



Project Identification Form (PIF) entry – Full Sized Project – GEF - 7

## Fostering Water and Environmental Security in the Ma and Neun/Ca Transboundary River Basins and Related Coastal Areas

### Part I: Project Information

**GEF ID**

10193

**Project Type**

FSP

**Type of Trust Fund**

GET

**Project Title**

Fostering Water and Environmental Security in the Ma and Neun/Ca Transboundary River Basins and Related Coastal Areas

**Countries**

Regional,

**Agency(ies)**

FAO,

Other Executing Partner(s)	Executing Partner Type
MoNRE Viet Nam, MoNRE Lao PDR	Government

**GEF Focal Area**

## International Waters

### Taxonomy

International Waters, Focal Areas, Transboundary Diagnostic Analysis, Freshwater, River Basin, Coastal, Transform policy and regulatory environments, Influencing models, Strengthen institutional capacity and decision-making, Convene multi-stakeholder alliances, Communications, Stakeholders, Strategic Communications, Local Communities, Non-Governmental Organization, Civil Society, Participation, Type of Engagement, Partnership, Consultation, Capacity Development, Capacity, Knowledge and Research, Learning, Theory of change, Adaptive management, Indicators to measure change, Training, Knowledge Generation, Workshop

### Rio Markers

#### Climate Change Mitigation

Climate Change Mitigation 0

#### Climate Change Adaptation

Climate Change Adaptation 1

### Duration

60 In Months

### Agency Fee(\$)

760,000

### Submission Date

4/5/2019

## A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
IW-3-5	GET	2,500,000	37,830,000
IW-3-6	GET	1,500,000	5,280,000
IW-3-7	GET	4,000,000	15,090,000
	<b>Total Project Cost (\$)</b>	<b>8,000,000</b>	<b>58,200,000</b>

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

To enable Viet Nam and Lao PDR to address freshwater resource management and ecosystem health in the transboundary Ma and the Neun/Ca river basins and coastal zones by creating an enabling environment for transboundary cooperation and action

<b>Project Component</b>	<b>Financing Type</b>	<b>Project Outcomes</b>	<b>Project Outputs</b>	<b>Trust Fund</b>	<b>GEF Amount(\$)</b>	<b>Co-Fin Amount(\$)</b>
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Consolidating a common knowledge base	Technical Assistance	<p><b>Outcome 1</b></p> <p>Consensus among countries on key transboundary concerns, including climate change and variability - reached through joint fact finding - strengthens transboundary cooperation and opens the way to coordinated remedial actions.</p> <p>Outcome Indicator (OI): TDA signed by Viet Nam and Lao PDR at technical level</p>	<p><b>Output 1.1</b></p> <p><u>Science-based assessments of the current state of freshwater resources (surface and groundwater) and of their dependent ecosystems, including technical assessments (e.g. sediments and fisheries), governance and gender.</u></p> <p><b>Output 1.2</b></p> <p><u>Comparison analysis of current trends and projected scenarios.</u></p> <p><b>Output 1.3</b></p> <p><u>Evaluations of environmental flows at selected sites.</u></p> <p><b>Output 1.4</b></p> <p><u>Transboundary Diagnostic Analysis (TDAs).</u></p> <p><b>Output 1.5</b></p> <p>Agreement reached on a limited number of key <u>Environmental Status Indicators.</u></p>	GET 2,500,000 34,920,000
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Facilitating transboundary cooperation	Technical Assistance	<p>Enhanced water security, environmental sustainability and forecasting capabilities in both basins and their coastal areas achieved through the establishment of transboundary cooperation and information exchange frameworks and mechanisms.</p> <p>OI: Interim bilateral coordination agreement signed by two countries.</p>	<p><b>Output 2.1</b></p> <p>Creation of <u>Joint Technical Committees</u> – JTC.</p> <p><b>Output 2.2</b></p> <p><u>A shared long-term Vision</u> (horizon 20 years) including the agreement on environmental quality targets.</p> <p><b>Output 2.3</b></p> <p>Harmonized <u>design of multi-purpose monitoring networks</u>, and joint monitoring and data-sharing protocols.</p> <p><b>Output 2.4</b></p> <p><u>Interim Bilateral Consultation/Coordination Committee</u> (IBCC) agreed upon and established.</p>	GET	800,000	5,820,000
Testing solutions on the ground	Investment	<p>Countries resolve to joint actions reinforced by testing on the ground environmentally sound land/water management approaches, policies, practices and technologies, and share results and experiences</p>	<p><b>Output 3.1</b></p> <p>Program of <u>pilot demonstrations</u> selected on the basis of the results and findings of Component 1 (e.g. flood forecasting and community preparedness, fish-friendly irrigation expansion).</p>	GET	2,819,048	8,730,000

Leveraging commitment to action	Technical Assistance	<p><b>Outcome 4</b></p> <p>The process of reversing of degradation trends in the two basins galvanized as countries commit to sustain joint cooperation mechanisms and to undertake priority reforms and investments.</p> <p>OI: Two SAPs approved/signed by the relevant Ministry in each country.</p>	<p><b>Output 4.1</b></p> <p>Countries establish <u>ad hoc inter-ministerial committees</u> (ICMs).</p> <p><b>Output 4.2</b></p> <p>Two <u>Strategic Action Programs</u> (SAP) with horizon of 5-10 years, consistent with the Shared Vision</p> <p><b>Output 4.3</b></p> <p>A <u>partnership conference</u> consolidating international support for SAPs implementation.</p> <p><b>Output 4.4</b></p> <p><u>National Action Plans</u> (NAP) for the Ma and Neun/Ca river basins translating regional priorities into national actions (to be implemented after SAP endorsement).</p>	GET	800,000	5,820,000
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Component 5 Strengthening institutions and raising awareness	Technical Assistance	<b>Outcome 5.1</b>	<b>Output 5.1.1</b>	GET	700,000	2,910,000
		The sustainability of project outcomes enhanced by the reinforcement of capacities of relevant national entities and of the interim transboundary cooperation body established as part of the project.	<u>Sustained training of national staff</u> and of land/water administrators on key aspects of transboundary waters management, data analysis and monitoring, including gender issues.			
		OI: 50 national staff skills and knowledge of transboundary issues increases by 50% over baseline levels	<b>Output 5.1.2</b>			
		<b>Outcome 5.2</b>	<u>Awareness raising events</u> involving a broad range of stakeholders at the national, regional and global levels.			
		Benefits from the global to the local levels accrue through the sharing and dissemination of Project experiences and lessons learned.	<b>Output 5.2.1</b>			
		OI: Report and policy brief published to synthesize main project results and lessons learned	<u>Dissemination of key project achievements.</u>			
			<b>Output 5.2.2</b>			
			<u>Collaboration with IW LEARN.</u> Full participation to GEF IW LEARN activities, and creation of a project website, and preparation of experience notes.			
				<b>Sub Total (\$)</b>	7,619,048	58,200,000
<b>Project Management Cost (PMC) ⓘ</b>						
				GET	380,952	
				<b>Sub Total(\$)</b>	<b>380,952</b>	<b>0</b>
				<b>Total Project Cost(\$)</b>	<b>8,000,000</b>	<b>58,200,000</b>

**C. Indicative sources of Co-financing for the Project by name and by type**

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
GEF Agency	FAO	In-kind	Recurrent expenditures	900,000
Government	Vietnam	In-kind	Recurrent expenditures	3,500,000
Government	Vienam	Public Investment	Investment mobilized	45,000,000
Government	Lao PDR	In-kind	Recurrent expenditures	3,500,000
Government	Lao PDR	Public Investment	Investment mobilized	5,000,000
CSO	MERFI	In-kind	Recurrent expenditures	300,000
			<b>Total Project Cost(\$)</b>	<b>58,200,000</b>

**Describe how any "Investment Mobilized" was identified**

Viet Nam: The dollar amount shown represents the approximate value of the components relevant for the project of the following ongoing and planned investments (total value \$155m): Flood protection (Ma River basin) Dam safety (Ma River basin) Irrigation extension design (Ma River basin) Aquaculture extension (Ma River basin) Forest restoration (Ma River basin) Sustainable landscapes (Ma River basin) Salinity intrusion (Ma River basin) Flood protection (Ca River basin) Irrigation extension design (Ca River basin) Aquaculture extension (Ca River basin) Forest restoration (Ca River basin) Sustainable landscapes (Ca River basin) Salinity intrusion (Ca River basin) Laos: The dollar amount shown represents the approximate value of the components relevant for the project of the following ongoing investments (total value \$21m): Agro-biodiversity (Ma & Neun River basins) Forest management and REDD (Ma & Neun River basins)

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

<b>Agency</b>	<b>Trust Fund</b>	<b>Country</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>Amount(\$)</b>	<b>Fee(\$)</b>	<b>Total(\$)</b>
FAO	GET	Asia/Pacific	International Waters	International Waters	8,000,000	760,000	8,760,000
<b>Total GEF Resources(\$)</b>					<b>8,000,000</b>	<b>760,000</b>	<b>8,760,000</b>

**E. Project Preparation Grant (PPG)**

PPG Amount (\$)

200,000

PPG Agency Fee (\$)

19,000

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)
FAO	GET	Asia/Pacific	International Waters	International Waters	200,000	19,000
<b>Total Project Costs(\$)</b>					<b>200,000</b>	<b>19,000</b>

## Core Indicators

Indicator 7 Number of shared water ecosystems (fresh or marine) under new or improved cooperative management **i**

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Shared water Ecosystem	Ma, Ca/Song Lam			
Count	2	0	0	0

Indicator 7.1 Level of Transboundary Diagnostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation (scale of 1 to 4; see Guidance)



Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
Ma	1			
Ca/Song Lam	1			
Ma				

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

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
Ca/Song Lam	2			
Ma	2			

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

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
Ca/Song Lam	1			
Ma	1			

**Indicator 7.4 Level of engagement in IWLEARN through participation and delivery of key products(scale 1 to 4; see Guidance) ⓘ**

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
Ca/Song Lam	1			

Ma

1

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

## Part II. Project Justification

### 1a. Project Description

**Water security** is defined as “*the availability of an acceptable quantity and quality of water for health, livelihoods, ecosystems and production, coupled with an acceptable level of water-related risks to people, environments and economies*”. Water insecurity is perceived when it impairs human and environmental well-being, economic development, leading to often difficult cross-sector trade-offs and/or straining cross-border relations.

The term “**environmental security**”, used in the title of the proposed Project captures its overall perspective and goal and embraces three categories of concerns: (i) Concerns about the adverse impact of human activities on the environment - the emphasis here is on the security of the environment as a good in itself, for the sake of future generations, as the context for human life. (ii) Concerns about the direct and indirect effects on national and regional security of various forms of environmental change (especially water scarcity and degradation), which may be natural or human-generated - here the focus is on environmental change triggering, intensifying or generating the forms of conflict and instability relevant to conventional security. (iii) Concerns about the insecurity that individuals and groups (from small communities to humankind) may experience due to environmental change such as water scarcity, air pollution, climate variability and change.

#### 1.a Project *description*

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

The Ma River originates in the Himalayan foothills of the northwestern Vietnamese province of Điện Biên, and reaches the South China Sea in the Vietnamese province of Thanh Hóa, forming the third largest delta in Viet Nam. The mainstream of the Ma flows for about 400 km. Its basin covers 28,490 km<sup>2</sup>, of which 38% lies in Lao territory, and the remainder in Vietnamese. In Lao PDR, most of the basin territory lies in Huaphanh Province, while in Viet Nam it lies in Thanh Hóa Province (48% - where it covers 98% of the province’s territory), Sơn La (24%) and Điện Biên (16%), and the remainder in Hòa Bình and Nghệ An.

