of the Program, enhancing the ongoing bi-lateral and multi-country collaboration around knowledge exchange and learning; and scaling it up with concrete efforts to identify and jointly manage transboundary areas and/or issues of shared concern. The challenges to be tackled under ASL2 require large-scale interventions which will be better addressed with a harmonized collaborative approach through a regional knowledge and collaboration platform. A collaborative approach will promote coherence among the multiple country-level initiatives and provide key stakeholders with capacity building tools and knowledge that are relevant for the conservation and sustainable development of the Amazon ecosystems. It will strengthen collaboration between projects and with governments, NGOs and donors; contribute to strategic knowledge at regional scale; reach multiple stakeholders from project community beneficiaries to decision-makers at the highest levels; and streamline reporting, access to tools and ongoing technical support. Some of the innovative solutions to the barriers being addressed by the ASL2 Program will be identified over the course of its implementation, through knowledge exchanges, interactions with partners, and analysis and dissemination of the results and lessons learned. The coordination project will facilitate the exchange and analysis of lessons, facilitating the incorporation of innovation and further replication and adaptation to the diverse contexts.

127. The component is divided in the following subcomponents:

128. *Subcomponent 4.1. Coordination:*

- *Coordination and partnerships with regional initiatives* leading to agreements, bi- and/or multi-lateral strategies and activities to promote conservation and sustainable development in transboundary areas or regarding shared issues of concern, including[86]: governance and co-management of natural resources, watershed management, public-private partnerships for productive value chains, mercury pollution, traditional knowledge for conservation and sustainable development, participatory monitoring programs, law enforcement to combat illegal activities, among others. The coordination project will aim to reinforce synergies with other programs making them partners of regional initiatives to be supported by ASL2. The coordination project will also engage the private sector (using the WBG convening power) as a key partner for maximizing finance for conservation. ASL2 will identify regional partners based on ASL1's on-going activities, the demand from the country projects and through a stakeholder mapping that will identify organizations working on issues that pertain ASL2's objectives. Examples of these regional partners are presented in the baseline section. Identification of partners with which ASL2 could join forces to leverage their capacities to deliver results on the ground will be further developed during project preparation. These regional partners contributing to ASL goals will be linked through a common ASL Knowledge Platform. (See Figure 6, *Section 6. Coordination*).

- *Donor Coordination.* ASL1's donor platform will be updated to collect and analyze information about the interventions in the Amazon from private, bilateral and multilateral agencies. Meetings will be convened with strategic donors to identify gaps for future investment, support potential synergies and identify case studies. A strengthened donor coordination exchange platform will allow a better understanding of the current financing flows and potential investments in the Amazon, build stronger collaboration, and identify lessons that together will help implement more effective strategies for the conservation and sustainable development of the Amazon.

- *Coordination mechanisms for ASL2 implementation* through (i) the Program Steering Committee (PSC) composed of representatives from the participant countries, GEF Implementing Agencies and the GEF Secretariat that will be a key advisory mechanism to facilitate coordination and promote synergies between the national projects[87], and (ii) the Annual Conference where all key stakeholders will discuss prioritized themes of interest and identify future collaborative actions. ASL's coordination structure and further details are include in the section. Coordination below.

129. *Subcomponent 4.2 Knowledge Management and Communications:*

- *Knowledge management* efforts will build on the platform and framework set up for ASL1 and will aim to grow a large Amazon community of practice that can support one another and deliver on projects and Program goals. Details on the community of practice is described in paragraph 192. The project will support inter alia:

- (i) analytical work and systematization of best practices, tools, and guidelines to improve integrated landscape management and conservation in the Amazon;
- (ii) knowledge exchange through virtual and in-person events (study tours, mentoring or internship programs, south-south exchanges, conferences, specialized workshops, on-the-job training, and courses); and
- (iii) a state-of-the-art, technologically friendly knowledge repository system to collect relevant sources of information from ASL projects and existing knowledge hubs.

A process will be set up to identify gaps in best practices and provide the national projects stakeholders and partners with access to experts, tools and guidelines. It will connect project teams with the right people and the right information, so they are able to adopt this knowledge, reach an open collaborative network and improve project activities[88]. This process will be established to promote the flow of knowledge from existing sources and knowledge hubs[89] to the child projects and back from these to knowledge repositories (see Figures 6 and 7). The coordination project will seek to link existing Amazon knowledge platforms with the ASL and to ensure interlinkages that promote collaboration and learning with ASL projects. Leveraging the strengths of the WBG and partners, the system could include *inter alia*:

- Data & Analysis:
 - Common data hosting platforms for data not already hosted in common formats (e.g., online Open Geospatial Consortium (OGC) standards for spatial data or open-data APIs;
 - Interactive ASL Data and Analysis Catalog;
- Interactive ASL e-books, e-Newsletters (with case studies, illustrative dashboards for decision support, interactive literature reviews and disruptive technology opportunities);
- Virtual ASL Learning Series;
- Regional Competitions (e.g., hackathons, design challenges).

ASL2's knowledge management approach is further described in Section 8 of this document.

- *Communications.* The project will deploy communication tools to disseminate ASL2 results to a broad audience, raising awareness about the importance of the Amazon and critical regional issues, promoting project activities and solutions, disseminating knowledge products, and showcasing partnerships with stakeholders. This will be implemented using digital platforms and other products such as newsletters, brochures, publications, videos, as well as awareness campaigns. The coordination child project will also provide guidance to national level communication initiatives so there is harmonization of messages and tools with the overall program goals.

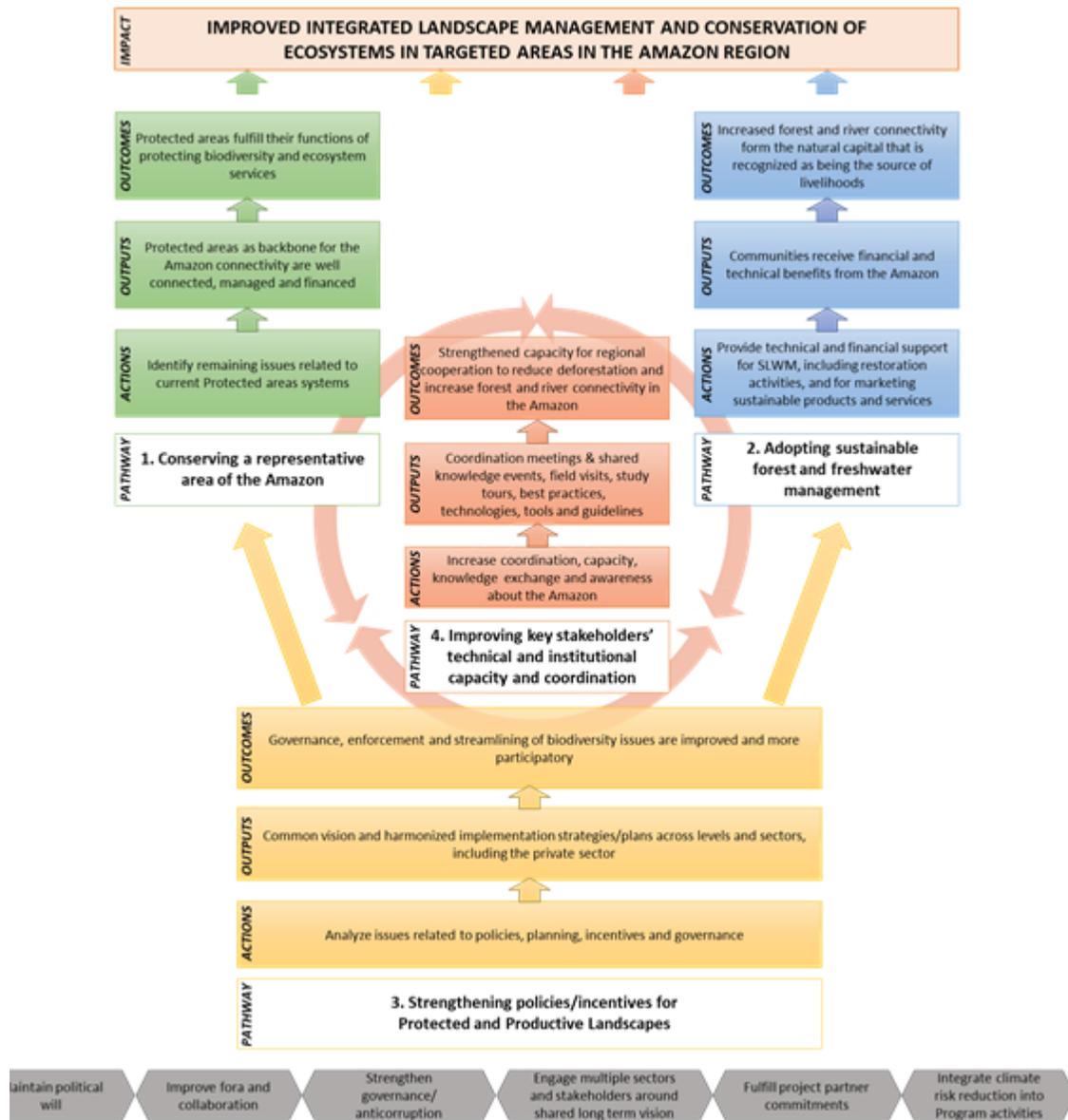
130. *Subcomponent 4.3 Monitoring and Evaluation.* An M&E system will track of project results and aggregate these to measure program level outcomes and facilitate adaptive management. Based on lessons learned from ASL1, different M&E instruments will be utilized to collect data: (i) a tailored ASL tracking tool to capture results for ASL outcomes and that are not captured in the GEF core indicators, and (ii) GEF core indicators. Qualitative and quantitative data will also be collected from the project annual reports submitted by the implementing agencies. Guidance, quality assurance and training will be provided to support national teams. This will help harmonize the approaches and ensure an effective portfolio-level M&E system.

Table 5: Contribution by regional coordination project and participating countries to Component 4 Program outcomes

Child project	Outcomes
Coordination child project	<p>Strengthened implementation capacity among national project stakeholders</p> <p>Strengthened capacity for regional coordination to manage terrestrial and freshwater ecosystems.</p> <p>Increased stakeholder knowledge on conservation and SLWM in the Amazon</p> <p>Strengthened Program level monitoring and evaluation system</p>
National child projects	<p>Improved project management and capacity building</p> <p>Increased knowledge and improved sharing of information (Enhanced communication and outreach.</p> <p>Strengthened bi-lateral and regional dialogue and coordination.</p>

131. All the outcomes and activities described above for the four Program components have been designed to respond directly to the drivers, root causes and barriers identified in Figure 3. 5 (below) illustrates in a simplified manner how each component and the linkages between components bring about the desired component outcomes and ultimately the Program's goal. Figure 5 is also a detailed representation of the red-dotted central square of Figure 3 that describes for each pathway/component how it will contribute to the overall goal of the program. Pathway 1 focuses on protected areas and Pathway 2 on productive areas. All activities have positive feedback loops as they are interconnected, Pathway 3 on policies/incentives will have positive impacts both in protected and productive landscapes and Pathway 4 on capacity/coordination will both learn from and feed into all components.

