United Nations Development Programme

Project title: Integrated Water Resource Management and Ecosystem-based Adaptation (EbA) in the Xe Bang Hieng River Basin and Luang Prabang city		
Country(ies): Lao People's Democratic Republic (Lao PDR)	**Implementing Partner (GEF Executing Entity):** Department of Water Resources (DWR) under the Ministry of Natural Resources and Environment (MoNRE)	**Execution Modality**: National Implementation Modality (NIM)
Contributing Outcome (UNDAF/CPD, RPD, GPD): Lao PDR – United Nations Sustainable Development Cooperation Framework (UNSDCF)- Outcome 4: By 2026, people, especially the most vulnerable and marginalized, and institutions will be better able to sustainably access, manage, preserve, and benefit from natural resources and promote green growth that is risk-informed, disaster and climate-resilient. UNDP Lao PDR CPD – Outcome 2: By 2026, people, especially the most vulnerable and marginalized, and institutions will be better able to sustainably access, manage, preserve and benefit from natural resources and promote green growth that is risk informed and disaster and climate-resilient.		
UNDP Social and Environmental Screening Category: Substantial	**UNDP Gender Marker:** GEN 2	
Atlas Award ID: 00098851	**Atlas Project/Output ID:** 00102048	
UNDP-GEF PIMS ID number: 6547	**GEF Project ID number:** 10514	
LPAC meeting date: 26 August 2022		
Last possible date to submit to GEF: 3 December 2021		
Latest possible CEO endorsement date: 3 June 2022		
Project duration in months: 48		
Planned start date: 15 November 2022	**Planned end date:** 14 **November** 2026	
Expected date of Mid-Term Review: 24 June 2024	**Expected date of Terminal evaluation:** 31 June 2026	
Brief project description: Lao People's Democratic Republic (Lao PDR) is extremely vulnerable to climate change, particularly the impacts of floods and droughts. Since the 1960s, the country has experienced an increase in the frequency and severity of these events, resulting in increased impacts on, and risks to, vulnerable communities in Lao PDR. These impacts include, for example, damage to crops, thereby decreasing food and financial security. The severity of climate change impacts is further compounded by non-climate change-related factors such as increasing urbanisation, ecosystem degradation and deforestation.		

The proposed project will strengthen the climate resilience of communities in two particularly vulnerable areas of Lao PDR – namely Savannakhet Province and Luang Prabang city – particularly focussing on the impacts of floods and droughts. This improved resilience will be achieved through three complementary project components, specifically: i) Developing national and provincial capacities for Integrated Catchment Management (ICM) and integrated urban Ecosystem-based Adaptation (EbA) for climate risk reduction; ii) Ecosystem-based Adaptation (EbA) interventions, with supporting protective infrastructure and livelihood enhancement; and iii) Knowledge management and Monitoring and Evaluation (M&E).	
FINANCING PLAN	
GEF Trust Fund grant: LDCF	USD5,329,452
UNDP TRAC resources (co-finance)	USD250,000
(1) Total Budget administered by UNDP	**USD5,579,452**
CO-FINANCIERS THAT WILL DELIVER PROJECT RESULTS INCLUDED IN THE PROJECT RESULTS FRAMEWORK (FUNDS NOT ADMINISTERED THROUGH UNDP ACCOUNTS)	
Department of Planning and Finance, Ministry of Natural Resources and Environment	USD 13,030,740
Department of Irrigation, Ministry of Agriculture and Forestry	USD 5,258,716
Provincial Department of Agriculture and Forestry (Savannakhet Province), Ministry of Agriculture and Forestry	USD 5,773,000
Wildlife Conservation Society	USD 1,213,862
United Nations Environment Programme	USD 864,000
United National Development Programme	USD 1,072,267
(2) Total confirmed co-financing	**USD27,212,585**
(3) Grand-Total Project Financing (1) + (2)	**USD32,792,037**

SIGNATURES:

NOTE: IF THE PROJECT DOCUMENT IS IN FRENCH OR SPANISH, THE FINAL PROJECT DOCUMENT MUST BE CLEARED BY THE RTA BEFORE SIGNATURE.