The largest tributaries of the Ma River include the Nam Et, the Chu (or the Nam Xam as it is called in Lao PDR), the Bưởi, and the Cầu Chày. The river’s configuration and meandering between the two countries gives it a unique transboundary typology: *Viet Nam and the Lao PDR are at the same time both upstream and downstream countries.*

The Nam Neun/Sông Ca (NN/SC) basin is adjacent to the Ma River Basin (MRB). It rises on Mt Muong in the Northern Annamite Range in Lao PDR and then flows into Viet Nam, where it is known as the Sông Ca. Its mainstream flows about 531 km to its mouth in Viet Nam’s Nghệ An Province. The NN/SC basin covers 27,200 km<sup>2</sup>, 65% of which lies in Viet Nam, and the remainder in Lao PDR. In Lao PDR, it is distributed between the provinces of Huaphanh and Xieng Khouang, while in Viet Nam its territory is distributed across Thanh Hóa, Nghệ An, and Hà Tĩnh provinces. Its main tributaries are the Nam Mo, Huoi Nguyen, Khe Choang, Hieu, Giang, Ngan Sau, and the Ngan Pho.

Both rivers flow into the South China Sea and their coastal floodplains define the important coastal area south of the wider Hanoi area.

### Hydrology

Average annual rainfall in the NN/SC ranges between 1,100-2,500 mm, while in the Ma river basin (MRB) it is 1,100-3,100. In both basins, the majority of rain (80-85%) falls in the rainy season (May to October).

The average annual water volume of the entire Ma river system is 20.2 km<sup>3</sup>, while for the NN/SC, it is 27.5 km<sup>3</sup>. Timing of peak flows varies as one descends the basin, but average rainfall in highland areas can be as high as 1,400 mm a year; and lowland areas can receive even more – 2,300 mm a year in the case of the NN/SC. Rainfall however varies dramatically over the course of the year. While the wet season is characterized by excessive water resources, the dry season has insufficient water to meet water supply to all water use sectors. In Viet Nam dry season flows are increased via releases from reservoirs. In the NN/SC, most storage is to be found in the subsurface. During the dry season and in the absence of rain, it is groundwater that primarily supplies river flows. 76% of storage capacity in the basin is provided from this source. This has led to calls for the conservation and increase of this 'natural infrastructure' to store water for the dry season while also providing a wide range of other important ecosystem services for the densely populated coastal area. See Annex A for a detailed description of water resources status in the Ma and Neun/Ca basins.

### Population and poverty

The upper catchment areas of both rivers are home to many ethnic minorities on both sides of the border, whose livelihoods depend on swidden agriculture, non-timber forest products, and fishing.

Highland areas in the Ma River and Neun/Ca River Basins have large ethnic minority populations. In Huaphanh Province, about 70% of the population are ethnic minorities/non Lao-Tai (the country's largest ethnic group); in Sơn La, some 80% of the population is non-Kinh (the country's largest ethnic group). The higher the proportion of ethnic minorities in the population, the higher the level of poverty. Huaphanh, for example, is one of the poorest provinces in Laos. In Thanh Hóa, where just 17.6% of the population are non-Kinh, the 'extreme poverty' head count comprises 7% of the population. In contrast, Điện Biên, with 81.6% of the population is non-Kinh, 48% of the population lives in extreme poverty.

The understanding of the complex reasons for poverty and its relation to deteriorating environmental quality are limited in the two basins; changing trends in wild capture fisheries and sediment loads are not yet well understood, nor are the implications of climate change and sea level rise on the Ma and Ca River Deltas. Groundwater dynamics, extent and exploitation amongst numerous stakeholders and sectors is not yet well known.<sup>[1]</sup>

### Ecosystems, biodiversity and areas of conservation importance

Upper parts of both watersheds are dominated by evergreen mountain forest ecosystems; lower down, this transitions to evergreen lowland forest, before land use becomes dominated by agricultural systems. Both basins fall within the Sino-Himalayan subtropical forest biome, and the Indochinese moist tropical forest biome.

The highland areas of both river basins are in the Annamite mountain range, characterized by an important tropical seasonal forest cover of global relevance: the Annamite Range Moist Forests Ecoregion, which consists of two terrestrial ecoregions, the Southern Annamites montane forests and the Northern Annamites moist forests. The Annamite Range Moist Forests Ecoregion is ranked as one of the world's 200 most important bioregions.

The Annamite Forest is unique to Southeast Asia. The majority of the forest is located throughout Viet Nam, but it also extends into parts of Cambodia and Laos. The forest runs approximately 685 miles up the coast of Vietnam and into Laos, and has an area of approximately 18,000 square miles. The Annamite Forest is appropriately named because of its proximity and relationship to the Annamese Mountains. The mountains separate the Mekong River and the South China Sea. The vast extent of the Annamese Mountains and Annamite Forest results in a wide variety of geological substrates. Limestone is the predominate bedrock on which the Annamite Forest erects itself. *Limestone is highly erodible and therefore results in a very rocky terrain including*

*large areas of karst landscapes with their unique and highly endemic ecosystems and biodiversity. The high levels of perpetual rainfall in the region cut at the limestone topography and create a karst terrain with many caves, underground rivers, and stark cuts across the surface.* Both Laos and Vietnam have begun or are planning to develop several major hydropower schemes that will inundate large areas of habitat and provide ready access to intact forest areas, thus increasing the probabilities of further habitat degradation. Major illegal and legal logging and local and transboundary wildlife poaching and trade (Lao into Vietnam) still occur.[2]

About 1,341 km<sup>2</sup> of the MRB is officially gazetted protected area, concentrated in the upper parts of the basin and reflecting its high biodiversity values. In Viet Nam, 3,890 km<sup>2</sup> of the NN/SC basin, have protected status. The upper catchment includes on the Nam Et National Protected Area (NPA), Lao's largest protected area and home to a large number of endangered species including the last tigers of Indochina, gaur, and numerous primates, including the white-cheeked gibbon. Collaborative management and eco-tourism are being successfully explored for its potential to contribute to sustainable livelihoods of local communities.

The Ma and Neun/Ca River Basins display similar environmental and socio-economic values of regional and global importance, as well as similar degradation processes due to the many problems confronting the basins: hydropower reservoirs causing significant changes to flows in tributaries of both basins; deforestation and changes to forest cover impacting flows and sediment loads; increasing water withdrawals associated with demographic growth and rapid economic development affecting environmental flows; and emergency releases from dams during extreme water events contributing to flooding. The coastal flood plain created by the two rivers is affected by the excessive sediment and nutrient loads of the two rivers degrading surface and shallow marine waters, and by seawater intrusion due to over-extraction from the shallow coastal aquifers and to sea-level rise, posing serious threats to water supply for the rapidly expanding coastal populations.

Additional development pressures emerge from the expansion of irrigated[3] and non-irrigated agriculture, increasing flood and drought risks due to climate change, and increasing industry development and related water quality deterioration risks. From a systems perspective many of these processes are connected and likely to create trade-offs or synergies. Development in urban areas drives energy demands, which drive hydropower development and consequentially decline in forested area. In parallel, population growth is driving the demand for increased food production, either realized through agricultural intensification or expansion. Additional water needs for irrigation coincide with hydropower related impacts on seasonal water flows. Increasing use of fertilizer and pesticides negatively impacts water quality, which is then amplified by industrial development further downstream. Flood mitigation measures (e.g. diversion schemes, wetlands) can mitigate some of the potential issues or, conversely, further amplify them. Similarly, drought preparedness measures are likely to create further trade-offs. This combination of upstream changes will impact on the ability to respond effectively to sea-level rise and salinity intrusion, which affects food production and the availability of safe drinking water in coastal settlements.

The combined dynamics impact on a range of ecosystem services, including fisheries, water availability and disaster risk reduction. Aforementioned drivers also impact on the high biodiversity values present in the two target basins either by deteriorating forests and wetlands or by changing water regimes. Sustainable development will require transboundary basin planning and management and jointly implemented action programmes.

Considering the transboundary context of the two target basins, development decisions and climate change adaptation investments will create cross-border trade-offs or synergies. Establishing coordination mechanisms for the Ma and the Neun/Ca River basins is paramount for their sustainable development, mainly involving the transboundary management of water (e.g. flood control), biodiversity (e.g. national park management and biodiversity corridors), forests, and fish stocks. Additional economic synergies will also be considered, e.g. for agriculture, energy and tourism.

The development and climate change adaptation pressures in the Ma and the Neun/Ca River basins are typical of many transboundary basins in the developing world. Therefore, solutions developed in this project can be applied to numerous other basins in the Greater Mekong and beyond.

## 2) Baseline scenario and any associated baseline projects

### Water use

Total water demand in Viet Nam's portions of the MRB was 3.9 km<sup>3</sup> in 2015, up by 1.4 km<sup>3</sup> from 2001. 92% of this demand is from agriculture, mainly rice (16% of land use) and vegetables (2%). Between 2001 and 2015, water demand from industry grew 23% a year. Over the same period, total water demand has grown about 3% a year. Studies predict that by 2030 water stress will increase to the highest level (*severe*) for the MRB, which is likely to substantially affect ecosystem services and irrigated agriculture on both countries. In the NN/SC some 3.3 km<sup>3</sup> of water a year is affected by pollution, which is an additional driver of water scarcity as it makes it unavailable for many uses. Incremental evapotranspiration by irrigated crops is 0.6 km<sup>3</sup> per year. 72% of evapotranspiration is consumed by forests.

### Land use

Large portions of both basins are located in highland areas, partially covered with forest. Natural forest area, however, has been declining over time, and is being replaced by monoculture (mainly Eucalyptus and Acacia which are highly water consumptive species that negatively impact groundwater tables and dry season flows) and alley-cropped plantations. Deforestation often has an inverse relationship with the hydrography – not least with associated land degradation, declining water infiltration, and soil loss. This causes wet season flows to increase and dry season flows to decrease, which accentuates upstream-downstream trade-offs and emphasizes the importance of managing the entire source-to-sea (S2S) system (S2S management is defined below). The commitments of both Governments made under the Paris agreement will require improved forest management for greenhouse gas mitigation in the upper areas of both river basins. Last year FCPF started a project on improved forest management in Lao PDR, which include the Ma and the Neun River basins (\$35 million until 2024). As the Ma and the Neun/Ca descend into Viet Nam's lowlands, land use transitions into agricultural landscapes dominated by paddy rice.

### Infrastructural development

Both basins have substantial hydropower potentials. There are currently no dams in the Lao part of the MRB, although six (of 15 MW installed capacity or more) are planned. In the NN/SC, the Nam Neun 1 and 3 are currently under construction, while the Nam Neun 2 is planned. Additional dams are planned for the Nam Xam. In Viet Nam's portions of the MRB, there are nine dams with hydropower generation capabilities, the largest of which is the 180 MW Hũa Na, while the

multi-purpose Cửa Đạt dam holds back a 33 km<sup>2</sup> reservoir, the basin's largest. Five hydropower dams operate along the Song Ca, with the Ban Ve reservoir being the largest with a full supply capacity of 1,835 million m<sup>3</sup>. Hydropower development is likely to determine fisheries-related food security concerns as migratory fish species are likely to lose their habitat. Most affected by this S2S trade-off are the poorest populations, mostly ethnic minorities. Currently, communities in Son La Province have Viet Nam's highest level of malnutrition (34%) based on child stunting, according to Viet Nam's National Institute of Nutrition. Dam safety has emerged as a top priority for Viet Nam's government and \$18 million have been pledged to improve dam safety in the Ma River basin. This project will collaborate with this activity and inform post-2020 investments (\$12m).