Figure 5: Diagram articulating the components



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

132. The ASL2 Program is well aligned with the SFM Impact Program strategy in that it aims to promote effective coordination for sustainable forest and water management in the Amazon, in particular through the regional coordination and knowledge exchange activities to be conducted under Component 4, and through the activities to strengthening the coordination and management around issues of shared concern under Components 1, 2 and 3, e.g., management of shared watersheds; illegal logging and trafficking in endangered species, monitoring and research around themes of common interest, etc. Additionally, Program implementation will seek to promote coordination between stakeholders at all levels around relevant activities and through the application of integrated landscape approaches both within and between countries.

133. In addition, the ASL2 Program is well aligned with the GEF focal areas: It aims to mainstream biodiversity across sectors as well as landscapes through biodiversity mainstreaming in priority sectors (BD 1-1) and address direct drivers to protect habitats and species as well as improve financial sustainability, effective management, and ecosystem coverage of the global protected area estate (BD 2-7), through positive impacts of protected areas and planning in their buffer zones; better spatial and land-use planning based *inter alia* on ecological information; mainstreaming of biodiversity into sectors that have negative impacts on forests and waters of the Amazon (including agriculture, extractive, and infrastructure sectors); changing agricultural and forestry production practices; exploring long-term financing schemes for protected areas and sustainable NTFP production; and helping indigenous peoples and local communities continue their cultural traditions, while benefitting from the sustainable use of the forest and watersheds.

134. The program demonstrates mitigation options with systemic impacts (CCM-2-7) as it strongly supports reducing GHG emissions through avoided deforestation and by enhancing above and below ground carbon stocks; promotes the continuation of the water and wind pattern cycles that the Amazon strongly influences; and is in line with the NDCs of the Amazonian countries, several having included forest and land-based emissions in their national GHG emissions.

135. The program also maintains and/or improves flow of ecosystem services, including sustaining livelihoods of forest-dependent people through SFM (LD 2-2), reduces pressures on natural resources from competing land uses and increases resilience in the wider landscape (LD 3-4), through coordinated actions to restore native vegetation and to improve sustainable land management practices and sustainable production in particular in productive landscapes, with particular attention to cattle ranching and other agricultural sectors and their effect on forest resources.

136. The program finally supports actions to address mercury pollution from artisanal mining operations (CW 1-1), through working at the sectoral level to tackle mercury from artisanal and small-scale gold mining sector, including formalization, regulation and reduction of mercury, as well as tackling illegal ASGM, an important issue in Bolivia, Ecuador, Peru, Guyana and Suriname.

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

137. Under the baseline scenario, despite ongoing efforts at the national and regional level, the expected future development of continued low-productivity cattle ranching, unplanned agriculture expansion, unsustainable practices from extractive industries (including pollution from artisanal mining) and infrastructure, land grabbing, illegal timber, and wildlife trafficking, etc. in the Amazon would take place at the expense of the region's forest and freshwater resources, resulting in increased negative impacts on regional and global environmental values, including biodiversity, carbon stocks, and forest and freshwater ecosystem services, as well as negatively affecting the livelihoods and well-being of indigenous and local communities. The ASL2 Program, as described in the alternative scenario, will make an important contribution to strengthening the achievements of ASL1 as well as exploring new areas of cooperation. The areas in which GEF financing will play an incremental role include more particularly: expanding the coverage of and strengthening the connectivity between protected landscapes within and between participating countries, actions in upstream areas with impacts on downstream locations, including those lying in different countries, reduction of leakages from one country to another related to illegal activities, better sharing of sustainable practices, building of sustainable production chains for regional/international markets, strengthened common implementation and enforcement of international conventions (UNCBD, UNFCCC, CITES) and SDGs, cross-country/cultural knowledge enhancement, etc.

138. Under Component 1, the ASL2 Program builds on a strong baseline of forest and biodiversity protection efforts, including a large area of protected areas and indigenous territories and a growing number of RAMSAR recognized wetlands in the Amazon (see Map 1). However, there remain globally important terrestrial and freshwater areas with insufficient protections, and the effective management of the existing areas across the region still lacks enough, long term and sustainable (non-donor driven) financing and integration within the broader landscape. The proposed alternative scenario includes increasing the number and area of globally significant forest and freshwater ecosystems under protection; improving management effectiveness of existing terrestrial and freshwater protected areas and their buffer zones; enhancing connectivity and climate resilience of conservation areas at the landscape level; increasing and diversifying revenue for protected area management; and development and/or implementation of long-term sustainable financing mechanisms for national protected area systems. Protected area management capacity will be increased above and beyond what would be achieved at national level, through knowledge exchange between participating country stakeholders, fostering the transfer of lessons learned and scaling up of successful approaches, such as those developed under Brazil's ARPA program and its associated Transition Fund. The ASL2 will also explore and support opportunities for bi-lateral and multi-lateral coordination and collaboration around protected area and biodiversity conservation concerns, including *inter alia* creating collaborative spaces for establishment and management of transboundary conservation targets (e.g., Ecuador-Colombia, and Ecuador-Peru); identification and management of shared threats and challenges facing protected areas in border regions (e.g., Ecuador-Colombia, Guyana-Suriname); development and implementation of joint monitoring programs for migratory species, including fish; developing common plans to improve coordination and effectiveness of efforts to combat illegal timber and wildlife trafficking especially focusing on possible cross-border illegal transfers, and undertaking integrated landscape management efforts in shared watersheds to reduce both local and downstream impacts on important wetlands and biodiversity.

139. The baseline, with respect to Component 2, also includes national and sub-national level efforts to foster sustainable productive landscapes including targeted forest management and forest- and freshwater-friendly production chains initiatives in both ASL1 participating and non-participating countries, e.g., Brazil's Terra Legal and Rural Environmental Registry programs and Ecuador's Socio Bosque Program^[90]. Nevertheless, a scaling up of these efforts is needed if the paradigm shifts and behavioral changes necessary to foster the emerging sustainable forest- and freshwater-based economy are to be achieved. Under the alternative scenario, ASL2 will enable ongoing initiatives to be consolidated and expanded to new target areas, including in shared watersheds such

as Putumayo and Santiago. Research and development will be supported to identify new and strengthen existing sustainable value chains, including opportunities for integrating local products into regional markets, and to disseminate these lessons regionally among key stakeholders. The GEF will allow such actions to fully flourish, encouraging an Amazon-wide sustainable development.

140. The Program will also strengthen the enabling policy and regulatory environment and tools for integrated landscape management approaches, centered around SLWM/SFM practices, under Component 3. The alternative scenario presented for this Program will support *inter alia* coordination and harmonization of policies between production, social development, and infrastructure development sectors with the environment sector; develop and support uptake of technical and financial instruments that promote environmentally-sustainable forms of production; increase participation in practices that increase yield and quality while reducing environmental impact; strengthen planning for sustainable production at local levels; and connecting local 'green' producer groups with private sector commodity traders including linkages to national and regional markets. While many of these activities will be implemented at the local and sub-national level, the Program's Coordination grant will ensure that the experiences and lessons learned when designing and implementing these activities will be shared and applied in a faster manner across stakeholders (including government, communities, land owners, academic researchers) in the seven participating countries via south-south exchanges and annual workshops. Communicating any positive results (through the web, media and other means) achieved under the program will be of paramount importance to catalyze rapid changes by all stakeholders and decision makers. Finally, coordination and outreach with all the potential partners and collaborators will be achieved to bring more efficiency to the investments and to avoid duplication of efforts.

141. The countries included in the Program have a baseline of regional coordination, for example, through ACTO's Amazonian Strategic Cooperation Agenda and the recently adopted Integrated Management of Water Resources of the Amazon Basin SAP; REDPARQUES' two initiatives: Integration of Amazon Biome Protected Areas (IAPA), and Protected Areas Natural Solution against Climate Change (NASCC); and WWF's Living Amazon Initiative, particularly for protected areas and Indigenous Territories coordination. The alternative scenario proposed by the Program will build far beyond this regional cooperation by: promoting exchange of lessons and best practices for policy and legislation to address deforestation and illegal activities, collaborative action in border protected areas and in shared watersheds to address common threats, and knowledge and learning platforms in priority thematic areas.

142. The Program is committed to building on the extensive work that the seven governments are already doing in the Amazon towards the Program's goal, facilitating coordinated actions that could not be achieved nationally, with benefits that supersede the sum of national actions. The GEF funds will provide incremental value across a range of project interventions to increase the terrestrial and freshwater area under effective protection, reduce deforestation and promote sustainable and ecologically connected landscapes at the national and regional level. Governments will provide substantial and significant co-financing in cash and in kind for the projects related to the proposed interventions (including investments in the Protected Area systems; support for adoption of SLWM productive and restoration practices; cross sectoral policy dialogue to mainstream environmental concerns; improved landscape governance, planning and implementation; and local, national and regional stakeholder capacity building and coordination). This will be accompanied directly and indirectly with cofinancing support and complementary initiatives supported by multi-lateral (e.g., FIP, EU, ITTO, IADB); bi-lateral (e.g., Norway, Germany, the United Kingdom); development agencies (e.g., GIZ, USAID); grants from other private donors (e.g., Gordon and Betty Moore Foundation, WWF and others); contributions from the UN Agencies country programs, and, potentially, partnerships with the private sector (e.g., Rabobank, big data companies, other).

143. In summary, the GEF funds will promote a shared vision for building sustainable and connected protected and productive landscapes and a common objective by the participating partners whose anticipated results are more than the sum of its components. They will allow for levels of interconnectivity across countries that are using their GEF STAR allocations that could not be achieved through small, isolated projects. Thus, the individual investments can achieve large scale impact. GEF funds will also help speed-up the coordination of policies across the region and influence the development paradigm towards sustainable growth through the reduction of illegal deforestation by inviting the various development sectors to make the necessary changes. The Coordinating Grant funds will help enhance internal cohesion and coherence amongst the national child project investments across the GEF implementing agencies. The GEF investments will use innovative processes that will lead to far more efficient and environmentally-friendly land uses than without these investments as interventions will promote the analysis and monitoring and identification of best practices and results.

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

144. The ASL2 Program will contribute to the conservation and sustainable development of one of the most important biomes on the planet, with attendant environmental and socioeconomic benefits that will be felt at all levels, from local communities, to the global population that depends on the ecosystem services provided by the Amazon.