Signature:	Agreed by Implementing Partner	Date/Month/Year:
Dr. Inthavy Akkharath Director General, Department of Water Resource, Ministry of Natural Resource and Environment		23.11.2022

DocuSigned by:

National Project Director			
Signature: **Ms. Ricarda Rieger** Resident Representative UNDP Lao PDR	DocuSigned by: Ricarda Rieger 91CFF4E1EC9245E...	**Agreed by UNDP**	**Date/Month/Year:** 17-Nov-2022
Key GEF Project Cycle Milestones: **Project document signature**: within 25 days of GEF CEO endorsement **First disbursement date**: within 40 days of GEF CEO endorsement **Inception workshop date**: within 60 days of GEF CEO endorsement **Operational closure:** Expected end date as per the approved duration after Project Document signature **Financial closure:** within 6 months of operational closure			

I. TABLE OF CONTENTS

List of Acronyms

ADS	Agricultural Development Strategy
BPPS NCE-VF	Bureau for Policy and Programme Support, Nature, Climate and Energy, Vertical Fund team
CCA	Community Conservation Agreement
CBOs	Community Based Organisations
CO	Country Office
CSO	Civil Society Organisation
DAFOs	District Agriculture and Forest Offices
DAEC	Department of Technical Extension and Agro-processing
DALaM	Department of Agriculture Land Management
DCC	Department of Climate Change
DEQP	Department of Environmental Quality Promotion
DIC	Department of International Cooperation
DMH	Department of Meteorology and Hydrology
DoESIA	Department of Environmental and Social Impact Assessment
DOF	Department of Forestry
DONRE	District Office of Natural Resources and Environment
DoESIA	Department of Environmental and Social Impact Assessment
DMH	Department of Meteorology and Hydrology (MONRE)
DWR	Department of Water Resources (MONRE)
EbA	Ecosystem-based Adaption
EG	Ethnic Groups
EGP	Ethnic Groups Plan
ERC	Evaluation Resource Center
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environment and Social Management Plan
EWS	Early Warning Systems
FS 2020	Forestry Strategy for 2020
FSP	Full Sized Project
GAAP	Gender Analysis and Action Plan
GCF SAP	Green Climate Fund Simplified Approval Process
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEF OFP	Global Environment Facility Operational Focal Point
GEFSEC	Global Environment Facility Secretariat
GIS	Geographic Information System
GoL	Government of Lao PDR
GRM	Grievance Redress Mechanism
ICFMS	Integrated Climate-Resilient Flood Management Solutions
ICM	Integrated Catchment Management
IEO	Independent Evaluation Office
IUCN	International Union for the Conservation of Nature
LDC	Least Developed Country
LWCA	Lao Wildlife Conservation Association
MAF	Ministry of Agriculture and Forestry
M&E	Monitoring and Evaluation
METTs	Management Effectiveness Tracking Tool
MICT	Ministry of Information, Culture and Tourism