Irrigation infrastructure also has extensive and growing impacts that are equal to, and can exceed in some places, the impacts of hydropower. In Viet Nam's parts of the MRB there are 865 reservoirs of various sizes, 2,631 dams, 918 pumping stations and thousands of kilometers of irrigation canals. Many of the dams in the basin are also designed to play a flood control role. If rainfall patterns remain within current parameters, irrigation dams can play this role, however the increasing frequency and magnitude of extreme rainfall may overwhelm dam design parameters. Despite the flood control intention, increasing water storage capacity in other parts of the region often amplifies natural drought and flood peaks with detrimental consequences for ecosystems, agricultural production, downstream livelihoods and food security. This project will directly engage with and inform investments in irrigation design and improvements in the Ma and the Ca River basins, \$30 million and \$12 million respectively.

#### Freshwater and coastal fisheries

Compared to other basins in the region only very few studies have focused on fisheries in the Ma and the Neun/Ca River basins. A World Bank study for the Ma River indicates that more fish biomass and diversity prevail in the brackish water of the lowlands if compared with the upstream area. The total number of fish species is 1027 inland species, of which 36 species are listed in the Viet Nam Red Book as vulnerable or threatened. Fishermen in the freshwater parts of the basins depend on 45 commercial fish species while the coastal area lists 54 commercial species. Fish provide more than 50% of the protein intake of the local population. About a third of the coastal fisheries is exported. Aquaculture is estimated to produce five to six times the amount of fish than wild catch. A number of present development strategies will have impacts on water flows, water quality and the health and productivity of these rich fisheries, affecting biodiversity as well as food security. Planned aquaculture extension investment amount to around nearly \$100m in the Ma River basin and around \$62 million in the Ca River basin. This project will inform the design and investments related to water quantity and quality, land use change, and wetland management (Ma river basin: ~\$26 million; Ca River basin: ~\$10m).

#### Industrial development

Large parts of the lowlands and coastal regions of both target basins are earmarked for substantial industrial expansion. The newly established Nghi Son Economic Zone, part of Viet Nam's strategy to create industry employment, lies in parts in the Ma River basin. Similar industrial parks have been approved for or already exists in the Ca basin, e.g. in Hoang Mai and in Thanh Pho Vinh. While Viet Nam's government implements green growth principles, it is critical to explicitly consider water quality implications of this development strategy. Ultimately, surface and groundwater quality deterioration are likely to impact on fisheries, food safety and the availability of safe drinking water.

### Climate change

Climate change is expected to be one of the biggest drivers of hydrological transformation in the MRB, affecting rainfall, temperature, evaporation and water quality (including salinity intrusion). Future water scenarios (by the Ministry of Natural Resources and Environment, Viet Nam) show that flows through the system will tend to increase sharply, especially towards the end of the century. The greatest increase will be in wet season flows, signaling the possibility of major floods that severely impact economic development. The Ministries of Environment and Natural Resources of both Governments signed an MoU to coordinate climate change response strategies (see Annex B). Viet Nam's Government is planning to invest over \$170 million in improved flood protection across the two target basins. The proposed project will mainly inform the planning and assessment steps of these investments and the non-structural solutions, which amount to around \$40m in the Ma River basin and \$10m in the Ca River basin.

Proximity to the Pacific also represents a threat. Typhoons between January and August 2018 have killed some 70 people and caused US\$ 60.8 million in damage in Nghệ An, Thanh Hóa and Sơn La provinces. These include the Bebinca and Son Tinh typhoons. Sea-level rise is causing salinity levels in coastal aquifers and streams to increase, which poses a substantial threat to food security in coastal communities as soil productivity declines. Migration-related effects are likely to accelerate upstream deforestation and urbanization. Improved mangrove management and mangrove rehabilitation are being discussed as one ecosystem-based adaptation strategy for the coastal areas of both River deltas to reduce disaster risk and salinity intrusion. Such mangrove-focused strategy also provides an effective synergy between climate adaptation and Greenhouse Gas mitigation, which are both priorities of the Governments of Viet Nam and Lao PDR. The MoU both MoNRE's signed in February 2019 emphasizes this priority and the Governments' understanding of transboundary cooperation (see Annex B).

### South China Sea

The combined impacts of continuing development in the two basins, and of climate change on the social-ecological system of the South China Sea coastal areas, are anticipated to impact water quality (e.g. nutrient loads), fish biodiversity and fish abundance, coastal habitats (e.g. mangroves, wetlands, fish refugia), and livelihoods (e.g. fisheries). Consequentially, the proposed project, and its S2S approach, will adopt the policy indicators developed under the GEF projects targeting the South China Sea,<sup>[4]</sup> as well as the economic valuation results, and nutrient modelling. Additionally, the SAP developed under foundational GEF South China Sea project will provide an additional starting point for focusing the activities of the proposed project.

### Institutional and land/water governance aspects and barriers

Across governments globally, the creation of silos is a persistent challenge to integrated natural resources governance. It is the intention of this project to create a collaborative framework capable of assimilating and integrating a variety of knowledge strands in support of integrated policy and decision-making for the Ma and the Neun/Ca River basins across the two riparian neighbours.

Both Viet Nam and Lao PDR have a multitude of implemented statutory policies, legal instruments and regulations governing water use, land use and landscape management, and infrastructural development. At present these are highly sectoral and geared to single sector objectives and are not designed for transboundary application, nor do they minimize S2S trade-offs, address ecosystem integrity or multi-sector and stakeholder resource use/demands. Besides commitments to the Mekong River Commission that are not related to the Ma and the Neun/Ca Rivers, neither country has any other transboundary river basin obligations at present. While there is interest in both countries to pursue river basin-based approaches to managing basins and landscapes, these do not currently have sufficient regulatory powers or adequate budget.

Institutional bottlenecks constitute a critical barrier for improved S2S management, as does siloed sectoral decision making, causing fragmentation and creating barriers for improved transboundary collaboration. In addition to this cross-sector challenge, decisions are largely made in the capital cities, decontextualized from local operating environment and challenges. This cross-scale challenge can be met by tailoring institutional solutions to accommodate

local decision-making processes. Currently, the implementation of existing regulation is inconsistent and market opportunities are underdeveloped, which in combination leads to suboptimal management of key S2S flows. There are experiences this project can build on. For instance, the Ministry of Natural Resources and Environment (Viet Nam) has experiences in the application of Payment for Environmental Services (particularly in the forestry sector), and Lao PDR is exploring similar strategies. Nevertheless, it will be paramount to improve capacity on the ground to deliver effective natural resource management at the landscape scale.

Importantly, on February 29, 2019, the Ministry of Natural Resources and Environment of the Socialist Republic of Viet Nam, and the Ministry of Natural Resources and Environment of the Lao People's Democratic Republic *signed a "Memorandum of Understanding on Enhancing Cooperation"* in which the two countries commit to jointly seek development assistance from various partners, including the GEF, to address three key transboundary sustainable development related issues: biodiversity conservation; climate change response; regional freshwater monitoring and prevention of climate related disasters (Annex B). The proposed project will represent a significant step in initiating MoU implementation.

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#### Associated Baseline Projects

While numerous projects, both GEF and non GEF, address marine and coastal issues in the Seas of East Asia, including in the Gulf of Tonkin where both project rivers discharge their water and sediment loads, *no initiative dealing with river basin management – let alone transboundary management - has so far been undertaken by the countries, with GEF or other donors support, outside the Mekong River Basin.* The proposed project, while responding to countries' priorities, aims at filling this crucial gap in freshwater resources knowledge and management frameworks, a gap common to all the watersheds east of the Mekong River Basin.

Development assistance from development banks, CSOs and bilateral donors - quite active in supporting the region's rapid socio-economic growth, particularly in Viet Nam - is mostly focused on infrastructural investments in energy production and urban development, biodiversity protection, rural development, forestry and climate change adaptation. Freshwater resources – surface and groundwater, national or transboundary - have not been so far targets of major investments aimed at improving management or strengthening institutions.

The proposed project, adopting the S2S approach, will link with ongoing initiatives dealing with all those sectoral aspects which play a role at the water nexus – energy, food, ecosystems - and represent a basis upon which to build transboundary cooperation, sound river basin management frameworks and strengthen water and environmental security. After 2020, Viet Nam's central and provincial governments will invest a total of \$842 million in the extension of irrigation and aquaculture, improved flood protection, water supply, drainage, hydropower, and dam safety, across both target basins. This project will directly inform the design, assessment and planning of a range of investments in these sectors. It will collaborate with planned flood protection investments (Ma: \$40 million; Ca: \$10 million), improved dam safety and advanced coordination of dam operation (Ma: \$12 million), planned expansion of irrigated agriculture (Ma: \$30 million; Ca: \$12 million), and further investments in aquaculture (Ma: \$26 million; Ca: \$10 million). During the TDA, this project will put a strong emphasis on the cross-sector impacts and relevant stakeholder have agreed to engage with this project. The project will provide effective evidence and improve stakeholder relationships towards more sustainable basin management. This project will also collaborate with an ongoing investment in improved forest management and biodiversity (JICA loan funded and MARD implemented), which cover large parts of our target basins. While the total loan

amounts to \$123 million this project can realistically influence around \$12 million. However, the engagement with this project provides a meaningful mechanism to upscale project findings. This project will also engage with the USAID-funded sustainable landscapes project, which locates in the target basins and aim for improved natural resource management and improved adaptive capacity. This project brings \$31 million into these sectors and will be an important collaboration, in particular for the TDA phase (~3 million). Additional government investments to mitigate the impacts of salinity are being planned and will also be at the core of this project's TDA and SAP.

Lao's National Agro-Biodiversity Programme and Action Plan II (NABP II, 2015-2025) will provide an \$18 million investment in ecosystem management and conservation. This investment includes the target area and will be funded through a range of different budgetary sources, including MAF, international conventions, multi-lateral and bilateral donors, NGOs, existing projects and programmes and the private sector. The three targeted outcomes are focused on governance, organisational and technical capacity, and management. This project will coordinate with NABP II activities in the Provinces of Houaphan and Xieng Khuang (~\$10 million).

A recently approved FCPF project on improved forest management in Lao PDR includes the target basins and will provide MoNRE and MAF with \$35 million until 2024. These agencies were involved in the development of this PIF and will continue this engagement during the proposal development and implementation stage. This project aims to strengthen the Governance and planning component of the FCPF investment by providing TDA results on cross-sector impacts and provide a broader cross -sector platform for the forestry sector to engage with other agencies for improved basin planning. The collaboration will be focused on the FCPF investment in the Ma and Neun River basins (~\$11) although results will be scalable and benefit also other basins.

### **3) The proposed alternative scenario with a brief description of expected outcomes and components of the project**

The project will support countries as they go through the Transboundary Diagnostic Analysis – Strategic Action Program (TDA-SAP) methodology recommended by the GEF IW Focal Area for “foundational” projects, that is: projects addressing a transboundary context and aiming at creating the enabling environment for coordinated remedial action and transboundary cooperation. Creating mutual trust among riparians by joint fact finding, facilitating the consensus on overall long-term basins visions, and supporting governments and stakeholders as they agree on the strategies and actions needed to reverse degradation trends and move towards water security are the primary objectives of the GEF investment.