145. At the global level, the Amazon plays a critical role in biodiversity conservation. Its terrestrial habitats host at least 10% of the world's known species, many of which are endemic, and its freshwater ecosystems host the largest number of species in the world. This immense wealth of biodiversity has both intrinsic existence value as well a potential option value (e.g., future generations may benefit from ecosystem services provided for sustainable livelihoods, economic development based on sustainable forest product chains, medical discoveries derived from Amazonian biodiversity, etc.). It is part of a complex system which underpins and enables the functioning of the rainforest and freshwater ecosystems on which the Amazon's multiple services depend. Program efforts to increase the coverage and improve the management of protected areas and increase ecosystem connectivity, together with those to improve management of forest and freshwater ecosystems will help conserve this globally significant terrestrial and aquatic biodiversity.

146. Similarly, the Amazon forest plays a vital role in the regulation of the global climate. As mentioned earlier, it is a globally important carbon sink, containing 90-140 billion metric tons of carbon, the release of which could significantly accelerate global warming. Land conversion and deforestation in the Amazon release up to 0.5 billion tons of carbon per year, not including forest fires, with a concomitantly important role in regulating global climate^[91]. Consequently, reduction in Amazonian deforestation will contribute to international efforts to mitigate climate change by avoiding further carbon emissions. Similarly, efforts to restore native vegetation will help remove carbon from the atmosphere, further contributing to these climate change mitigation efforts; particularly as reforestation in degraded tropical lands is one of the most effective means of carbon sequestration.

147. At the regional level, the environmental and socioeconomic benefits are numerous. Improved collaboration around the identification and management of issues of joint concern, such as management of shared watershed and border protected areas and threats associated with illegal gold mining, logging and species trafficking, will significantly magnify the impact of project activities beyond what can be achieved solely at the national level. For example,

internationally shared water courses such as the Putumayo will benefit from coordinated management efforts giving rise to improved environmental quality, livelihood sustainability, biodiversity conservation and ecosystem service delivery. Similarly, coordinated efforts to tackle illegal trade will reduce cross border leakage, whereby illegal operators take advantage of weaker regulatory or enforcement capacities in neighbouring countries. Additionally, the Program's emphasis on the exchange of knowledge, best practices and technologies within and between countries coupled with capacity building of stakeholders at all levels and improved monitoring will strengthen child project interventions, generally fostering a healthier Amazon. This in turn will bring about regional benefits which extend beyond the Amazon itself, such as helping maintain rainfall patterns in neighboring.

148. At the local level, robust national and regional policies and incentives will encourage local community and broader private sector investment in sustainable forest- and freshwater-friendly productive chains linked to the conservation or restoration of ecologically-significant forest patches within and between protected area and watersheds. These and related actions to improve protected area management; protect soils and watersheds protection (e.g., reducing erosion and mercury pollution); conserve and enhance forest carbon stock; increase agricultural and forest productivity; and to develop new and stronger productive chains and related business opportunities will individually and synergistically give rise to local economic, social and environmental benefits including improved livelihoods and human health, maintenance of indigenous cultural values and traditions; and more robust ecosystems and related services, e.g., regulation of local climate and hydrology. These benefits will be coupled with decreased environmental and social costs that would otherwise be incurred from further deforestation, forest degradation and aquatic pollution.

7) Innovation, sustainability and potential for scaling up

149. Innovation: While there have been many projects and initiatives for protected areas systems, mainstreaming of biodiversity and natural resource management, ASL2 is the first time that a suite of investments will be coordinated regionally across seven Amazon countries to respond to key drivers and root causes of deforestation in the region, harmonize sectoral government policies that impact the region, and work across countries with similar landscape approaches. Per se, connecting the vast areas under legal protection with productive areas under sustainable land and water management practices is an innovation for the region. The ASL will promote innovative approaches for protected area governance, planning and management, including improving climate resilience through application of innovative planning tools such as Spatial Planning for Protected Areas in Response to Climate Change (SPARC) and developing climate models for adaptive management of protected area systems. Promoting knowledge sharing of innovative practices among countries and other partners will raise awareness, commitment and buy in to incorporate these practices. Besides this overarching innovation, the ASL2 will build on innovative ideas put in place for ASL1. Other innovations will translate as follows:

Technological innovations: The program will develop and apply spatial land use monitoring and planning decision support systems in partnership with the private sector (e.g., climate change risk modeling, WBG's "Spatial Agent" open data platform, ecosystem adaptation plans, etc.). In addition, ASL will develop and use online applications and smart phones for community-based monitoring of biodiversity (in partnership with Citizen Science for the Amazon); use transects for long term biodiversity monitoring with state-of-the-art technologies (e.g., camera traps and drones) capturing both image and audio data within protected areas, as well as develop artificial intelligence systems for analysis of this data.

Financial innovation: The Program will support Finance for Permanence mechanisms (PFP). PFP is an innovative approach to funding protected areas, bringing together the ecological, financial and organizational measures needed for long-term maintenance of these areas. The centerpiece of this approach is the use of a single closing, whereby pledged funds are delivered at the time the pledge conditions are met. By bringing a large block of outside funding into a single closing, PFP helps coordinate the necessary parties and draw out new resources and commitments. The ASL will contribute to the development of new financial instruments such as de-risking funds, blended finance and impact investment funds, to increase capacity for and uptake of SLWM approaches. Collaboration will be promoted with the WBG's Finance, Competitiveness and Innovation Global Practice (FCI) to help deliver financial innovation through private sector partnerships.

Business model innovations: Promoting value chains in the Amazon with products coming from remote areas and limited distribution systems and finding niche markets that value sustainable products will require innovation and scaling up of lessons from other successful business models and entrepreneurship forms such as those developed in the state of Acre in Brazil which participants from the ASL1 had the opportunity to visit and learn from.

Institutional innovation: The Program will support innovative ways to foster changes in informal institutions involving beliefs and awareness about the value of conservation and standing forests in comparison to deforested pastures. Respecting stakeholder engagement approaches, it will also promote the recovery and exchange of traditions that for centuries have protected forests and rivers. Innovative changes in formal institutions such as organizations will be mostly achieved through promoting coordination to jointly address issues of common concern, including shared watersheds, illegal trafficking and others. The program will also innovate through the identification and support of producer organizations promoting new sustainable production chains to reduce the threat of livestock and agriculture-driven forest conversion or land and river degradation and strengthening stakeholder capacity for entrepreneurship and business model's development.

Policy innovation: The program will promote analysis of national policies around issues of common concern to foster dialogue among stakeholders, learning and harmonization of activities developed around such policies; mainstream environmental concerns into sectoral policies, to build sustainability into government interventions; strengthen new policies and frameworks that support conservation and sustainable use of natural resources. As an illustrative example from ASL1, in April 2019 (with ASL1 support), the Government of Peru declared the financial sustainability mechanism for Protected areas as an initiative of *national interest*.

150. Sustainability: The long-term sustainability of the ASL2 Program will be assured in multiple ways. It will enhance the collaboration of the difference countries to improve the policy, regulatory and legal frameworks guiding development in the Amazon region. The results of this collaboration, be it in research, monitoring, assessments, and other areas, has the potential to disseminate lessons and successful practices thus helping strengthen individual country interventions on the ground. This knowledge sharing will occur through the regional platform of the Program (component 4) which will build upon and expand the efforts launched under ASL1.

151. Ecological Sustainability is a core objective of the Program. Actions to improve protected area coverage and management effectiveness and strengthen connectivity between these and their surrounding productive landscapes will increase ecosystem integrity and climate resilience. The sustainability of these efforts will be promoted through the emergence of a sustainable, forest- and freshwater-friendly economy, through mainstreaming SLWM practices and strengthening related production chains in productive landscapes. These actions will reduce deforestation, degradation and fragmentation and, in combination with regeneration of native secondary forest, enhance and sustain the integrity of terrestrial and freshwater ecosystems and their resilience to climate change. Similarly, the Program's innovations across technology, finance and governance pillars will help improve protected area management efficiency, reduce deforestation and build climatically resilient and sustainable landscapes. From a mainstreaming perspective, the Program is expected to play a significant role in ensuring that key productive sectors work together towards a common objective to reduce deforestation and build protected and productive landscapes in the Amazon. Embedding this "work together" premise of the involvement of seven countries can be expected to trigger positive

synergies in favor of achieving long-term sustainability. As a critical mass is bolstered by fostering capacity, and by building and strengthening organizations dealing with biodiversity conservation, deforestation issues and sustainable landscapes, the Program will contribute to address future sustainability as these governments become better positioned to capture funding and implement actions beyond the end of the Program.

152. The Program will also improve overall financial sustainability. Specific investments will promote the long-term financial sustainability of Amazon protected area systems, for example, strategies will be developed and implemented to raise additional revenue for country financing platforms like “Herencia Colombia”, “Patrimonio del Peru”, and others. Similarly, the Program’s market-based approach, including the identification and promotion of a sustainable forest- and freshwater-friendly economy and the development of new and adaptation of existing financial mechanisms to promote uptake of low carbon and/or SLWM practices, will generate revenue and incentivise producers to sustain these practices in the future.

153. Institutional sustainability will be promoted through strengthening capacity at local, national and regional levels for protected area management, forest- and freshwater-friendly and sustainable productive landscapes, as well as for regional coordination and cooperation around shared issues of concern. Sustainability will also be promoted by cementing policy, planning and regulatory frameworks that support national protected area establishment and management, low carbon productive landscapes, provision and the maintenance of forest and freshwater ecosystem services. The enhanced functioning of public institutions that will result from these capacity building, enabling frameworks together with regional knowledge generation and exchange will not only improve public service delivery and project management in conservation but will also facilitate the identification and implementation of future projects and investments that will build upon the achievements of ASL2.