MLSW	Ministry of Labour and Social Welfare
MoF	Ministry of Finance
MoNRE	Ministry of Natural Resources and Environment
MPI	Ministry of Planning and Investment
MRC	Mekong River Commission
MSP	Medium Sized project
MTR	Mid-Term Review
NAFRI	National Agriculture and Forestry Research Institute
NAPA	National Adaptation Programme of Action
NBSAP	National Biodiversity Strategy and Action Plan
NERI	National Economic Research Institute
NSCC	National Strategy on Climate Change
NGO	Non-Governmental Organisation
NGPES	National Growth and Poverty Eradication Strategy
NSEDP	National Socio-Economic Development Plan
NTFP	Non-timber forest Products
NUoL	National University of Lao PDR
LWU	Lao Women's Union
PAFO	Provincial Agriculture and Forest Office
PIF	Project Identification Form
PIR	Project Implementation Report
PMC	Project Management Costs
PMU	Project Management Unit
PONRE	Provincial Office of Natural Resources and Environment
POPP	Programme and Operations Policies and Procedures
PPG	Project Preparation Grant
RTA	Regional Technical Adviser
ROAR	Results-oriented Annual Reporting
SBAA	Standard Basic Assistance Agreement
SDGs	Sustainable Development Goals
SEA	Sexual Exploitation and Sexual Abuse
SESP	Social and Environmental Screening Procedure
SH	Sexual Harassment
SNC	Second National Communication
STAP	GEF Scientific Technical Advisory Panel
TE	Terminal Evaluation
UNDP	United Nations Development Programme
WCS	Wildlife Conservation Society
WWF	Worldwide Fund for Nature

II. DEVELOPMENT CHALLENGE

Background Context

Lao People's Democratic Republic

The Lao People's Democratic Republic (hereafter referred to as Lao PDR) is a landlocked Least Developed Country (LDC) in Southeast Asia — bordered by Vietnam to the east, Thailand to the west, Cambodia to the south and Myanmar and China to the north. It has a total land area of ~236,800 km^2, of which ~20% comprises floodplains along the Mekong River that flows from north to south through the country[1,2].

Lao PDR has a tropical climate, characterised by high interannual rainfall variability, with 70% of rainfall occurring during the rainy season of April–October, and a mean annual temperature of 18°C[3]. The climate is influenced by typhoons from the southwest and monsoons from the northeast, which both result in flooding along the Mekong and its tributaries. The increasing amount of rainfall from extreme rainfall days — ~10 mm per decade since the 1960s — and the accumulation of monsoon rains in the upper Mekong River Basin during this period, leads to seasonal nationwide flooding events[4,5]. Typhoons lead to intense, but relatively brief, flash flooding events. The majority of the country's population of ~7 million people is concentrated on the eastern bank of the Mekong and its tributaries, making them highly vulnerable to the impacts of floods — including landslides, erosion of riverbanks, damage to infrastructure and reduced food security resulting from agricultural damages and losses. While lowland and floodplain communities are more vulnerable to floods, communities situated in the mountainous headwater regions are more vulnerable to droughts[6,7].

In addition to changes in rainfall patterns, Lao PDR's national average temperature increased by 0.1–0.3°C per decade between 1951 and 2000. This increase, coupled with decreasing rainfall during the dry season, has led to longer and more severe droughts throughout the country[8]. Despite this national trend in increasing temperature, the average temperature is not uniform across the country, with temperatures in the south trending slightly higher than the national average and temperatures in the north trending slightly below the national average[9].

[1] Lao People's Democratic Republic. 2009.National Adaptation Programme of Action to Climate Change.
[2] Lao PDR Second National Communication to the UNFCCC
[3] Lao People's Democratic Republic. 2000. The First National Communication on Climate Change.
[4] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).
[5] Lao PDR Second National Communication to the UNFCCC
[6] Damage can be defined as impacts that can be alleviated or repaired while losses are associated with irreversibility. See: Calliari, E., Surminski, S., & Mysiak, J. (2019). Loss and Damage from Climate Change (R. Mechler, L. M. Bouwer, T. Schinko, S. Surminski, & J. Linnerooth-Bayer (eds.)). Springer International Publishing. https://doi.org/10.1007/978-3-319-72026-5. Available online at: https://link.springer.com/content/pdf/10.1007%2F978-3-319-72026-5.pdf
[7] Center for Excellence in Disaster Management & Humanitarian Assistance. Disaster Management Reference Handbook: Lao (2017). Available at: https://reliefweb.int/sites/reliefweb.int/files/resources/CFE%20DM%20Reference%20Handbook-Lao%20PDR%202017.pdf
[8] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).
[9] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).