*Shaped by the TDA approach, the project will fulfil its purpose by implementing a structured participatory process for institutional formation designed to identify the procedures, agreements, responsibilities and monitoring strategies for successful cooperation between the two countries and the multiple sectors dependent on two shared river basins (hydropower generation, irrigated agriculture, forestry, fisheries). This will strengthen local and regional river basin management capacity and lead towards the institutionalization of transboundary coordination. The intervention logic is outlined in Figure 1 and key approaches are outlined in Figure 2.*

Figure 1: Intervention logic



Figure 2: Key approaches adopted by the project

#### SOURCE TO SEA (S2S) MANAGEMENT

An S2S system includes the land area that is drained by a river system or systems, its lakes and tributaries (the river basin), connected aquifers and downstream recipients including deltas and estuaries, coastlines and near-shore waters, the adjoining sea and continental shelf as well as the open ocean. Water, sediment, pollutants, biota, materials, and ecosystem services key flows connect the sub-systems in the source-to-sea continuum and their geographies (Figure 1). An S2S approach consolidates analysis, planning, policy-making, and decision-making across sectors and scales. It considers the entire social, ecological, and economic system, from the land area that is drained by a river system to the coastal area and even the open ocean it flows into. (*GEF STAP Policy paper 2016*). The FAO approach to S2S seeks to prioritize key flows, and enhance/restore positive flows (e.g. biodiversity, ecosystem services and high-quality water) and reduce negative flows (e.g. pollution, sediments) across landscapes/seascapes.

#### RIVER BASIN MANAGEMENT

The river basin is a geographical area determined by the watershed limits of a system of waters, both ground and surface, flowing to a common terminus. Since its nature is not always constrained by a single political-administrative boundary but by a hydro-geographical one, the management of a river basin is expected to cover the management of other related resources within the basin. Given the interaction of the ecological system and civil society in a basin, sustainable basin-wide management also has to take into consideration anthropogenic activities that use or affect the water system extending the concept of river basin management (RBM) to include 'the management of water systems as part of the broader natural environment and in relation to their socio-economic environment'. Such an integration of socio-economic aspects into water management with a basin-wide approach paved the way for the implementation of IWRM. Nevertheless, while offering a new spatial context, Integrated River Basin Management (IRBM) also created the possibilities of 'problems of spatial fit' as the political territory no longer fits the functional space. The new area for actions of river basin is also vulnerable to "not in

my backyard” reactions or may suffer the “Tragedy of the Commons” when common resource problems appear. Disparities between functional space and political territory can only be removed through the reorganization of political territories, or through functional cooperation among responsible jurisdictional authorities. *(From “River Basin Management in Vietnam”, by Nguyen Phuoc Ngoc Ha et Al. 2013, modified)*

#### THE WATER-FOOD-ENERGY NEXUS

The water-food-energy (WFE) nexus argues that these three sectors are inextricably linked and that actions in one area more often than not impacts one or both of the others. By perceiving and understanding these knock-on impacts, the ‘nexus approach’ seeks to “manage trade-offs and to build synergies through our responses, allowing for more integrated and cost-effective planning, decision-making, implementation, monitoring and evaluation.” The WFE Nexus approach has strong potential as a vehicle to generating inter-sectoral collaboration, provided all sectors involved can agree upon goals, visions and values that integrate all components, thereby prompting integrated S2S planning and implementation.

### COMPONENT 1: CONSOLIDATING A COMMON KNOWLEDGE BASE

#### *Outcome 1*

*Consensus among countries on key transboundary concerns, including climate change and variability - reached through joint fact finding - strengthens transboundary cooperation and opens the way to coordinated remedial actions.*

Key Outcome under will be TDA signed by Viet Nam and Lao PDR at technical level.

#### **Output 1.1**

##### Science-based assessments

The assessments will be conducted in the two basins and related coastal areas by the National Execution Teams (NET) under the lead of JTCs (see Output 2.1). They will focus on:

- o the current state (quality, quantity – including sedimentation) of the freshwater resources (surface and groundwater) and of their dependent ecosystems (lakes, wetlands, coastal lagoons, humid zones, inland fisheries);
- o impacts at both the transboundary and the national levels of flood and drought dynamics under current and likely future scenarios;
- o point and non-point pollution sources and hotspots, with emphasis on nutrients;
- o poverty, gender, and governance;

- o driving factors of deforestation;
- o status of climate change and biodiversity;
- o competing water-food-energy-ecosystems uses and nexus dimensions.

### **Output 1.2**

#### Comparison analysis of current trends and projected scenarios.

Current trends and existing development plans and strategies, with a particular focus on hydropower and irrigation, will be assessed against the imperatives of flood mitigation, drought preparedness and mitigation, protection of environmental values and of ecosystem services, and resolution of nexus conflicts, considering both national and transboundary implications.

### **Output 1.3**

#### Evaluation of environmental flows

Attempts to define the critical environmental flows targeting selected ecosystems of particular value in the basins and coastal flood plains, considering the key development challenges being faced in both basins - hydropower, agricultural extension, industrial development, poverty eradication and eco-tourism. This will include, for example, analysis related to the water quality and quantity needed to sustain and restore vulnerable coastal environments.

### **Output 1.4**

#### Transboundary Diagnostic Analyses (TDAs)

The process of identifying and agreeing upon the major issues of transboundary concern in the two basins, their causes and possible solutions will be based on the scientific findings of the assessments (Outputs 1.1, 1.2, 1.3) and with special consideration of the impacts of climatic variability and change, will be led by the JTCs and conducted according to the methodology developed for the IW Focal Area, through a systematic participatory and consultation process involving all stakeholders, ranging from local communities to major private sector actors. Socio-economic analysis and governance aspects will be central to the TDA process.

### **Output 1.5**

#### Environmental Status Indicators

Agreement reached for both basins among relevant governmental entities, the science community and all major stakeholders, on a limited set of indicators characterizing the present status of the freshwater environment – i.e.: baseline conditions – as it emerges from the assessments and the TDAs, covering water quality and quantity, health of dependent ecosystems, governance and socio-economic factors including gender aspects. These indicators will allow

to assess long-term impacts of human interventions and mitigation measures.

## COMPONENT 2: FACILITATING TRANSBOUNDARY COOPERATION

### *Outcome 2.*

*Enhanced water security, environmental sustainability and forecasting capabilities in both basins and their coastal areas achieved through the establishment of transboundary cooperation and information exchange frameworks and mechanisms.*

Key outcome under this will be Interim bilateral coordination agreement signed by two countries.

### **Output 2.1**

#### Joint Technical Committees – JTCs

The JTCs – formed by national experts from the two project countries identified in consultation with the beneficiary countries' governments - will be established at the beginning of the project. They will be responsible for the execution of many of the project activities and will cover the following topics in both basins:

- (i) Assessments, TDAs, water-food-energy-ecosystems nexus, visioning process;
- (ii) Monitoring, information exchanges, indicators and early warning systems;
- (iii) Surface and groundwater governance.

The JTCs will agree to joint terms of reference and will have a balanced gender composition.

### **Output 2.2**

#### A shared long-term Vision

The Vision - developed by JTCs - will have a 20-year time horizon and will cover both basins. It will include agreed long-term targets for environmental sustainability.

### **Output 2.3**

### Harmonized design of multi-purpose monitoring networks

They will be developed by JTCs in consultation with provincial and local administrations and communities, and include monitoring protocols, real-time data exchange mechanisms, flood early warning systems and management plans. Joint approval of a formal data sharing protocol (such as an MoU) will be pursued.

### **Output 2.4**

#### Interim Bilateral Consultation/Coordination Committee (IBCC)

The IBCC will cover both basins, and operate through periodic meetings. It will deal with issues of transboundary relevance pertaining to the management of the two basins, such as: monitoring information exchange and early warning, resolution of water nexus conflicts, coordination with other relevant projects, plans and initiatives, including the GEF supported ones. It will be established towards the end of the project, and be based on agreed upon TORs and be supported by a Secretariat.

## **COMPONENT 3: TESTING SOLUTIONS ON THE GROUND**

### ***Outcome 3.***

*Countries resolve to joint actions reinforced by testing on the ground environmentally sound land/water management approaches, policies, practices and technologies, and by sharing results and experiences, and recommend solutions*

Under this component, key outcome will be two community-based action plans for improved water management and disaster resilience in each country .

### **Output 3.1**

#### Pilot demonstrations

The program of the pilot demonstrations will be developed by the JTCs and approved by the Steering Committee. It will be defined based on results and findings of Component 1, and the number of pilots will be limited to ensure feasibility and long-term sustainability. The work will be executed to the extent possible by joint teams, and the results and experiences gained through the pilots will be systematically shared between the two countries, and beyond.

## **COMPONENT 4: LEVERAGING COMMITMENT TO ACTION**

**Outcome 4**

*The process of reversing of degradation trends in the two basins galvanized as countries commit to sustain joint cooperation mechanisms and to undertake priority reforms and investments.*

Under this, two SAPs approved/signed by the relevant Ministry in each country.

**Output 4.1**Inter-ministerial committees (ICMs).

These national committees – established for the purposes of the project or by supporting and enhancing existing institutions – will focus on the harmonization of existing frameworks, and lead the SAP formulation process.

**Output 4.2**Strategic Action Programs (SAP).

A SAP for each basin with a time horizon of 5-10 years, consistent with the Shared Vision addressing basin governance and main issues of transboundary concern, including climatic variability and change, through legal, policy, institutional reforms and investments will be developed. The SAPs will be formulated by the JTCs in consultation with the ICMs and on the basis of the results of the TDAs, of stakeholder consultations, of the experience gained with pilot projects. They will be reviewed/approved by the IBCC and national IMCs, and endorsed at ministerial level. Focus will be on cooperative actions related, amongst others, to hydraulic/irrigation infrastructure and hydropower generation schemes, nutrient pollution, erosion control, integrity of freshwater/coastal ecosystem services and fisheries. The SAP will aim to include both short term priorities (1 – 5 year) as well as capture (and not loose) medium term actions ( 5 - 10 years).

**Output 4.3**Partnership conference

This event, organized after the formulation/approval of the SAPs, will consolidate international support for the implementation of the priority actions.

**Output 4.4**National Action Plans (NAPs).

The NAPs for the Ma and Neun/Ca river basins will reconcile the regional priorities enshrined in the Visions and the SAPs with the national ones, translating them into national actions.

## **COMPONENT 5: STRENGTHENING INSTITUTIONS AND RAISING AWARENESS**

### ***Outcome 5.1***

*The sustainability of project outcomes enhanced by the reinforcement of capacities of relevant national entities and of the interim transboundary cooperation body established as part of the project.*

### **Output 5.1.1**

#### Sustained/long-term training of national staff

The training component of the project will be aimed at land/water administrators and deal with key aspects of transboundary waters management, e.g.:

- o Data collection, analysis and management using modern ICTs;
- o Development of scenarios of water futures with a focus on climate variability and change (for example using the IIASA approach to interactive scenario building);
- o S2S management, Integrated Water Resources Management and Integrated Coastal Zone Management;
- o Groundwater governance and management, including groundwater vulnerability mapping;
- o Gender-transformative natural resources management;
- o Principles, and experiences gained globally from the application of key directives, conventions and guidelines, including: UNECE Water Convention, EU WFD and Daughter Groundwater Directive; UN Non-Navigational Uses Convention; UNGA Resolution on the Law of Transboundary Aquifers.