154. Potential for scaling-up: Scaling up different innovations and tested solutions will take place regularly throughout the implementation of the child projects and the program. The Program will use scaling-out, scaling-up and scaling-deep strategies^[92]. Scaling-out aims to impact greater numbers, through replication and dissemination, increasing number of people or communities impacted; scaling-up intends to impact laws and policy through changing institutions at the level of policy, rules and laws; and scaling-deep hopes to impact cultural roots, through changing relationships, cultural values and beliefs, “hearts and minds”. The knowledge and lessons learned from the child projects’ interventions and from other work in the Amazon and other parts of the world will be available to all the child projects. Once an approach has been tested in one of the program’s sites, scaling-out can happen by increasing the number of people that spontaneously adhere to the innovation, as they perceive it to serve their interest/preferences. Replicating a successful program (methodology and organizational mode) from one site or country and repeating it elsewhere will be another manner of scaling-out solutions. Also, the program will identify leaders that have worked actively in the program’s major interventions and know well what works and does not work to address the root causes and drivers tackled under the ASL Program. Nurturing these leaders to play a role as advisors to other projects and using a specific incentive-based methodology, to bring these advisors to support local initiatives, can be an effective way to increase scale. Further scaling-out will be facilitated by the Program’s emphasis on private sector engagement, particularly that linking local producers to larger operators, opening the possibility to expand sub-nationally, nationally and regionally. The core objective of Component 3 is to act on law and policy, and provide technical support and financial incentives, i.e., to use the scaling-up strategy. The program will analyze successful examples, identify unintended consequences of policies and incentives and/or evaluate gaps in legal frameworks, technical networks and financial schemes, so as to find effective solutions and strengthen the enabling environment. In addition, the policy and coordination platform will foster increased investment and ensure that future interventions can be more effective, accelerate delivery and results, and avoid

mistakes. Finally, through its thorough stakeholder engagement strategy, including with indigenous people and local inhabitants of the targeted areas, the Program will work on scaling-deep, by investing in transformative learning, setting up a community of practices, while respecting cultural knowledge and beliefs, with the objective of anchoring changes in the lives of stakeholders.

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IF (2016) Living Amazon report, 58pp. – The numbers in this paragraph all refer to this report, unless otherwise indicated.

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Numbers rounded to unit from WWF (2016) Living Amazon report.

World Bank TerraClass project in Brazil mapped land-use changes in Legal Amazonia over the 2004-2014 period. Forest is by far the most important landcover (over 328 million ha out of the total 395 million ha² in 2004 i.e., 83%, down to about 81% in 2014).

According to ACTO “approximately 22% of the Amazon’s surface is used for agriculture and livestock production”, ACTO (2018) Strategic Action Program - Regional Strategy for Integrated Water Resources Management in the Amazon Basin. 205pp

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<https://amazon.org.br/publicacoes/sistema-de-monitoramento-da-exploracao-madeireira-simex-estado-do-para-2015-2016/>

https://amazon.org.br/PDFamazon/Portugues/transparencia_manejo_florestal/Boletim%20Transparencia%20Manejo%20Florestal%20MatoGrosso%202011-2012.pdf

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<https://mineria.amazoniasocioambiental.org> and <https://illegalmining.amazoniasocioambiental.org/?lang=en>

Alvarado, John, et. al. (2013) Evaluación De Los Actuales Impactos Y Amenazas Inminentes En Aguajales Y Cochas De Madre De Dios, Perú. WWF, Lima, Peru

Good summary of the complexity in Colombia: <https://news.mongabay.com/2018/09/criminal-mafias-take-over-colombian-forests/>

Arrolin Hoffmann, Jaime Ricardo García Márquez and Tobias Krueger. A local perspective on drivers and measures to slow deforestation in the Andean-Amazonian lowlands of Colombia. *Land Use Policy*. Volume 77, September 2018

Alvarado et al., 2014; Poole and Shepherd, 2016.

ISG (2012) Amazonia under Pressure. 68 pages, available from : www.raisg.socioambiental.org.

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accumulated along the years since 1970, when Salati showed the intricate relationship between vegetation and climate in the Amazon (Salati E., A. Dall'Olio, E. i, J. R. Gat (1979) Recycling of Water in the Amazon, Brazil: an isotopic study. Water Resour. Res. 15, 1250–1258)

vejoy, T. E.; Nobre, C. (2018) Amazon Tipping Point. Science Advances 21 Feb 2018: Vol. 4, no. 2, 2340, DOI: 10.1126/sciadv.aat2340

lencar, A., Asner, G. P., Knapp, D. & Zarin, D. 2011. Temporal variability of forest fires in eastern Amazonia. *Ecological Applications*, 21: 2397. [/www.researchgate.net/publication/51789119_Temporal_variability_of_forest_fires_in_eastern_Amazonia](http://www.researchgate.net/publication/51789119_Temporal_variability_of_forest_fires_in_eastern_Amazonia)

agão, L., Anderson, L., Fonseca, M., Rosan, T., Vedovato, L., Wagner, F., . . . Saatchi, S. (2018). 21st Century drought-related fires counteract the decline of Amazon station carbon emissions. *Nat Commun*, 9(1), 536. <https://www.nature.com/articles/s41467-017-02771-y.pdf>

nance for Permanence (PFP) is an innovative approach to funding protected areas or networks bringing together the ecological, financial and organizational resources needed for long-term maintenance of these areas. The centerpiece of this approach is the use of a single closing, whereby pledged funds are delivered at the time the pledge conditions are met. By bringing a large block of outside funding into a single closing, PFP can serve to organize the necessary parties and draw out new resources and commitments. Because the deal is set up so that it will not close without all of the financial, organizational, or other necessary milestones having been met, participants each gain a high degree of true leverage for the funding or other commitments that they contribute.

Since the national projects in the ASL1 started implementation in the last quarter of 2018, lessons learned will be formally systematized at the end of 2019 and incorporated in the preparation process for the ASL2 child projects.

Protected area refers to the IUCN's definition, i.e., A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to ensure the long-term conservation of nature with associated ecosystem services and cultural values. This includes inter alia national parks, protected areas with sustainable use of natural resources, indigenous lands, RAMSAR sites, etc.

Besides the targets depicted in this and the next tables, during project preparation each country will develop a results framework to capture estimated targets for outcomes not measured by the GEF core indicators.

In addition, to the targets included, some of the national child projects will measure outcomes in terms of the carbon mitigated as a result of activities in both components 1 and 2. Number of beneficiaries for the overall projects' activities will also be tracked and aggregated at the program level (GEF Core indicator No. 11)

For example, see paper from Gerhardinger Leopoldo C., Gorris Philipp, Gonçalves Leandra R., Herbst Dannieli F., Vila-Nova Daniele A., De Carvalho Fabiano G., Ser Marion, Zondervan Ruben, Glavovic Bruce C. (2018) Healing Brazil's Blue Amazon: The Role of Knowledge Networks in Nurturing Cross-Scale Transformations at Frontlines of Ocean Sustainability. *Frontiers in Marine Science* 4:395, available from <https://www.frontiersin.org/article/10.3389/fmars.2017.00395> DOI: 10.3389/fmars.2017.00395

These areas of interest were identified during the ASL2 preparation workshop held in Rio de Janeiro, as well as the following meetings with the ASL2 working group representatives from the participant countries and the agencies.

Working groups will be established within the PSC to coordinate on specific topics or activities to develop jointly. The terms of reference for the PSC developed for will be updated during project preparation. This will include roles and responsibilities of key stakeholders vis a vis KM.

This will include a repository of the studies conducted by the ASL, project/program reports, results from donor mapping, and publications of special interest from others. It will also include a database of knowledge partners who are essentially resource people or organizations that can deliver expert guidance on specific issues to help project teams with issues that arise during project design or implementation.

SL1 has made a compilation of existing knowledge platforms. The most relevant to establish synergies are: Regional Amazon Observatory, UNDP Amazon Sustainable Development Solutions Network, Red Latinoamericana de Cooperación Técnica en Parques Nacionales, otras Áreas Protegidas, Red de Fondos Ambientales inoamérica y el Caribe (RedLAC), Red Amazónica de Información Socioambiental Georreferenciada (RAISG) and WBG Spatial Agent.

Ecuador's Socio Bosque Program provides incentives to private and community landowners who commit to conserving native ecosystems on their lands for 20 years.

Wepstad, D, C.M. Stickler, B. Soares-Filho, and F. Merry (2008) "Interactions Among Amazon Land Use, Forest, and Climate: Prospects For A Near-term Forest Tipping Point." Philosophical Transactions of the Royal Society: Biological Sciences. doi: 10.1098/rstb.2007.0036

McConnell, D.& Moore, M.-L. 2015 Scaling Out, Scaling Up, Scaling Deep: Advancing Systemic Social Innovation and the Learning Processes to Support it (report prepared for J.W. McConnell Family Foundation and Tamarack Institute). J.W. McConnell Family Foundation and Tamarack Institute, Canada.

For information from this paragraph from Schmink M and García MAG (2015) Under the canopy: Gender and forests in Amazonia. Occasional Paper 121. Bogor, Indonesia: CIFOR

For Schmink M and García MAG (2015) Under the canopy: Gender and forests in Amazonia. Occasional Paper 121. Bogor, Indonesia: CIFOR

<https://unfccc.int/news/forests-as-key-climate-solution>

<http://www.ipsnews.net/2018/11/indigenous-leaders-calling-new-global-agreement-protect-amazon/>

1b. Program Map and Coordinates

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

See attached Map in Annex.

2. Stakeholders

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

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none, please explain why:

Early stakeholder consultations at this identification stage.

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

155. As indicated in each national child project document, the participant countries have and will be conducting consultations with key stakeholders including indigenous people, local communities, non-governmental organizations as well as potential partners from the private sector. Engagement with community-based organizations and local communities, including indigenous people, who are invested in sustainable forest and freshwater management and biodiversity conservation, will go beyond consultation to actively involve them in the design and implementation of child projects and in the knowledge exchange to be delivered across the Program.

156. For instance, for the Colombian project, indigenous groups and other social actors will be actively involved in consultations leading to agreements upon activities to be supported by the project. Consultations and discussions with the indigenous communities will be done through the Amazon Regional Roundtable and the Environment Climate Change Indigenous Amazon Roundtable (MIACC, due to its name in Spanish). During preparation of the Ecuadorian project, a thorough stakeholder analysis will be developed to identify the project's key stakeholders, including local communities and organizations, and assess their interest in the project. This exercise will lead to the development of a stakeholder engagement plan during project preparation and implementation, that will ensure meaningful, effective and informed stakeholder engagement in all project phases, allowing for the incorporation of local communities' views and feedback into the project design, and ensuring their support and active participation during project implementation. Finally, each country will follow Prior, Free and Informed Consent guidelines and the implementing agency safeguard policies as appropriate.

157. Stakeholder engagement through the coordination project, will be ensured through the Program Steering Committee comprising the main implementing and executing agencies, and through the thematic working groups to be established on priority themes. In addition, ASL2 will make efforts to integrate gender considerations as indicated in the section related to this topic.

158. Consultations for the second phase of the Program initiated with the ASL1 annual conference held in Iquitos, Peru, in May 2018, where key stakeholders from the current Program, but also representatives from the donor community (Gordon and Betty Moore Foundation, Andes Amazon Fund and Norway's International Climate and Forest Initiative), NGOs and public entities from Bolivia, Ecuador and Venezuela started building a common vision for ASL2. The

process was later refined in a workshop organized by the World Bank in Rio de Janeiro (September 25-28, 2018) with key stakeholders from Brazil, Colombia, Ecuador, Guyana and Peru, representatives from GEF agencies as well as experts in conservation and natural resources sustainable management. The workshop allowed each country to present the initial ideas for their projects and receive feedback from peers and experts, and for the discussion of themes of shared interest that are being included in the ASL2 proposal. Following the workshop, virtual meetings were organized every week with the working group created for this consultative and collaborative process with representatives of all the countries (including NGOs and public entities) and GEF implementing agencies participating in the ASL2. This Program Framework Document has been consulted and discussed with the members of the working group.