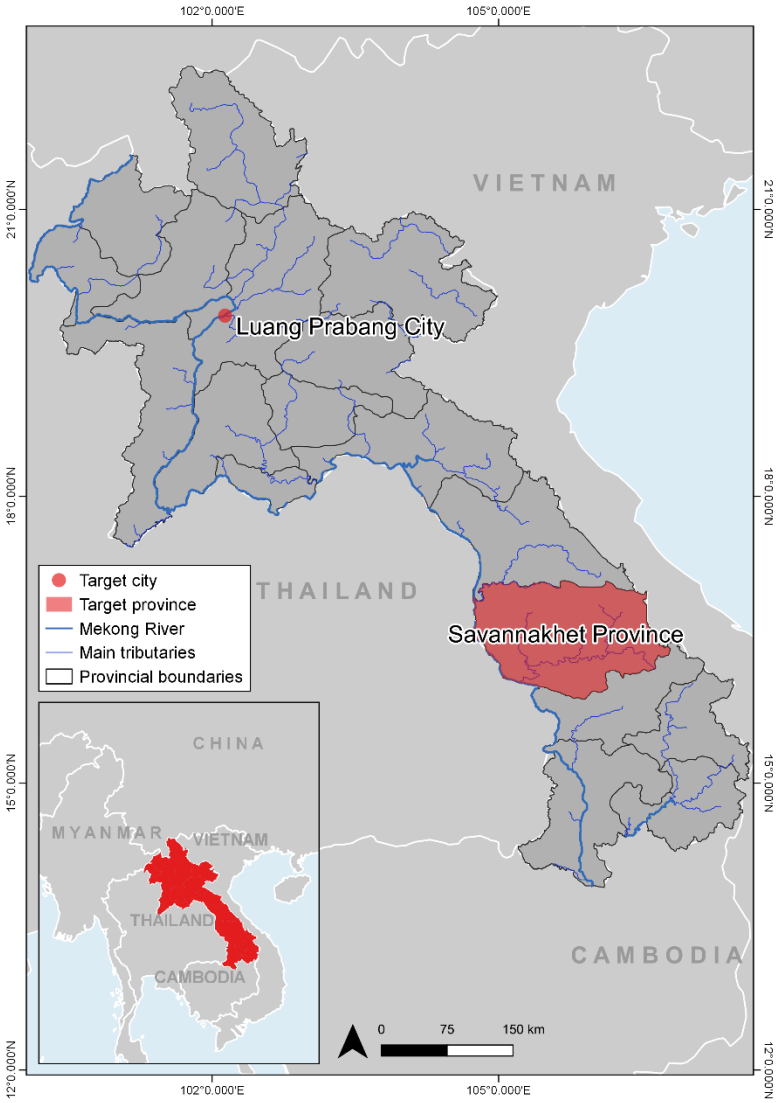

Figure 1. Locality map highlighting Savannakhet Province and the city of Luang Prabang.

Although historically a significant proportion of Lao PDR's land area has been classified as forest cover, this cover has decreased considerably in recent decades, from ~70% in 1940 (~18.6 million ha) to ~40% in 2010 (~9.5 million ha)[10,11]. While in recent years the percentage of forest cover has increased to a current rate of 62%, this substantial degradation has had an adverse impact on the services provided by forest ecosystems— including benefits to communities, ecosystems and the economy. These services include regulating services such as the regulation of surface water runoff and preserving hydrological systems — which protect against the impacts of extreme climate events, including droughts and floods. Moreover, forests provide communities with non-timber forest products (NTFPs), which contribute considerably to the livelihoods of local communities, primarily through their contribution to food security and the generation of additional income[12]. NTFPs are particularly important to rural and ethnic

[10] Lao PDR Second National Communication to the UNFCCC

[11] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).