### **Output 5.1.2**

#### Awareness raising events

These events will present the Project's progress to a broad range of stakeholders at the national, regional and global levels. Stocktaking Meetings will be held annually with the participation of all project stakeholders, implementing and executing agencies and bodies, the GEF Secretariat, development assistance providers, ongoing complementary projects, MEAs focal points. Innovative means of communicating with ethnic or marginalized communities will be explored and implemented as appropriate.

**Outcome 5.2**

*Benefits from the global to the local levels accrue through the sharing and dissemination of Project experiences and lessons learned.*

**Output 5.2.1**Dissemination of key project achievements

Dissemination will occur through the organization of workshops, conferences, webinars and other online tools, and through the publication of key documentation, hydro-geological and other maps, translated into regional languages.

**Output 5.2.2**Collaboration with IW LEARN

Collaboration will involve the creation of project web site following IW LEARN standards, the publication of Experience Notes, and the full participation to GEF IW conferences and other IW LEARN activities. 1% of the project GEF budget will be allocated to this output.

**4) Alignment with GEF focal area strategies**

The project is fully in line with the International Waters Programming Directions for GEF 7, Objective 3: *Enhance water security in freshwater ecosystems*.

The GEF7 IW Strategy states that "... IW support in freshwater basins will focus on three areas of strategic action: 1) advance information exchange and early warning; 2) enhance regional and national cooperation on shared freshwater surface and groundwater basins; and, 3) invest in water, food, energy and environmental security". All three areas are covered in the proposed project.

Moreover, the project adopts the Source to Sea approach promoted by the GEF STAP, and focuses on an area indicated by TWAP as a likely future hotspot for "... nexus dimensions aggravated by increasing severity of floods and droughts intensified by increasing climate variability and change (e.g. rising sea levels), population growth, urbanization and associated increasing needs for food and energy. Cooperation on water is an imperative in these regions to support the need for water, food, energy, and ecosystems security and related dimensions for each nation".

**5) Incremental/additional cost reasoning and expected contributions from the baseline**

The project adds the multi-country and multi-basin dimensions needed to reform and harmonize present national policies and physical plans, and address the transboundary implications of the shared nature of the resource. This regional dimension will require shared recognition of the system boundaries (in line with the ecosystem approach), the establishment of multi-country mechanisms for information sharing and cooperation on common issues such as climatic hazards mitigation, and the enhancement of regional awareness and stakeholder involvement, all of which is incremental with respect to the "baseline" represented by the fragmented, mostly single-country approach presently adopted by the countries sharing the two transboundary basins and associated aquifer systems.

Neither Lao PDR or Viet Nam are currently ready to fully appreciate the international and the domestic benefits that will accrue from the implementation of integrated, conjunctive management of surface and groundwater, or from the adoption of S2S and nexus approaches. Without the facilitation of the GEF, the countries will continue to implement fragmented and poorly coordinated water resources exploitation/development policies that do not take into systematic consideration the advancements in scientific understanding of the characteristics of these transboundary systems, nor the transboundary implications of their interconnected and shared nature, thereby exacerbating conflicts among users, threatening water security and the integrity of dependent ecosystems. Without the GEF project, transboundary cooperation will remain insufficient for tackling basin challenges and achieving the SDGs. Therefore, the regional benefits that the project will accrue will be derived from the improved protection and sustainability of significant transboundary freshwater resources and related ecosystems, bringing about improvements in the overall stability and water security in the region.

## 6) Global environmental benefits

*The project will accrue global environmental benefits in a number of ways, first by fostering cooperation among countries sharing transboundary water systems, i.e.: the overarching goal of the International Waters focal area, and fostering water and, more broadly, environmental security.* This will be achieved by striving to reverse the present trends in overexploitation of the resource by adopting the basin/ecosystem approach and introducing conjunctive surface and groundwater management practices; reconciling conflicts among water users and uses at the water-food-energy-ecosystems nexus with focus on hydropower production and irrigation; introducing coordinated mitigation mechanisms for climatic hazards; halting the degradation of physical habitats such as wetlands, mangroves, estuaries, flood plains.

The project will support the achievement of global benefits in other GEF focal areas, through the protection and conservation of freshwater biodiversity in the two basins, the promotion of sustainable land management, and the mainstreaming resilience to climate variability and change into water resources and land management.

Finally, the project will support the achievement of SDGs Targets 5.5 (women empowerment); 6.3, 6.5 and 6.6 (reduce water pollution, foster transboundary cooperation, protect aquatic ecosystems); 13.1 (strengthen climate resilience); 15.1, 15.5 (restoration of freshwater ecosystems, halt loss of biodiversity).

## 7) Innovation, sustainability and potential for scaling up

While adopting the well tested process for setting the foundations and the enabling environment for cooperation and joint action among countries sharing a water body, recommended by the International Waters focal area strategy (the TDA – SAP process, which has proven effective in many GEF “foundational” projects), the proposed project presents two additional and major innovations:

- o The Transboundary Diagnostic Analysis (TDA) that will be conducted as part of the project, will embrace a comprehensive cross sectoral approach analyzing freshwater resources in their entirety (surface and groundwater), and under many perspectives of utilization and interactions and under different future climatic scenarios. This approach is a response to the priorities set forth by the GEF-7 IW Strategy on overall water security.
- o Another innovation is the broad geographic scope of the project, encompassing two adjacent and similar transboundary basins, with complex upstream – downstream implications, and embracing an important section of the coastal zone of Northern Viet Nam.

The sustainability of project outcomes, and their broader uptake, will be strengthened by the recently signed MoU between the Ministries of Natural Resources and Environment in Lao PDR and Viet Nam. The MoU specifically mentions joint GEF-funded actions in water resources management.

[1] Knowledge on Vietnamese portions of the basins is typically better than on the Lao portions.

[2] Viet Nam and Laos are currently negotiating bilateral trade Agreement with the EU – the Forest Law Enforcement, Governance and Trade Voluntary Partnership Agreement (FLEGT VPA), supported by FAO. The agreement will ensure improved forest governance, address illegal logging and promote trade in verified legal timber products from Viet Nam to the EU and other markets.

[3] Ma river basin: Currently there are 175,133ha under irrigation. The planned expansion of irrigated land is of 215,952 ha, with 197,308 of paddy rice, 856ha of perennial crop, 5,922 ha of sugar cane, 5,299ha of flood plain cultivated land, and 6,567ha of aquaculture. The expansion of 123% is substantial and would require an investment \$360 m.

Ca River basin: presently 138,221 ha are under irrigation. This is supposed to increase to 226,077 ha, which will require investments of around \$300 m (Data available for Viet Nam only).

[4] The foundational project: “Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand”, and its follow-up SAP implementation projects, “Establishment and Operation of a Regional System of Fisheries Refugia in the South China Sea and Gulf of Thailand” and “Implementing the Strategic Action Programme for the South China Sea”.

**1b. Project Map and Coordinates** ⓘ

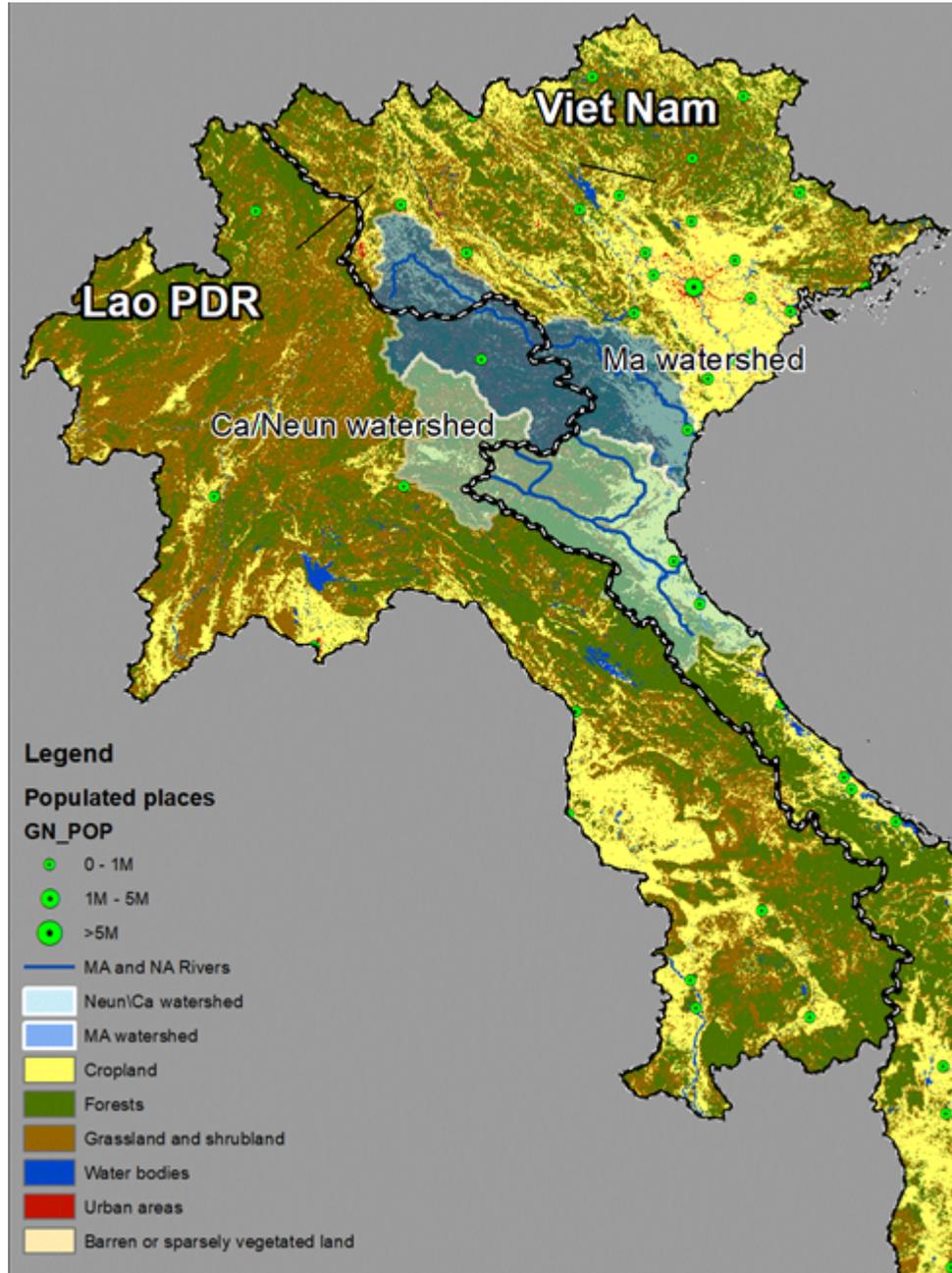
**Please provide geo-referenced information and map where the project interventions will take place.**

*The Ma River Basin*

The northernmost extreme of the Ma River Basin lies at 21.612421, 103.108372, while its mouth is at 19.784456, 105.931949.

*Neun/Ca River basin*

The northernmost extreme of the Nam Neun/Song Ca river basin lies at 19.995592, 104.392022, while its mouth is at 18.761130, 105.762523.