159. In addition, the WBG, as lead agency, has and will continue to consult on different aspects of the program with key donors and civil society organizations working in the region to identify areas of collaboration and synergies.

3. Gender Equality and Women's Empowerment

Are gender dimensions relevant to the success of program. Yes

If yes, please provide indicative information on these dimensions and how these will be addressed in the program. If no, please explain why

160. There has been little systematic comparative research on gender and forests in the Amazon despite global recognition of the importance of gender roles and relationships to forest related issues, and the differential risks and opportunities faced by women and men in different contexts. Women represent half of the population in the Amazon, and their knowledge, work and commitment are essential for securing the sustainable management of Amazonian forest resources. Yet, men traditionally represent their households in the public sphere, including in community associations and when women do attend community meetings, they often remain silent. Consequently, women rarely participate in the spaces and institutions where key decisions are made about the future of their forests, their family and community and as a result their issues and interests often go unidentified. Similarly, the main extractive reserves associations and cooperatives are typically dominated by men, complemented, at best, by small women's organizations. There is evidence, however, of a gradual increase in women's collective mobilization across all social groups, with women gaining confidence and skills to fight for their rights to resources and power in different arenas, to secure sustainable livelihoods for their families and communities^[93].

161. The ASL Program recognizes the importance of both men and women's active participation in adapting to the future changes the Amazon faces from climate change and other external threats, and in addressing the ongoing challenge of securing rights to land and resources to provide sustainable livelihoods for their families and improving their ability to make strategic life choices. The Program explicitly recognizes the role of women, as primary users and stewards of many natural resources, in environmental protection, as well as in productive systems in sustainable agriculture and forestry. It directly supports actions to increase women's voice in the dialogue and decision-making over natural resources, for example, ARPA requires that women are equally represented in all protected area governance bodies. Additionally, while working to empower indigenous people and local communities living in and around protected areas of the Amazon, the Program and each of its child projects will give specific attention to include women as well as men. The Program will seek to (a) analyze and identify any project-relevant gender differences as well as opportunities to empower women relevant to the program objectives; (b) strengthen the access to and control of land, water, and other productive assets and biological resources for women, who are subject to persistent gender inequality in land ownership, for example, in Brazil female land ownership remains low despite joint titling options being defined in the Constitution; (c) increase the participation and leadership in decision-making processes relating to the environment; (d) ensure economic benefits coming from the sustainable use of forest resources are shared fairly between men and women.

162. There is little knowledge from Latin America in general and the Amazon in particular on: (a) integration of indigenous women's perceptions into policy; (b) data disaggregated by gender, age, class, ethnicity in census and other sources such as demographic and health surveys; (c) resource data on access and ownership, especially within collective lands; social movement participation and impacts; and (d) forest conflicts and their impacts^[94] The Program will therefore participate in furthering the knowledge and finding innovative ways of dealing with gender issues in the Amazon. Each country project will also develop gender sensitive strategies during project preparation. More particularly, within each component, gender issues will be considered. For example, in Component 1, to strengthen protected area management and increase participatory governance and planning, the program will use mechanisms like ARPA to

enroll women in protected area governance, as men are often seen as the family representative, leaving no room for women's participation in public spheres. Relative to Component 2, gaps will be identified to ensure that technical support and access to finance for SLWM is provided to both men and women alike and that women participate and earn their share in sustainable value chains, as women often have an important role traditionally in agroforestry and NTFP. The Program will also support or provide incentives for activities of women's cooperatives or women-led producer's associations. For Component 3, analysis of gaps in policies and legal frameworks will also identify gender gaps so that improvements include specific measures where needed for women and vulnerable groups, for example considering the issue that women are less likely to have official documents, which may impede their ownership of land. Component 4 and the coordination project will develop specific strategies and guidelines for ensuring projects develop gender sensitive activities. Specific gender related studies will be considered as deemed appropriate during the project's implementation and advised by the program steering committee. Program monitoring will measure number of female beneficiaries and will aggregate other gender related indicators as specified by each child project.

During child project preparation, these aspects will be further detailed. In addition, the ASL is in the process of preparing a Women in Nature Network (WiNN) Event in the Amazon and become part of the all-women's international network to support and empower women in nature conservation.

In addition, please also indicate whether the program the program will include gender sensitive indicators in its result framework

Yes

4. Private sector engagement

Will there be private sector engagement in the program?

Yes

Please briefly explain the rationale behind your answer.

163. The Program will foster the active engagement of the private sector, through two main approaches: (a) its potential to reduce negative impacts to the Amazon (e.g., from cattle ranching, soy, coffee or cocoa production, forestry, infrastructures, mining, tourism) and (b) its active role in delivering positive benefits (e.g., from nature tourism, sustainable production of biodiversity products, technologies and big data to reduce illegal activities, and the finance sector through improved sustainability criteria).

164. With respect to the former, through support for mainstreaming environmental concerns into sectoral policies and programs, the Program will help decrease the negative impacts associated with public and private sector actors that actively participate in these areas. Similarly, improvements in the application of participatory integrated landscape approaches will drive more appropriate land use planning decisions and, in combination with improved sectoral policies and programs, help reduce or even avoid the negative impacts of associated private sector investments.

165. It is worth noting that agribusiness companies are among the corporations more affected by changing attitudes to the role of business in society and the shift towards sustainability, and increasingly companies from other sectors are affected too. There are increasing pressures from employees, customers, and governments, about how critical challenges such as removal of illegal deforestation from production chains, eradication of poverty, agriculture's GHG emission mitigation and climate change adaptation would be addressed by private sector. In addition, investors increasingly perceive performance in social and environmental practices as a factor affecting total shareholder returns (TSR) in the long term. Consequently, demand from investors and other stakeholder for more transparency is enhancing and environmental, social, and governance standards (ESG) are becoming more common and reliable. Agribusiness, SFM, Oil & Gas, Mining and Infrastructure companies acting in Amazon can have a leading role in this search for a total societal impact - TSI (defined here as the sum of all benefits from company's *sensu lato* operation). The Program will assist countries to support companies and sectors to improve scale-able and sustainable strategies to achieve TSI and TSR at the same time improving core business by reducing the risk of negative events and opening new opportunities.

166. The Program will target private sector participation in the various stages of sustainable productive value chains in both protected (including indigenous areas) and productive landscapes, from production through to market with a view to inducing positive changes in the Amazonian economy. This will include *inter alia* adoption of sustainable farming practices; forest- and freshwater-friendly value chains; design and definition of biodiversity products with added value; strengthening of a differentiated market that takes into account sustainability and protected area products; articulating native communities and their biodiversity products or services with markets; promotion and organization of (community-based) ecotourism; and restoration of degraded areas and native vegetation through private financing. The private sector may both participate in and benefit from better decision-making and reduction of illegal activities through the development and use of new technologies (e.g., GPS, satellite tracking, log tracking). Private sector partnerships will also be explored

with companies working on big data to help ASL2 with the development and use of innovative analytical tools for decision-makers (e.g., GIS, modeling, “Spatial Agent” open data). In addition, the program will partner with the financial sector to explore innovative financing schemes, e.g., facilitation of credit/insurance schemes with sustainability criteria (including zero-deforestation), blended financing and others. The Program will also apply the Maximizing Finance for Development (MFD) approach across sectors to optimize use of public resources and promote private solutions.

167. Different sizes and types of companies will be considered, from international companies that can help improve practices based on activities in other regions; to community level and small/medium scale private sector producers and (agricultural and rural) producer associations, including indigenous entrepreneurs, that may be involved in the development of new products and better practices based on their practical knowledge of the Amazon.

5. Risks

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

168. Risk: Large number of countries and actors challenges effective coordination and collaboration.

Management Strategy: Expanding the ASL Program from three to seven countries, with the concomitant multiplication of actors and stakeholders, augments the challenges related to coordination and collaboration at both the Program and child project levels. To mitigate this risk the Program will build upon and strengthen the well-functioning coordination and collaboration mechanisms developed under ASL1, including expanding the membership of the Program Steering Committee and maintaining the regular virtual and annual face-to-face meetings, as well as bringing together and supporting regular exchanges and learning events for stakeholders.

169. Risk: Government counterpart and/or cofinancing funds do not materialize/flow as planned

Management strategy: Country governments have expressed a strong interest in participating in the ASL2 Program, confirmed by their active participation in preparation events and submission of EOIs and child project concepts. During Program and child project preparation letters of endorsement and letters detailing cofinancing commitments will be secured to further confirm that strong commitment is in place. Based upon the experience with ASL1 participating countries this is not expected to be a major risk, however, should parts of the counterpart or cofinancing funding not materialize, other sources of funding may be investigated (e.g., crowd-funding, private financing, donors) and the Program/child projects would be reorganized to focus on most important actions that are feasible within the envelope provided.

170. Risk: Changes in the regional political context reduce commitment to Program goals

Management Strategy: The Program assumes that current commitments of participating countries (and international partners) to work together to conserve and sustainably develop the Amazon will continue. While changes in the regional political context are beyond the Program control, strong sensitization and communication programs together with the active engagement of national and international partners (including civil society, NGOs, donors, private sector, etc.) will encourage continued ownership of these goals.

171. Risk: Climate change has a negative impact on Program areas.

Management Strategy: Climate change presents a range of short and long term risks to the health and integrity of the Amazon biome. The Program, through actions of the child projects, will reduce vulnerability to these risks, deploying a wide range of land use and conservation tools to restore native vegetation and improve ecosystem connectivity and to reduce deforestation, fragmentation, and degradation. Activities to increase capacity for adaptive management, e.g., monitoring, climate modelling and early warning systems, will be supported, helping increase preparedness for immediate climate events (e.g., drought and fires) as well as building long-term climatic resilience (e.g., incorporating vulnerability assessments and climate predictions into protected area planning, promoting mosaics and connectivity with productive landscapes).

172. Risk: Program and child project efforts undermined by policies contrary to Program goals.

Management Strategy: The Program will build country-level and regional constituencies to promote a long-term vision with national and local governments. Inter-institutional coordination within participatory forums with diverse sectors, promotion of sub-national, national and regional integrated landscape planning approaches and efforts to mainstream biodiversity in sectoral policies and programs will help align development with a long-term vision. Given the global importance of the Amazon, it is likely that Program goals will also be bolstered by external conservation advocacy actors, increasing international visibility and support for sustainable actions.