[12] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).

group communities, which account for ~70% of the population of Lao PDR in 2008[13]. In addition to the critical provisioning and regulating services provided to local communities, forest resources provide substantial contributions to the national economy through plantations for *inter alia* timber and rubber[14,15]. However, while forest resources contribute to the national economy, forested areas are also where other natural resource production occurs — such as mining and agricultural practices — resulting in deforestation and degradation.

Despite its LDC status, Lao PDR's abundance of natural resources has enabled the country to develop one of the fastest-growing economies in Southeast Asia, with a pre CoviD-19 Gross Domestic Product (GDP) of ~US$18 billion growing at a rate of ~6% per annum over the last two decades[16,17]. This economic growth has resulted from investment in agriculture, forestry, hydropower and mining, with consequent increases in the demand for land and natural resources. This demand has resulted in increasing pressure on, and often the unsustainable use of, ecosystems, thereby exacerbating degradation[18]. The expansion of agriculture has, in particular, threatened the health of vulnerable local ecosystems. Although only ~4% of the land in Lao PDR is arable, agriculture supports 70–80% of livelihoods in the country and accounts for ~30% of the country's GDP[19,20]. Furthermore, there has been significant foreign investment in agriculture, with more than 20 foreign agricultural businesses operating on ~145,000 ha of land in Savannakhet Province alone[21,22]. The limited availability of land — coupled with high demand for both subsistence and commercial purposes — means that agricultural concessions for foreign investment have resulted in numerous conflicts with local communities. These conflicts arise as a result of the clearing of land already in use by the communities, with more than 20 cases of land conflict reported in the Xayburi district of Savannakhet Province in 2011 alone[23,24].

While Lao PDR's economy has grown significantly and poverty rates have fallen from 46% (2007–2008) to 18.3% (2018–2019)[25], ~75% of the population are still reliant on the informal sector for their livelihoods[26], with ~1.5 million people engaged in informal employment. Moreover, NTFPs are estimated to provide 90% of the income that the poorest households in Lao PDR receive[27]. Even those members of the population engaged in formal employment are unlikely to be covered by social protection schemes, with only 16.6% of the formally employed covered by these schemes in 2017[28].

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[13] EIA (Environmental Investigation Agency). 2011. Crossroads: The Illicit Timber Trade between Laos and Vietnam. London.
[14] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).
[15] EIA (Environmental Investigation Agency). 2011. Crossroads: The Illicit Timber Trade between Laos and Vietnam. London.
[16] GDP and GDP per capita in current US$. Work Bank Data. 2019. Lao PDR. Available at: https://data.worldbank.org/country/lao-pdr
[17] UNDRR (2019). Disaster Risk Reduction in Lao PDR: Status Report 2019. Bangkok, Thailand, United Nations Office for Disaster Risk Reduction (UNDRR), Regional Office for Asia and the Pacific
[18] World Bank. 2019. Lao PDR – Overview. Available at: https://www.worldbank.org/en/country/lao/overview#1
[19] FAO. 2019. GEF PIF: Climate Smart Agriculture alternatives for upland production systems in Lao PDR.
[20] UNDRR (2019). Disaster Risk Reduction in Lao PDR: Status Report 2019. Bangkok, Thailand, United Nations Office for Disaster Risk Reduction (UNDRR), Regional Office for Asia and the Pacific
[21] Savannakhet Department of Natural Resources and Environment. Flooding Report – Savannakhet 2019
[22] UNDP (2015) GEF Project Document: Sustainable Forest and Land Management in the Dry Dipterocarp Forest Ecosystems of Southern Lao PDR
[23] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).
[24] UNDP. 2015. GEF Project Document: Sustainable Forest and Land Management in the Dry Dipterocarp Forest Ecosystems of Southern Lao PDR.
[25] UNDP (2021). Draft country programme document for the Lao People's Democratic Republic (2022–2026)
[26] ASEAN (2019) Regional Study on Informal Employment Statistics to Support Decent Work Promotion in ASEAN
[27] EIA (Environmental Investigation Agency). 2011. Crossroads: The Illicit Timber Trade between Laos and Vietnam. London.
[28] UNDRR (2019). Disaster Risk Reduction in Lao PDR: Status Report 2019. Bangkok, Thailand, United Nations Office for Disaster Risk Reduction (UNDRR), Regional Office for Asia and the Pacific