## 2. Stakeholders

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

**Indigenous Peoples and Local Communities** Yes

**Civil Society Organizations** Yes

**Private Sector Entities**

If none of the above, please explain why:

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

The project was requested by central and province government agencies in response to scoping activities in the target basins, which involved local communities and their perceived risks of future development (e.g. hydropower) and climate change (e.g. floods). The project will involve local communities, ethnic minorities, and civil society organizations extensively during the project preparation stage and during project implementation and into the transboundary diagnostic process for both river basins. Furthermore, the project will conduct extensive field work to understand the livelihood and gender dimension on the ground, which will involve interviews and focus group discussions in many villages in the upper catchments, which are dominantly populated by marginalized ethnic minorities. The proposed visioning process will involve CSOs and include the voice of villagers by conducting household surveys and village level focus group discussions.

Institution/Organization	Description	Engagement
Department of Water Resources, Ministry of Natural Resources and Environment, Lao PDR	Government agency with the main mandate for water management in Lao PDR	Primary stakeholders and project executing agencies. (This builds on and strengthens the recently signed MoU between both MoNREs, see Annex B.)
Department of Water Resource Management, Ministry of Natural Resources and Environment, Viet Nam	Government agency with the main mandate for water management in Viet Nam	
Department of Disaster Management and Climate Change, Ministry of Natural Resources and Environment, Lao PDR	Government agency responsible for developing policies, plans and guidelines for disaster risk management and disaster management	

Lao PDR	III.	
Department of Agricultural Land Management, Ministry of Agriculture and Forestry, Lao PDR	Government agency responsible for crop choice, approval of agricultural expansion and irrigation planning.	
Department of Livestock and Fisheries and Forestry, Ministry of Agriculture and Forestry, Lao PDR	Government agency with the mandate to develop policies and plans for livestock, fisheries and forests.	Will provide technical expertise to the project final design and during project implementation taking the lead on particular project activities.
National Agriculture and Forestry Research Institute, Ministry of Agriculture and Forestry, Lao PDR	Government agency with the mandate to provide technical support for agricultural and forest related development.	
Department of Energy Policy and Planning, Ministry of Energy and Mines, Lao PDR	Government agency responsible for policies and plans for hydropower development.	
Department of Economic Affairs, Ministry of Foreign Affairs, Lao PDR	Government agency with the mandate to guide transboundary negotiations.	
Department of Planning, Ministry of Natural Resources and Environment, Viet Nam	Government agency responsible for land use planning.	
Institute of Water Resources Planning under the Water Directorate, Ministry of Agriculture and Rural Development, Viet Nam	Government agency responsible for providing the technical support for water resource planning.	

Viet Nam Academy for Water Resources Ministry of Agriculture and Rural Development, Viet Nam	Government agency responsible for providing the technical support for water resources management and disaster risk reduction.	Will provide technical expertise to the project final design and during project implementation, taking the lead on particular project activities.
Directorate of Fisheries, Ministry of Agriculture and Rural Development, Viet Nam	Government agency responsible for policies, regulation, and management of capture fisheries and aquaculture.	
Administration of Forestry, Ministry of Agriculture and Rural Development, Viet Nam	Government agency with the mandate to provide the technical support for forest management and forest protection.	
Department of Water Resources, Ministry of Agriculture and Rural Development, Viet Nam	Government agency responsible for developing policies and plans for design, implementation and maintenance of irrigation infrastructure.	
General Department of Disaster Prevention and Control, Ministry of Agriculture and Rural Development, Viet Nam	Government agency responsible for the development of policies, regulation and plans for the prevention of natural disaster prevention and control.	
Environment Administration, Ministry of Natural Resources and Environment, Viet Nam	Government Agency responsible for the protection of the environment, including endangered species, and the sustainable management of ecosystems, incl. wetlands.	
Institute of Meteorology, Hydrology, and Climate Change	Government agency responsible for providing climate change projections	

	FUNCTIONS.	
General Directory of Energy, Ministry of Industry and Trade, Viet Nam	Government agency responsible for the development of policies and plans for energy related investments.	
Department of Southeast Asian - South Asian - South Pacific Affairs, Ministry of Foreign Affairs, the Viet Nam	Government agency with the mandate to guide transboundary negotiations.	Will support the transboundary dialogue and facilitate the cross-sector discussion.
Province Departments of Natural Resources and Environment, Huaphanh and Xieng Khouang Provinces, Lao PDR	Province Government Agency responsible for the management of natural resources and the protection of the environment.	Will provide on-the-ground support to project design and implementation. Will also be periodically engaged based on stakeholder engagement plan (e.g. workshops and meetings).
Province Departments of Agriculture and Forestry, Huaphanh and Xieng Khouang Provinces, Lao PDR	Province Government Agency responsible for planning and monitoring in agriculture and forestry.	
Province Departments of Natural Resources and Environment, Thanh Hóa, Nghệ An, and Hà Tĩnh Provinces, Viet Nam	Province Government Agency responsible for the management of natural resources and the protection of the environment.	
Province Departments of Agriculture and Rural Development, Thanh Hóa, Nghệ An, and Hà Tĩnh Provinces, Viet Nam	Province Government Agency responsible for planning and monitoring in agriculture and rural development.	
National CSOs (e.g. GDA: Gender and Development, LBA: Lao Biodiversity Association, SAEDA: Sustainable Agriculture and Environment Development, VRCR: Vietnam Red Cross Society)	Various CSOs that focus on sustainable development in the two target basins.	Will provide on-the-ground support to project design and implementation. Will also be periodically engaged based on stakeholder engagement plan (e.g. workshops and stocktaking).

		ng meetings)
International CSOs (e.g. Flora and Fauna International, Oxfam, IUCN)		Will be invited to the annual Stocktaking Meetings
Ethnic groups		Household survey and village focus group discussions to support TDA and SAP. Mainly eliciting livelihood strategies, risk perceptions, and likely behavioral responses.
Donor organizations (e.g. DFAT, AWP, World Bank, ADB, SWaM, SIDA)		Will be invited to annual Stocktaking Meetings. SWaM and SIDA will be engaged in further developing the S2S methodology.
Alliance for Water Stewardship	Recognizes best practice water management by industry	Facilitate private sector engagement

### 3. Gender Equality and Women's Empowerment

**Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).**

Gender mainstreaming has been the primary methodology for integrating a gender approach into environment and development efforts. It is defined by the UN Economic and Social Council (ECOSOC) as: "...the process of assessing the implications for women and men of any planned action, including legislation, policies or programs, in any area and at all levels. It is a strategy for making the concerns and experiences of women as well as of men an integral part of the design, implementation, monitoring and evaluation of policies and programs in all political, economic and societal spheres, so that women and men benefit equally, and inequality is not perpetuated. The ultimate goal of mainstreaming is to achieve gender equality."

Gender equality is central to the Food and Agriculture Organization of the United Nations' mandate to achieve food security for all by raising levels of nutrition, improving agricultural productivity and natural resource management, and improving the lives of rural populations. FAO can achieve its goals only if it simultaneously works towards gender equality and supports women's diverse roles in agriculture and rural development. Gender equality is not only an essential means by which FAO can achieve its mandate, it is also a basic human right. To achieve its gender equality objectives, FAO adopts gender mainstreaming internally in all its work. Specific to water resources management, FAO uses the Gender Passport (2012) which is currently being updated under a new project funded by the Government of Australia. The updating process is extensive and strong links with this project will be assured by FAO as IA. All FAO field programmes and projects systematically examine and address women's as well as men's needs, priorities and experiences as part of the development of policies, normative standards, programmes, projects and knowledge building activities, so that women and men benefit equally and inequality is not perpetuated. FAO's team of gender specialist spread across the Organization will provide specific technical gender inputs throughout project implementation.

#### Background

**Viet Nam** has been recognized by the Ministry of Labor as the Southeast Asian country with the best record in eradicating the gender gap over the last 20 years. The position and status of Vietnamese women has improved since the 1950s, but traditional attitudes which support discrimination and gender inequality persist. Men still dominate public life, while women (and children) are still largely and exclusively responsible for domestic tasks. Viet Nam now ranks 91st out of 157 countries in UNDP's Gender Development Index, and 50th out of 93 countries in the Gender Empowerment Measure, with high rates of adult literacy for men and women, and little difference between boys and girls in school enrolment. At national level, women comprise nearly 26% of National Assembly representatives, and 12.5% of Ministers and 9% of Vice-Ministers are women. At the local level, only one in five members of commune People's Councils are women. The Viet Nam Gender Assessment 2006 and other recent overviews indicate several issues that require particular attention:

- the position of ethnic minority women and girls in accessing health, education and economic opportunities;
- the persistent gender stereotyping in textbooks, perpetuating gender inequalities;
- the need for greater recognition of women's roles in the agricultural sector;
- progress in the number of women in decision making has been slow and inconsistent (lack of improvement in women participation in decision making)
- labor (e.g. disproportionate burden of unpaid/low paid work for women; wage gap between men and women; women are the main and sometimes only worker in agriculture)

- there are still weaknesses in the legal framework, e.g. imbalanced retirement age, women's names on land use certificates still not fully achieved, etc.
- divorced and single female headed households are particularly affected by high and rising food and energy costs rise;
- migration is continuing to increase, exposing women to exploitation, abuse and trafficking.

Those issues are still relevant, yet they will need to be updated during project execution (Component 1). Viet Nam's National Assembly Committee for Social Affairs concluded that since the approval of the Law on Gender Equality that was passed in 2006 and came into effect in 2007, positive changes have been seen in public awareness of the issue of gender equality. However, food and energy costs rose sharply in 2008, just before the global economic crisis hit, and divorced and single female headed households were particularly affected by that. The challenges are further compounded by consequences of climate change, for example in terms of migration of both men and women.

While **Lao PDR** has engineered impressive economic growth during the last decade, human development objectives, including gender equality have not advanced in parallel with the economic progress. A better balancing of economic growth and social development indicators is essential for inclusive and sustainable growth. The gender equality gap has narrowed in all three levels of education enrolment in Laos, but challenges persist in education completion. Two key determinants drive the patterns of gender inequity in education: 1) girls are more likely to be kept at home due to safety concerns and household responsibilities, especially if the secondary school is far from home, and 2) parents do not put the same value on education for girls as they do for boys, especially if this view is part of their tradition, or if the parents are poor, or have little or no education.

When the Gender Disparity Index is calculated for primary and secondary school attendance in different socio-economic groups and locations, the widest gap in gender equality is found among children from rural areas without road access, children from the non-Lao-Tai groups, children of uneducated mothers and children of families in the poorest quintiles. This gap is much larger in secondary education: for example, in the appropriate age group of the poorest quintiles, 66 girls attend secondary school for every 100 boys.

An equal share of men and women make up the working population, but women generally occupy the lower rungs of the labor market. Women are relatively more excluded from formal sectors and the social protection that this entails. Some 64% of workers in the elementary occupations and 63% of those classified as service, shop and market sales workers are women. Men account for the majority of civil servants, professionals, technicians and other sectors. Although women have significant roles in agriculture, they have less access to and control of farming inputs and credit. In 2010, women accounted for only 23% of all employers, more often of small enterprises, rather than medium to large firms. Women undertake multiple roles and begin working at an earlier age, which affects their well-being. According to a study from 2012/13, women spent almost 30 per cent of their time on unpaid domestic and care work, while the same figure for men was only 5 per cent. Across all ages and locations, the proportion of economically active girls is substantially higher than that of economically active boys. In 2017, Lao PDR had one of the highest proportions of women (27.5%) in national parliaments, well above the world average. However, the proportion of women in other decision-making institutions within the Government is still low (5% as of 2012).