173. Risk: Lack of enforcement fails to stem illegal activities, resulting in increased deforestation and loss of biodiversity.

Management Strategy: The Program will build social capital and enhance governance and increase law enforcement capacity at local level, a proven approach to deter illegal activities. Participatory forums and the use of technological innovations will facilitate authorities' response to enforcement needs, while fostering the emergence of a sustainable forest-friendly economy will improve livelihoods, reducing the incentive to participate in illegal activities. Additionally, the Program will support the exploration and establishment of bi- and multi-lateral approaches to address illegal issues of joint concern, e.g., illegal timber and wildlife trafficking, strengthening regional cooperation and helping reduce leakage across borders.

174. Risk: Economically powerful drivers of deforestation (extractive industries, agribusiness, infrastructure, etc.) impede conservation measures, including plans for new or expanded protected areas.

Management Strategy: The Program will work with country governments to cement conservation and sustainable development policies, to create solid foundations within policy and regulatory frameworks, in order for Program achievements to be resilient vis-à-vis economic interests. The Program's focus on sustainable development, as well as conservation, will open the door to a dialogue process with the private sector, and allow for a policy process that is more cooperative than adversarial. In this vein, improved integrated landscape planning approaches with strong stakeholder participation will encourage the emergence of shared long term vision and well articulated land use plans which take into consideration multiple sector and stakeholder needs. Additionally, the Program seeks to find alternatives and better management practices to sustainably develop the Amazon, implying potential partnerships with industries for specific products (e.g., agribusiness focusing on sustainable food or other agriproducts, tourism focused on forest-experience or traditional livelihoods).

175. Risk: Reduced deforestation in the Amazon results in leakage effects in other forested countries, resulting in no reduced worldwide deforestation.

Management strategy: The Program cannot work on global demand for goods, that drives such leakage effects. However, successful examples of managing leakage at a more local scale such as the soy moratorium exist and will be followed. For example, supporting efforts to increase yields from and use of degraded lands will be supported to reduce leakage effects. The participation of most countries of the Amazon basin in the Program will help reduce leakage effects within the basin, considering that the Guianas Shield is one of the regions that are under threat of leakage, being high forest, low deforestation (HFDF) countries. Activities related to national policies will aim to ensure that not only the Amazon ecosystem is protected but also other important ecosystems in each country (e.g., the cerrado in Brazil).

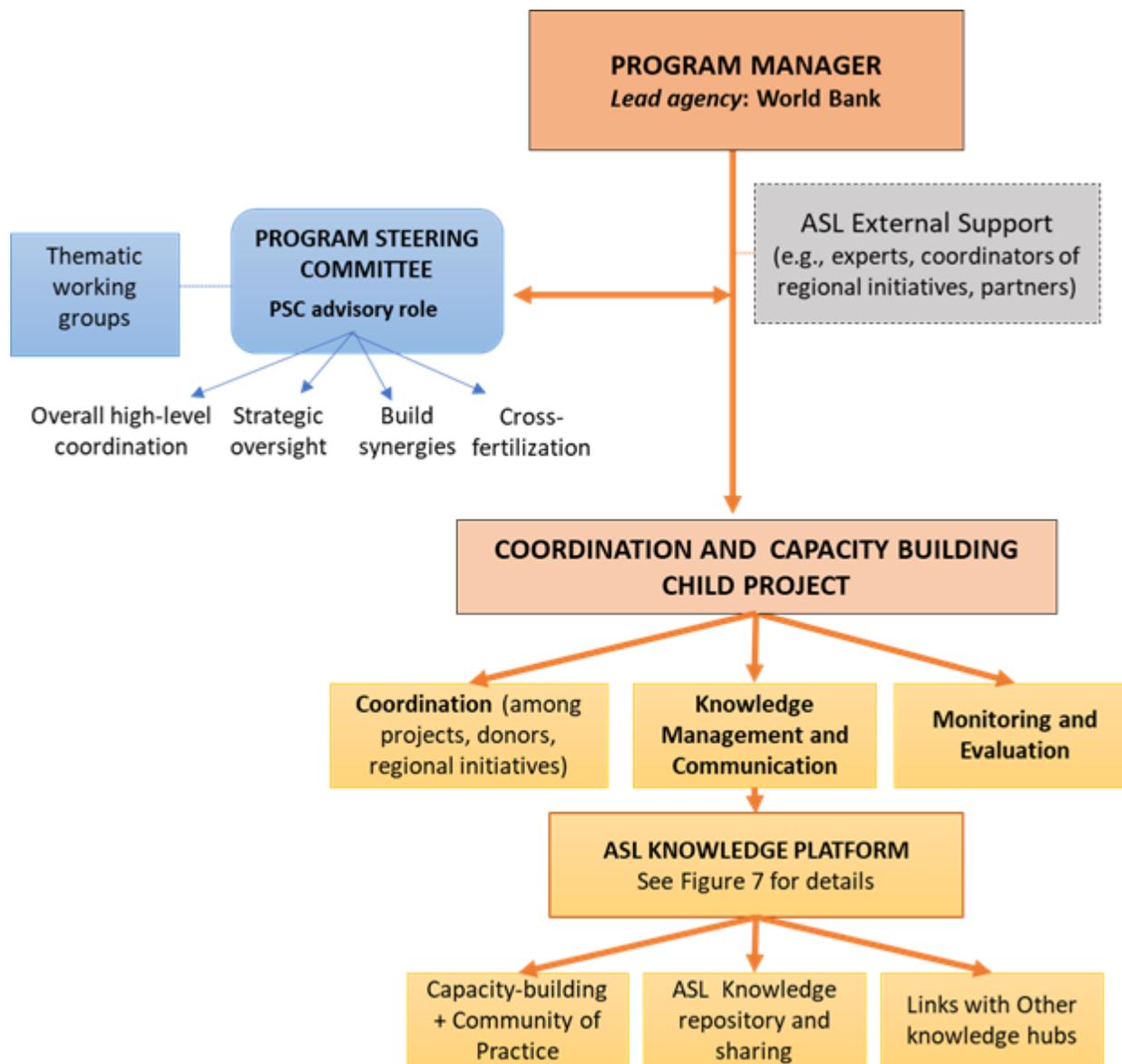
176. The overall rating is Substantial. The complexity of the problem, the number of countries and challenge of coordinating multiple key local through international partners and at the same time delivering effective results in a timely manner makes the overall risk substantial. Lowering this risk will require that the Program defines activities and interventions that can be implemented in relatively short timeframes as well as very clear and concrete indicators that can be monitored easily. During preparation, the monitoring tools and timeliness of the reports will be designed with engagement from all partners. The Program's success will also be secured by the incorporation of the opinion of experts as well as the political commitment by national and sub-national governments.

6. Coordination

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

177. Coordination arrangements will build upon those successfully established under ASL1, as illustrated in Figure 6. The World Bank will serve as lead agency, liaising closely with and ensuring coordination between other participating Agencies and the GEF Secretariat. It will be responsible for all enquiries regarding Program implementation progress and Program-level reporting, mid-term evaluation, final Program completion and the achievement of Program's-level higher impact on the global environment. As the Lead Agency it will also seek to communicate and coordinate activities with on-going GEF projects related to the Program and other donor-support investments and initiatives (including those supported by Norway, UK, USAID, GTZ, Gordon and Betty Moore Foundation, MacArthur Foundation). In close communication with the other Implementing Agencies, the lead agency will also implement the Coordination Child project to reinforce coordination and facilitate the exchange of knowledge and experiences between the participating countries, especially when there is more than one country-based project and when regional and global activities complement national-level investments.

Figure 6: PROGRAM IMPLEMENTATION AND COORDINATION ARRANGEMENTS



178. The existing Program Steering Committee (PSC) will be expanded to incorporate representation from all participating countries. Chaired by the WBG, the expanded PSC will comprise two principal and two alternate representatives from the executive agencies of each national child project and each of the Implementing Agencies (CAF, CI-International, FAO, IFAD, UNDP, UNIDO and WWF-US), and one principal and one alternate from the GEF Secretariat. As needed, external participants (such as donors, indigenous peoples and others) may be invited to meetings and/or provide program management support. The PSC will act

as an advisory mechanism to maximize synergies and ensure the successful design and implementation of the Program. Where necessary, thematic working groups will be established on priority themes. Such thematic groups may include all or a subset of the PSC members and experts or other relevant stakeholders, to allow a priority topic to move forward in an efficient way. Themes could include freshwater ecosystem management, law enforcement, private sector engagement, comanagement of natural resources, among others. The working groups will be responsible for developing detailed proposals for knowledge sharing events and/or partnerships to be submitted to the PSC and for further development of the event.

179. The PSC's main role is to provide a coordination forum and a monitoring platform during the implementation phase of the Program. It also provides overall, high-level, coordination of technical alignment and synergy between the Program's components at national and regional levels. Particular emphasis is placed upon aspects linked to: stakeholder coordination and strategic oversight; monitoring and evaluation; knowledge platform and south-south cooperation; and communications. It meets every quarter to track progress and provide opportunities for cross-fertilization, including one annual face-to-face meeting in different project sites to increase uptake of lessons and build synergies. Terms of reference for the ASL2 PSC will be developed during child project preparation.

180. Additionally, individual PSC members can provide input in a variety of ways, for example: (a) participating in PSC meetings; (b) volunteering for task force committees within specific program areas; (c) reviewing and commenting on various project documents, manuals, communications materials, power points, etc.; (d) peer reviewing national child projects documents; and (e) actively engaging in knowledge management, communicating the Program or other related activities such as the coordination with other relevant sectoral agencies in the respective jurisdictions. All these activities serve to both improve coordination and knowledge exchange as well as to, importantly, build the bi- and multi-lateral relationships needed to successfully tackle joint, cross border management challenges.

7. Consistency with National Priorities

Yes

Is the Program consistent with the National strategies and plans or reports and assessments under relevant conventions

181. The most relevant international commitments from participating countries relevant to the ASL2 Program are the three Rio conventions (UNFCCC, UNCBD and UNCCD) - as all three conventions emphasize the importance of the conservation, sustainable use and management of forests in achieving their respective objectives - and the Sustainable Development Goals (SDGs). Each have specific objectives related to forests/deforestation, as well as biodiversity and freshwater conservation, and/or indigenous populations. For specific countries and actions, the Minamata convention's article on ASGM is also relevant.

182. UN Framework Convention on Climate change: In Paris in 2015, a statement was issued where Heads of Government from major forest countries and partner countries joined to endorse forests as a key climate solution^[95]. Participating countries to the ASL2 Program also announced initiatives in this framework, such as the continuation of the Brazil and Norway climate and forest partnership, and the ambitious partnership from Colombia with Germany, Norway and the United Kingdom with a particular focus on reducing deforestation in the Amazon region⁹⁶.

183. All participating countries are parties to the UNFCCC and to the Paris Agreement. Several have included reduced deforestation and land-use change to achieve their Nationally Determined Contributions (NDC). The forestry sector is often an important stakeholder to achieve the NDC, for example Ecuador is currently developing its NDC per sector, including the forest sector. Additionally, the Program is fully in line with initiatives developed under the REDD+ program. National strategies in participating countries include for example favoring different uses of the forest and maintaining land-use planning, zoning and sustainable use practices (Suriname), reduced deforestation (Colombia), promoting conservation, sustainable forest management and restoration of forests and their carbon stocks (Ecuador).

184. UN Convention on Biological Diversity: At the 14th Conference of the Parties (COP-14) UN Convention on Biological Diversity (CBD) in Egypt, indigenous leaders from the COICA called for a New Global Agreement to Protect Amazon^[96].

185. All participating countries are parties to the UNCBD and have submitted recently updated NBSAPs. The Program is mainly contributing to four of the Aichi targets, including:

- (i) Target 5 - By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced. Reducing deforestation and degradation of freshwater habitats is a key objective of the Program.
- (ii) Target 7 - By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity. A key objective of the Program is to ensure sustainable use of the Amazon resources.

(iii) Target 11 - By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes. The Program aims to increase the areas under conservation in the Amazon, their connectivity, their management effectiveness, as well as the implementation of an integrated approach to landscape management.

(iv) Target 15 - By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification. Conservation of Amazon carbon stocks as well as degraded lands restoration are also key targets of the Program to be achieved.

186. Due to the nature of the Program and supporting/enabling actions, the Program also contributes to the following Aichi targets:

(i) Target 4 - By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

(ii) Target 12 - By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

(iii) Target 14 - By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

(iv) Target 18 - By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

(v) Target 19 - By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

187. UN Convention to Combat Desertification: With regards to Desertification, Land-degradation and Drought and SFM (UNCCD decision 4/CO P.8), the Program will help “reinforce SFM as a means of preventing soil erosion and flooding, thus increasing the size of atmospheric carbon sinks and conserving ecosystems and biodiversity.” All participating countries are parties to the UNCCD with the objective of reducing desertification. Reducing deforestation is part of this effort as it has important impacts on reducing soil erosion for example. All participating countries also have defined land degradation neutrality targets that the restoration efforts under the Program may help to achieve.

188. Sustainable Development Goals: As members of the UN, all participating countries contribute to the 17 SDGs adopted in 2015. The Program mainly contributes to SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. Additionally, it contributes to the following SDGs:

- (i) 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.
- (ii) 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.
- (iii) 6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.
- (iv) 12.2 By 2030, achieve the sustainable management and efficient use of natural resources.
- (v) 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
- (vi) 12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.
- (vii) 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.
- (viii) 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.
- (ix) 15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.
- (x) 15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.
- (xi) 15.7 Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products.
- (xii) 15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.
- (xiii) 15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation.
- (xiv) 15.c Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities.
- (xv) 17.14 Enhance policy coherence for sustainable development.

(xvi) 17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.

189. Others: The Program also contributes to the UNFF Global Objectives on Forests (E/2006/42 E/CN.18/2006/18): Reverse the loss of forest cover worldwide through SFM, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation.

190. The participating countries also are parties to the Ramsar (except for Guyana) and CITES conventions which are relevant to the Program objectives, to respectively protect and sustainably use wetlands, and to reduce international illegal species trade. All countries are parties to the Minamata convention on mercury, ratification is currently in progress process in Colombia. Three countries (Ecuador, Peru and Suriname) have National Action Plans about ASGM, an area of focus for certain countries specifically touched by the phenomenon in the Program.

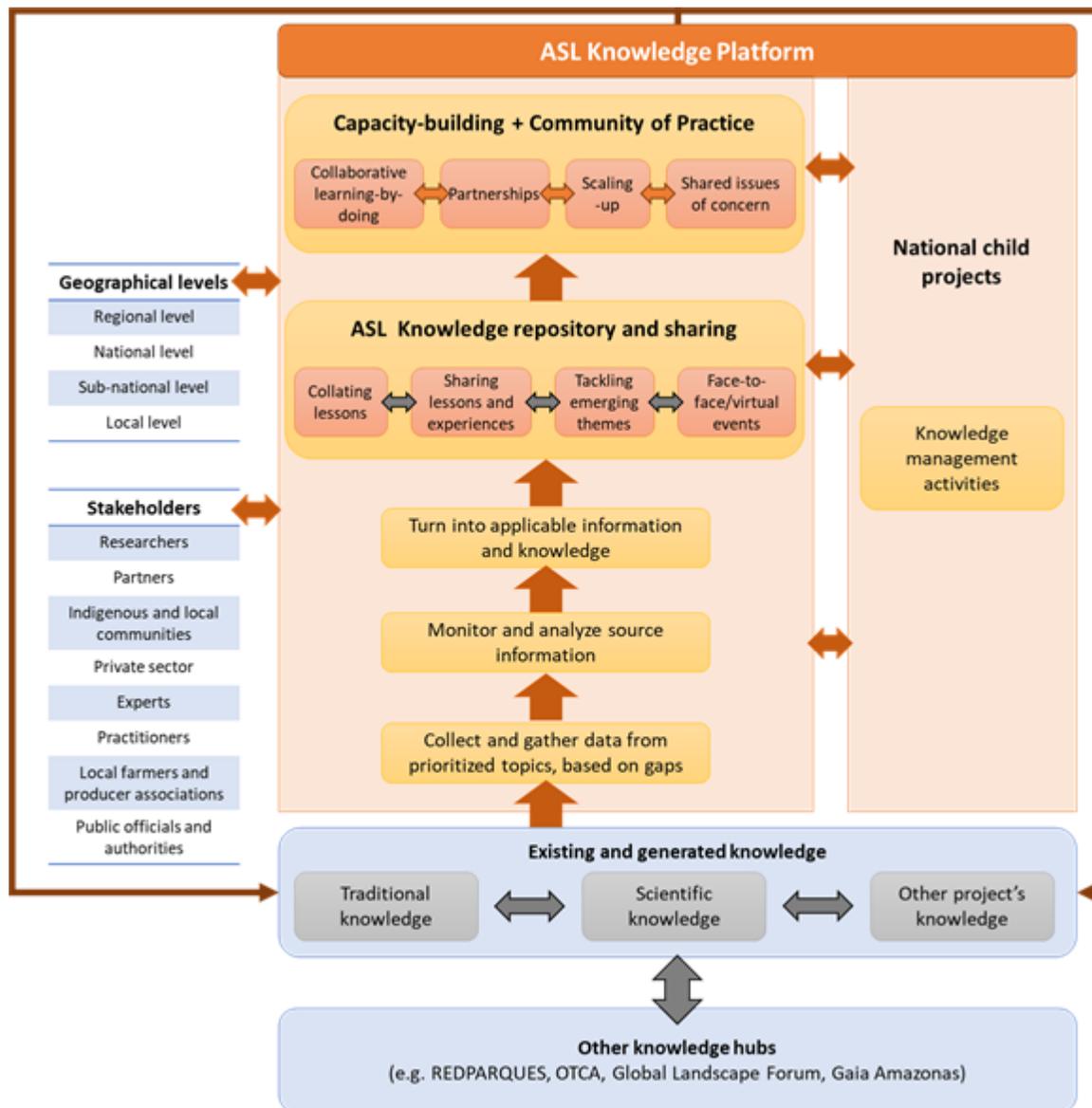
8. Knowledge Management

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

191. It will be implemented by the Lead Agency in close coordination with the Program Steering Committee and national child projects teams, to ensure that emerging knowledge is captured and capacity building activities are well tailored to the needs of the countries' and their varied stakeholder groups at all levels (indigenous and local communities, local farmers and producer associations, private sector, decision makers, etc.). These regional knowledge management efforts will be complemented by national level efforts funded via the national child projects, in a mutually reinforcing approach. The demand-driven approach will ensure that themes will be relevant, scale-able, doable and prioritized by key stakeholders, and that focused solutions, and thus improved outcomes will be deployed on time, contributing to adaptive management. Together with knowledge management, the Program level M&E system will also capture results and lessons to be shared among the stakeholders for better management decisions. The approach will also be gender sensitive, proactively involving women in knowledge sharing events and incorporating gender analysis in the environmental mainstreaming. It will also consult with and be sensitive to indigenous communities' understanding and willingness to share knowledge.

192. The approach involving generation of knowledge (and recovery of traditional knowledge), sharing and storage for easy access, will flow both ways from the local and national level within the child projects (researchers, public officials, practitioners, local farmers, indigenous groups, private sector, etc.) to a broader audience of partners and experts involved in the conservation and sustainable development of the Amazon. The objective will be to reduce duplication of information and maximize synergies with other existing platforms on important Amazon issues. The program will aim to be an active promoter of the information delivered by other stakeholders and provide data on new information available from ASL regularly. Knowledge events will also be a way to increase coordination with other platforms to enhance the information flows. Figure 7 illustrates the expected knowledge flows of ASL. The coordination project will have the means to collect and gather data from prioritized topics, monitor and analyze source information to turn it into applicable information and knowledge, and then share it with all key stakeholders including those in charge of taking decisions that will impact the region's ecosystem, economic and social stability (individuals, communities, organizations, authorities). ASL2 will aim to provide technical tools and analysis to reduce the subjectivity of political decisions.

Figure 7: KNOWLEDGE FLOWS



193. Knowledge management efforts will build on the platform and framework set up for ASL1 and will aim to grow a large Amazon community of practice that can support one another and deliver on projects and Program goals. A multi-pronged approach will be applied, to include as follows:

- (i) A focus on sharing lessons and experiences and tackling emerging themes from national child projects, including bringing stakeholders together for knowledge exchange events, specialized workshops, and capacity building events.
- (ii) A focus on collaborative learning-by-doing, with child project teams coming together for field missions, study tours, on-the-job training, etc. for hands-on learning through implementation of project activities.
- (iii) A focus on collaborative identification, research and analysis of shared issues of concern; the development and promotion of new technologies, best practices, tools and guidelines ; and testing of approaches against clear impact criteria and a well-defined and agreed theory of change. This will involve scaling up the knowledge infrastructure being deployed under ASL1 to capture lessons across the portfolio and ensure take-up. The best initiatives will be evaluated for scaling up.
- (iv) A focus on collating lessons. This will involve capturing lessons across the portfolio through annual formal knowledge events which will include representatives from each child project, and producing knowledge management products that will be disseminated through formal (e.g., Program website, newsletter, webinars) and informal (e.g., at international events) channels.
- (v) A focus on learning lessons from outside the Program. This will involve working with external partners to capture their lessons, creating the infrastructure to feed these lessons into project design and implementation, and incentivizing child projects to replicate and scale up best practices.
- (vi) A focus on developing partnerships with NGOs, private sector and others to develop and deploy innovative analytical and data management tools for decision-makers at all levels (e.g., GIS, modeling, "Spatial Agent" open data).