UN agencies, under the lead of UNFPA and UN Women, continue to collaborate in their support to develop national legal and planning frameworks around gender equality and women's empowerment. Moreover, the UN has contributed to empowering national institutions to better implement and monitor these laws, strategies and actions plans, such as the National Strategy on the Advancement of Women and the National Action Plan on Elimination of Violence

against Women and Children.

### Project approach to gender issues

Long-term improvement in the access of women to leadership roles in water management will require cultural change. Recognizing this needed shift, and given the context explained above, the project will adopt a multifaceted approach to gender:

- 1) *Mainstreaming gender in project execution* - Balanced gender participation in project execution activities will be ensured, including in working groups, the project management unit, text drafting teams etc. Gender consideration will be mainstreamed in all documents produced by the project, and particular attention will be paid to gender in monitoring and reporting activities. The project will work to ensure a balanced participation among men and women in the overall stakeholder involvement strategy and in consultation workshops, and will support both women's and men's contributions individually, rather than assuming that both groups will benefit equally from gender-neutral development interventions.<sup>[1]</sup>
- 2) *New specialized training package* - the Project will utilize the existing staff training platform within MoNRE Viet Nam to develop a new curriculum, operational practices, and methods for trainers and trainees.

The overall aims of this package are:

- to establish best practice for staff training and workplace practices underpinning greater access for women to leadership and decision-making roles;
- to develop a curriculum and approach to training that supports best practice within current water management organisations encouraging greater access and equal opportunity for women to leadership and decision-making roles.
- To provide tools for the rapid assessment of the gender landscape in areas to receive training for use in adapting and styling training efforts.

The Project will engage with the internal training (professional development) units in relevant agencies to gain a direct pathway for mainstreaming new curricula and tools that encapsulates the key components of a proactive, gender focused philosophy and approach.

- 3) *Integration of the gender perspective into water policies* - The development and harmonization of supportive policy and legislative frameworks and institutional capacity building aimed at ensuring that the gender perspective is successfully incorporated into national and international water governance, policy, and activities, will be a major objective of the project. This will be promoted by conducting, as part of the TDAs, Gender Analysis of the water sector in project countries, including:
  - identifying gaps in equality and developing strategies and policies to close those gaps;
  - considering gender issues in the mapping and analysis of water resource use;
  - promoting women's participation in awareness raising training activities;

- supporting for educational activities, on topics such as the environment, energy, and decision-making in general;
- involving women's organizations: while the responsibility for implementing a gender approach does not rest solely with women's organizations, they are natural vehicles for promoting gender equality at the local as well as the national level.
- particularly in rural communities and minority ethnic groups present in the upstream sections of the two basins, the project will carry out the collection of sex-disaggregated water data, following the methodology promoted by IW LEARN.

The Gender Mainstreaming Strategy for the project including the above activities will be drafted as part of the Public Participation and Stakeholders Involvement Plan and submitted to the countries for approval.

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

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

**improving women's participation and decision-making; and/or Yes**

**generating socio-economic benefits or services for women. Yes**

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

TBD

#### 4. Private sector engagement

##### Will there be private sector engagement in the project?

Yes

##### Please briefly explain the rationale behind your answer.

This project, as with many GEF-funded projects, will need to tackle the management of transboundary resources in the face of an increasingly restrained financial environment. Engaging the private sector is one pathway to relieve pressure on funders and governments, and provide leverage to achieve its transboundary objectives.

In the Project area, hydropower developers are usually private companies (so-called Independent Power Producers). Insofar as managing water flows, and providing flood control, engaging with these companies (and the agencies that oversee them) will be essential to the success of the project.

The tourism sector is driven by many small businesses and is gaining momentum in the upper basins. Agricultural extension investments are largely government driven but often engage the private sector.

This project will organize as part of the TDA-SAP process private sector roundtables that will involve mainly hydropower, tourism, forestry, and agriculture. This will generate multiple benefits. Firstly, it will create an improved connection between private sector investments and the formal basin planning processes for the Ma and the Neun/Ca River basins. This will provide the planning process with up-to-date information on investment strategies and more detailed data than currently available. Finally, many trade-offs are expected to eventuate between private sector actors, something widely neglected or addressed indirectly by Government imposed regulation. The project will provide opportunities for dialogue between the private actors in the basins.

Increased private sector engagement will also be considered through FAO's new partnership with the Alliance for Water Stewardship Asia-Pacific. FAO has an ongoing project with IKEA in Viet Nam on sustainably forestry – and links with this project will be made where appropriate. In addition, the FAO-EU Forest Law Enforcement, Governance and Trade (FLEGT) Programme works in both Viet Nam and Lao PDR to reduce and eventually eliminate illegal logging from the timber supply chains of these countries. The Programme, through its grant support mechanism, works with government, civil society and private sector organizations in both countries to improve forest governance and encourage sustainable forest management and trade; the project will draw links to the FAO-EU FLEGT Programme where possible.

The strategic solutions developed during PPG and delivered in this project will combine a range of actions. Behavior change interventions can create improvements and enterprise led solutions can reinforce the changed behaviors, actions and activities through an improved economic return that reinforces and embeds change.

## 5. Risks

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

A full assessment of risks and mitigation measures will be developed during project preparation. Below a preliminary identification of the two major risks to project success that the project will face:

Risks	Level	Mitigation Measures
Lack of sustained political support to establishing transboundary cooperation frameworks.	Low	The project will adopt a step by step progressive approach to building mutual trust based on joint fact finding and consultative processes. It will build upon, and support compliance to the MoU recently signed between the two beneficiary countries.
Limited interest or involvement by target stakeholders, local communities and the inhabitants of the two basins.	Medium	The risk will be addressed throughout project implementation through systematic communication with local communities and other stakeholders, and through their involvement in the Annual Stocktaking Meetings.
Climate change increases hydrological risks including flood, drought and salinisation of aquifers.	Medium	Climate change, both in terms of potential impacts and viable adaptation measures, will be an explicit focus of the TDA-SAP process

## 6. Coordination

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

Detailed project financing for each country will be determined and agreed by both Lao PDR and Viet Nam, as necessary and as equal as possible, during the PPG phase.

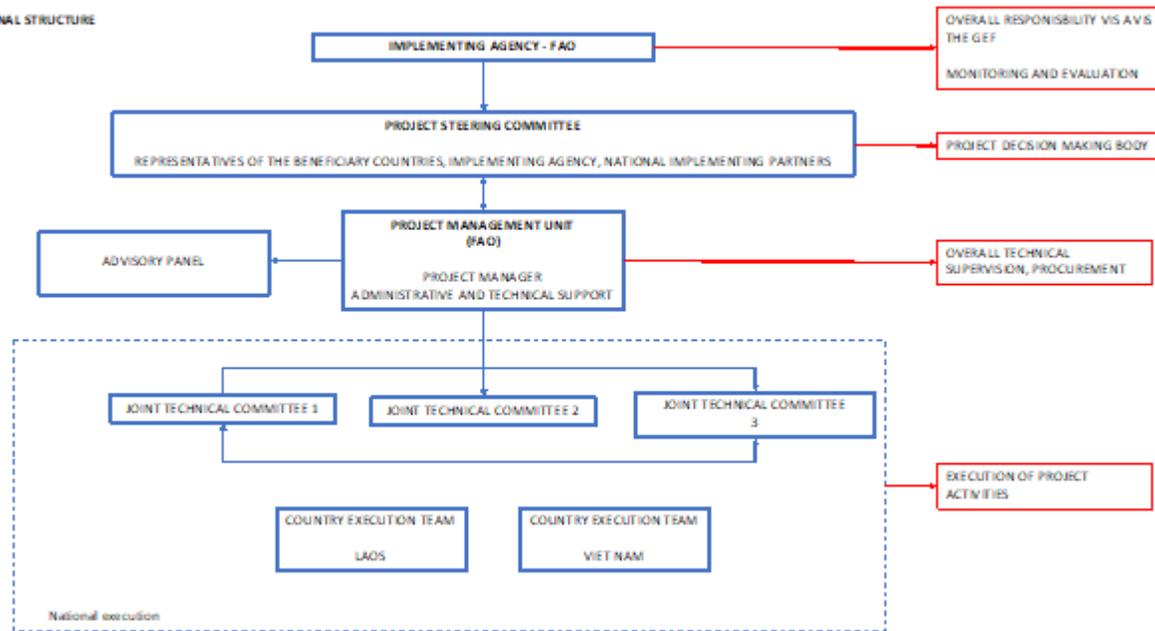
The project will build on the strong presence and extensive portfolio of agricultural projects of FAO in the region, and establish coordination mechanisms with other relevant GEF and non-GEF financed initiatives, in particular through their participation to the Annual Stocktaking Meeting foreseen in Component 5. The table below shows the large GEF IW portfolio in SE Asia, which is however exclusively directed to transboundary Large Marine Ecosystems, and coastal area issues.

IW GEF projects – ongoing or under preparation - involving Laos and/or Viet Nam			
Title	Agency	Status	Objectives/Results
FSP: Implementing the Strategic Action Programme for the South China Sea (Viet Nam only)	UN Env.	Implementation	To assist countries in meeting the targets of the approved Strategic Action Programme (SAP) for the marine and coastal environment of the South China Sea (SCS) through implementation of the National Action Plans in support of the SAP, and strengthening regional co-ordination for SCS SAP implementation.
FSP: Reducing Pollution and Preserving Environmental Flows in the East Asian Seas through the Implementation of Integrated River Basin Management in ASEAN Countries.	UNDP	In preparation	To improve integrated water resources management, reduce pollution loads from nutrients and other land-based activities, sustain freshwater environmental flows and reduce climate vulnerability through demonstrations and replications, planning and strengthening of integrated river basin management in selected countries in the East Asian Seas
FSP: Scaling up the Implementation of the Sustainable Development Strategy for the Seas of East Asia	UNDP	Implementation	To catalyze actions and investments at the regional, national and local levels to rehabilitate and sustain coastal and marine ecosystem services and build a sustainable coastal and ocean-based economy in the East Asian region, in accordance with the Sustainable D

			region, in accordance with the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA).
PFD: Scaling Up Partnership Investments for Sustainable Development of the Large Marine Ecosystems of East Asia and their Coasts (Viet Nam only)	WB	Implementation	The goal of the program is to promote sustainable development of large marine and coastal ecosystems of the East Asia and Pacific Region and improve livelihoods of local populations by reducing pollution of and promoting sustainable marine fisheries, ICM and ecosystem-based management.
PFD: Reducing Pollution and Rebuilding Degraded Marine Resources in the East Asian Seas through Implementation of Intergovernmental Agreements and Catalyzed Investments	UNDP	Implementation	To rebuild and sustain coastal and ocean ecosystem services across the East Asian Seas region through the scaling up of partnerships, capacities and investments at the regional, country and local levels

The following figure shows the preliminary institutional organization of the project, revolving around three main functions: supervision (technical and administrative); project steering and decision-making during implementation; execution of project activities.

INSTITUTIONAL STRUCTURE



## 7. Consistency with National Priorities

### Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

#### Lao PDR

The 8<sup>th</sup> Five-Year National Socio-Economic Development Plan (2016-2020) of Lao PDR identifies three key outcomes to be sought by the plan. The third of these is “Natural resources and the environment are effectively protected and utilized according to green-growth and sustainable principles; there is readiness to cope with natural disasters and the effects of climate change and for reconstruction following natural disasters”. To achieve this, the plan deploys various strategies, that include the management of water resources based on IWRM principles in ‘10 priority river basins for development’ that includes the Nam Ma and the Nam Sam (or Nam Xam – a tributary of the Ma, called the Chu in Viet Nam), “and other small basins where appropriate.” It also calls for the development of forest management, restoration and protection plans for the Nam Et-Phou Louy protected area, and reiterates Lao PDR’s long-standing commitment to “achieve forest cover over 70% of the total country area, by restoring natural forests on 1.5 million ha and planting trees on 35,000 ha of protected and conservation forests.”