9. Child Program Selection Criteria

Outline the criteria used or to be used for child program selection and the contribution of each child program to program impact.

194. The criteria used for child project selection are as follows:

(a) A regional coordinating project to focus on learning and providing a leadership platform to influence policy in areas critical to combating deforestation and promoting sustainable development in the Amazon.

(b) Country-based projects focused on designing and implementing national strategies and approaches to improve protected area management, enhance community livelihood benefits, reduce deforestation, promote restoration of degraded lands and shared watersheds and harmonization of sectoral policies to build sustainable landscapes. Individual country projects may address a single component or include activities that address more than one.

(c) Each child project will demonstrate its high potential/ability to generate multiple Global Environment Benefits, such as biodiversity conservation and sustainable use (forest and freshwater ecosystems), GHG emissions avoided and/or carbon sequestered.

(d) Each child project will contribute to basin- wide and national/sub-national environmental and sustainable development strategies and align with existing comprehensive land use-plans, to build on existing initiatives, while going beyond and aiming at the sustainable development of the Amazon as a whole.

(e) Each child project will show how it is working with neighboring countries and partners for achieving large-scale change.

(f) Each child project will secure support of key government actors beyond the environment sector (finance, development, energy, infrastructure, water, mining, etc.), ensure private sector engagement as well as gain support from local communities, including indigenous peoples, acting or living in the targeted landscapes.

(g) Each child project will secure significant co-financing from Governments. Co-financing will also include all grants and investments made by other donors, and leverage potential with other key donor programs in the Basin (e.g., Norway, UK and others), bilateral-aid agencies (i.e., USAID, GIZ, and others), and private foundations (i.e., Gordon and Betty Moore Foundation) to strengthen the effectiveness, breadth and sustainability of the GEF investment.

(h) Each child project will agree to partake in sharing lessons and testing approaches for replication based on learning in other projects. It will also show its ability to catalyze innovations in technology, policy, governance, financing, and business models.

(i) Each GEF implementing agency will work through the Program Steering Committee to share lessons and coordinate reporting.

(j) Each child project will apply indicators from an agreed suite of indicators against which the Program will be measured.

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

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

Name	Position	Ministry	Date
Cynthia Silva Maturana	Vice Minister of Environment, Biodiversity, Management of Climate Change and Forest Development	MINISTRY OF ENVIRONMENT AND WATER BOLIVIA	3/21/2019
Marcus Cesar Ribeiro Barretto	General-Coordinator for External Financing at the Secretariat of International Affairs (SEAIN)	MINISTRY OF ECONOMY BRAZIL	4/30/2019
David Felipe Olarte Amaya	Head of the International Affairs Office – GEF Operational Focal Point	MINISTRY OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT COLOMBIA	3/22/2019
Pedro Jose Liut Jaramillo	General Coordinator of Environmental Planning and Strategic Affairs	MINISTRY OF ENVIRONMENT ECUADOR	3/26/2019
Vincent Adams	Executive Director	ENVIRONMENTAL PROTECTION AGENCY GUYANA	3/20/2019
Martha Cuba Villafuerte de Cronkleton	Director of Cooperation and International Affairs Office	MINISTRY OF ENVIRONMENT PERU	3/21/2019
Nataly PLET	Environmental Policy Officer Office of the President of the Republic of Suriname	OFFICE OF THE PRESIDENT OF THE REPUBLIC OF SURINAME, SURINAME	3/27/2019

ANNEX A: LIST OF CHILD PROJECTS UNDER THE PROGRAM

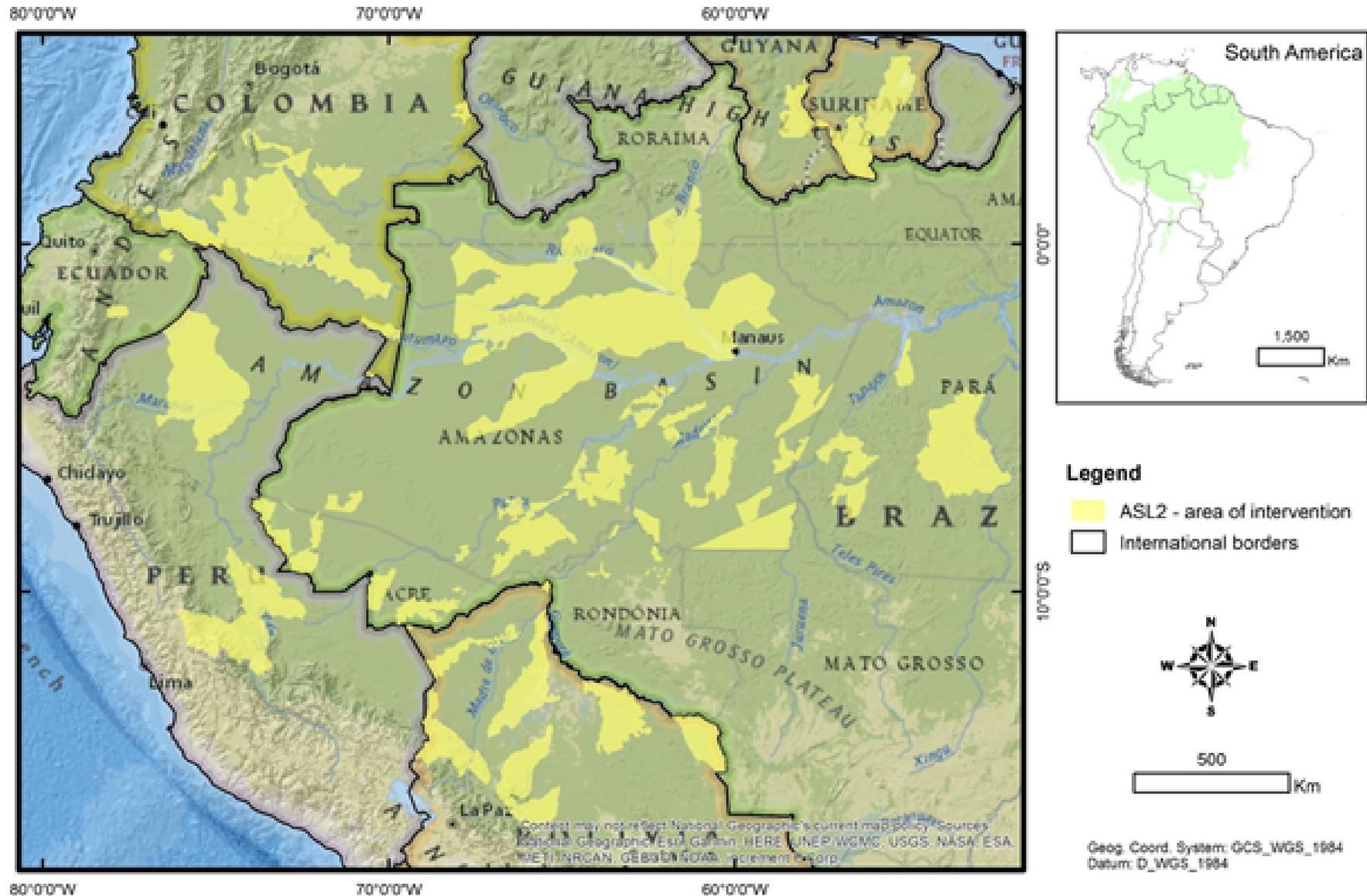
		Child Projects under the Program ^{a/}							
Country	Project Title	GEF Agency	GEF Amount (\$)					Agency Fee (\$)	Total (\$)
			Focal Area Biodiversity	Focal Area Climate Change	Focal Area Land Degradation	Focal Area L P SFM -Amazon	TOTAL		
			Project	Project	Project	Project	Project		
-	FSPs	-	-	-	-	-	-	-	-
Bolivia	1. Amazon Sustainable Landscape approach in the Plurinational System of Protected Areas of Bolivia		6,900,226			3,155,963	10,056,189	905,057	10,961,246
Brazil	2. Brazil Amazon Sustainable Landscapes Phase 2 Project		13,577,982			5,706,422	19,284,404	1,735,596	21,020,000
Colombia	3. Landscape Conservation and Sustainable Livelihoods in the Colombian Amazon		9,043,250	2,712,975	904,325	5,706,422	18,366,972	1,653,028	20,020,000
Ecuador	4. Biodiversity conservation and sustainable management of two priority landscapes in the Ecuadorian Amazon region.		3,469,725		917,431	2,036,697	6,423,853	578,147	7,002,000
Guyana	5. Securing a Living Amazon through Landscape Connectivity in Central Guyana		3,519,725			1,633,028	5,152,753	463,747	5,616,500
	6. Building human wellb								

Peru	6. Building human well-being and resilience in Amazonian forests by enhancing the value of biodiversity for food security and bio-businesses, in a context of climate change		8,908,934	900,120	900,120	4,889,909	15,599,083	1,403,917	17,003,000
Suriname	7. Strengthening management of protected and productive landscapes in the Surinamese Amazon		1,766,055	883,028	883,028	1,633,027	5,165,138	464,862	5,630,000
Regional	8. Amazon Knowledge and Coordination Technical Assistance					8,256,881	8,256,881	743,119	9,000,000
-	Subtotal	-	47,185,897	4,496,123	3,604,904	33,018,349	88,305,273	7,947,473	96,252,746
-	MSPs	-	-	-	-	-	-	-	-
	1.						0		0
	2.						0		0
	3.						0		0
-	Subtotal	-	0	0			0	0	0
-	Total	-	47,185,897	4,496,123	3,604,904	33,018,349	88,305,273	7,947,473	96,252,746

ANNEX A1: Project Map and Geographic Coordinates

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

Amazon Sustainable Landscapes (Phase II) - Areas of Intervention



Areas of Intervention for the ASL1 (Brazil, Colombia and Peru)



AMAZON SUSTAINABLE LANDSCAPE PROGRAM IN BRAZIL, COLOMBIA AND PERU

This map was produced by the Cartography Unit of the World Bank Group. The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of the World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.



IBRD-43671 | MAY 2018

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|-----------------|---|-------------------|--------------------------|
| PROJECT AREAS | NEW PROPOSED PROTECTED AREAS | NATIONAL CAPITALS | STATE BOUNDARIES |
| PROTECTED AREAS | POTENTIAL AREAS OF CONSERVATION, RESTORATION, NON DEFORESTATION | STATE CAPITALS | INTERNATIONAL BOUNDARIES |