Lao PDR is in the consultation stage of a new National Water and Water Resource Management Strategy. This proposal aims to feed into a wide range of goals listed in the Strategy, which are outlined in Annex C.

#### Viet Nam

Viet Nam’s Five-year Socio-economic Development Plan (2016-2020) has, as its sixth objective “Actively cope with climate change, prevent and cope with natural disasters, enhance the management of natural resources and environment protection.” To address this, the plan seeks to “Protect the water sources, construct the infrastructure to utilize effectively and economically water resource ... Strengthen the organizational structure, forces, operating mechanism with synchronous measures to protect and develop forests; especially in the coastal protection forest, watershed forests, special use forests (SUF), nature conservation and biodiversity”.

Viet Nam’s National Water Resources Strategy 2020 lists a similar range of targets as aforementioned examples for Lao PDR, see Annex D for details.

This project will strengthen the MoU the MoNREs of both countries recently signed (see Annex B) and the TDA/SAP activities will contribute to all three transboundary cooperation foci Viet Nam and Lao PDR agreed on: flood disaster risk management, climate adaptation, and biodiversity conservation.

#### Compliance with the 2030 Agenda, and major MEAs

Lao PDR and Viet Nam have committed to the implementation of the *UN Sustainable Development Goals*, which include as its sixth goal the availability and sustainable management of water and sanitation for all. Other relevant SDGs are SDG15 on terrestrial systems, SDG 12 on addressing sustainable production, SDG 13 on combating climate change, SDG 16 on peace, justice and strong institutions, and SDG 17 on partnerships for the goals.

*The project, by supporting sustainable water resources management and the protection of dependent ecosystems, will also contribute to the compliance with the provisions of major MEAs, all interlinked through the S2S flows.*

In 2014, Viet Nam ratified the UN Convention on the Law of the Non-navigational Uses of International Watercourses; Lao PDR has not yet ratified the Convention.

#### UNCCD

Viet Nam ratified the UNCCD in 1998. For Viet Nam, combating desertification is mainly to address deforestation, land degradation, and drought. Implementation of the UNCCD needs “to focus on (a) implementing programmes/projects to prevent deforestation, soil erosion, shifting sand dunes, land salinization/acidification; (b) reclaiming degraded land; (c) sustainable land use and water resources use; and (d) forecasting and preventing drought and flood”. These international commitments define an important basis for planning in the Ma and the Neun/Ca Rivers due to the importance of forest ecosystems. Lao PDR ratified the Convention in 1996. “In Lao context, desertification refers to the land degradation and seasonal drought caused by inappropriate land use practices such as slash and burn agriculture, deforestation, overgrazing, etc. Lao PDR is confronting with land degradation, soil erosion and seasonal drought which are some forms of desertification”. Similar to Viet Nam, the ratification of the UNCCD defines a critical foundation for land use planning and forest conservation in the upper Ma and Neun/Ca River basins.

### UNFCCC

The Government of Lao PDR ratified the UNFCCC in 1995, the Kyoto Protocol in 2003, and signed the Paris Convention in 2016. In 2008, Lao PDR joined the REDD+ efforts as one of the first countries to join the Forest Carbon Partnership Facility. It acknowledges the importance of forests in addressing climate change in its Nationally Determined Contribution. In the context of the Ma and the Neun/Ca River basins important incentive mechanisms can be developed that link back to UNFCCC mechanisms. Viet Nam ratified the UN Climate Change Convention already in 1992 and signed the Kyoto Protocol in 1998. Viet Nam was one of the initial nine national programs under REDD (2009-2012) and has since continuously stepped up its efforts under REDD+. Recently, the Government ordered a stop to all conversion of natural forests in the Central Highlands and endorsed the second national REDD+ Action Program (2017-2030). Similar to Lao PDR, incentive mechanisms can be developed that connect better to global initiatives such as REDD+.

### CBD

The Government of Lao PDR acceded to the International Convention on Biological Diversity (CBD) in 1996 and committed itself, as part of its obligations as party signatory, to developing a national biodiversity strategy. Viet Nam became a signatory to the Convention in 1994. Viet Nam’s first National Biodiversity Action Plan (NBAP) was approved by the Prime Minister in 1995.

The project will also support achievement of the Aichi Targets. The Lao Government is in particular focussed on loss of natural habitats (Target 5), fisheries management and ecosystem-based approaches (Target 6), sustainable management of agriculture, aquaculture and forestry areas (Target 7), and pollution, including from excess nutrients (Target 8). It is also relevant to Target 1 that addresses awareness raising and knowledge exchange, and to Targets 14-15 on ecosystem restoration, safeguarding and resilience. Viet Nam’s National Biodiversity Strategy to 2020, with a vision to 2030, is an integral part of the country’s Socio-Economic Development Strategy (2011-2020). The country intends to protect and sustainable use biodiversity resources to provide the basis for Viet Nam’s sustainable development in the current context of climate change. The latter aims to address, primarily, Aichi Strategic Goals B (reduce direct pressures and promote sustainable use), C (improve biodiversity status by safeguarding ecosystems, species and genetic diversity) and D (enhance benefits to all from biodiversity and ecosystem services). Viet Nam’s Biodiversity Law (2008) marked an important milestone for conservation that identified the principles and priorities of biodiversity conservation at all levels, from national and ministerial to local levels, creating the legal basis for local community involvement in the conservation of natural resources through new mechanisms of co-management and benefit-sharing.

## 8. Knowledge Management

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

The purpose of the Knowledge Management (KM) strategy that will be fully developed during project preparation is to offer a structured and integrated approach to leverage and systematically share knowledge assets generated by the Project with the intended beneficiaries and audiences. In doing so, the strategy will aim to maximize the project's impact by strengthening operational coherence, harnessing synergies and pooling resources, including time; and inform policy makers and key stakeholders of the benefits arising from the project interventions.

The strategy will aim to maximize the project's impact by:

- Leveraging and systematically sharing knowledge assets generated Project with the intended beneficiaries and audiences;
- Strengthening the science-policy interface and influencing decision making through data and information sharing, capacity building, and regional stakeholder engagement;
- Holding Annual Stocktaking Meetings. They will be major regional events aiming to establish synergistic interactions among countries and with other relevant initiatives and stakeholders. The meetings will have a two-fold objective: 1) provide a forum for peer-to-peer learning among the project's stakeholders, and 2) catalyse regional attention on the progress made towards water and environmental security.

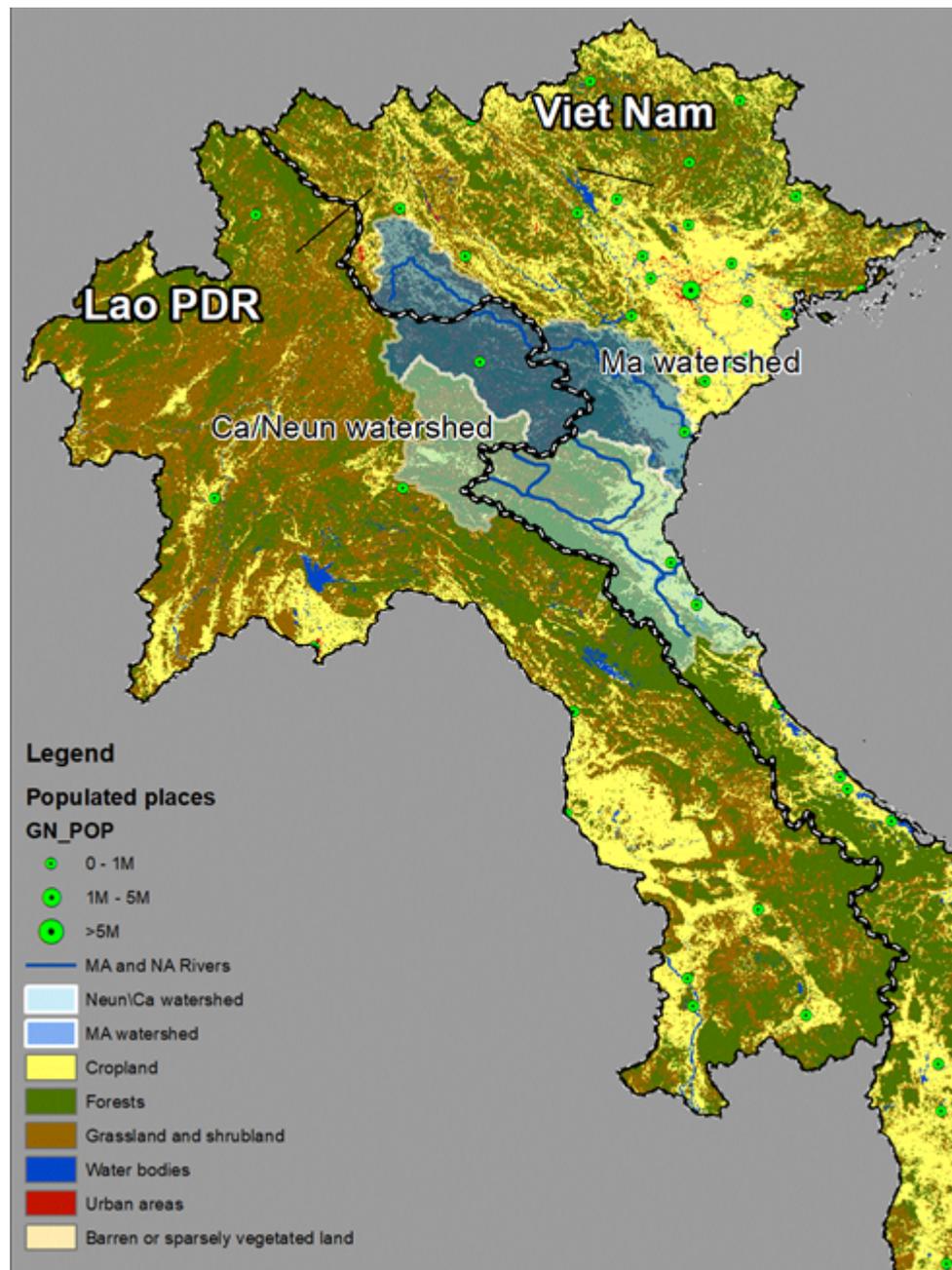
**Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)**

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).

<b>Name</b>	<b>Position</b>	<b>Ministry</b>	<b>Date</b>
Khampadith Khammouanheung	GEF OFP Lao PDR	MONRE	4/4/2019
Nguyen Duc Thuan	GEF OFP Vietnam	MNRE	4/5/2019

**ANNEX A: Project Map and Geographic Coordinates**

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



### *The Ma River Basin*

The northernmost extreme of the Ma River Basin lies at 21.612421, 103.108372, while its mouth is at 19.784456, 105.931949.

*Neun/Ca River basin*

The northernmost extreme of the Nam Neun/Song Ca river basin lies at 19.995592, 104.392022, while its mouth is at 18.761130, 105.762523.

Please note that the coordinates and maps have also been uploaded in Document section.