Despite its increasing economic development, Lao PDR's LDC status means that extreme climate events have a substantial impact on the national economy and population. This limits the country's capacity to fund full recovery responses and results in locked-in cycles of recovery where reconstruction and relief responses are still ongoing when subsequent extreme events occur, preventing sustainable adaptation solutions from being implemented. For example, Typhoon Ketsana in 2009 resulted in US$94.2 million in damages in the south of Lao PDR. This included damage to roads, irrigation networks and other public infrastructure and affected more than 180,000 people and nearly 30,000 households[29]. In 2011, Typhoon Haima affected 90,000 people across four provinces and resulted in US$66million in combined damages and losses, primarily impacting the transport and agricultural sectors. Between July and September 2018, floods resulting from Tropical Storm Son-Tinh led to ~US$147 million in damages and ~USD$224 million in losses across 13 provinces. The impacts of these flooding events were exacerbated when the heavy rains caused a breach in the still-under-construction Xe Pien-Xe Nam Noy hydropower dam in Attapeu Province, which resulted in ~10% of all the damages caused by the floods. Over 600,000 people were affected by these floods, while the agricultural sector experienced the greatest losses (57% of total losses) and the transport sector suffered the greatest damages (~66% of overall damages along with 40% of all losses). Moreover, the impacts of these floods decreased Lao PDR's GDP by 2%[30,31]. The 2018 floods exacerbated pre-existing inequalities experienced by the poorer and rural populations of Lao PDR, with ~14% estimated to suffer from food insecurity due to the floods while 70% of indebted households were forced to increase existing loans to secure production following the floods[32,33].

Besides the economic impact of extreme climate events such as floods and droughts, severe social impacts also directly affect local communities. For example, extreme climate events can lead to the damage or destruction of farms and microenterprises. This damage, in turn, exacerbates existing challenges for rural and impoverished communities by reducing available income as well as reducing the availability of fresh and nutritious food[34]. The aftermath of extreme events can also impact vulnerable communities by increasing the likelihood of vector- and water-borne diseases such as dengue or typhoid fever, particularly in communities where transport and health infrastructure have been adversely affected. Marginalised groups, including Ethnic Groups (EGs) and women, are particularly impacted by extreme climate events, which exacerbate pre-existing vulnerabilities. For example, following the 2018 floods, the breakdown of community protection systems and flood victims' residence in unsecured temporary shelters resulted in increased workloads for women and subsequent heightened risks of gender-based violence[35,36,37].

Savannakhet Province

Savannakhet Province is located in the south of Lao PDR and is the country's largest province with a total land area of ~22,000 km^2. The province is bordered by Saravan Province in the south, Khammouane Province in the north,

[29] UNDRR (2019). Disaster Risk Reduction in Lao PDR: Status Report 2019. Bangkok, Thailand, United Nations Office for Disaster Risk Reduction (UNDRR), Regional Office for Asia and the Pacific

[30] UNDRR (2019). Disaster Risk Reduction in Lao PDR: Status Report 2019. Bangkok, Thailand, United Nations Office for Disaster Risk Reduction (UNDRR), Regional Office for Asia and the Pacific

[31] Post-Disaster Needs Assessment: 2018 Floods, Lao PDR. Available at: https://www.gfdrr.org/en/publication/post-disaster-needs-assessment-2018-floods-lao-pdr. Accessed on: 4 May 2021

[32] UNDRR (2019). Disaster Risk Reduction in Lao PDR: Status Report 2019. Bangkok, Thailand, United Nations Office for Disaster Risk Reduction (UNDRR), Regional Office for Asia and the Pacific

[33] Post-Disaster Needs Assessment: 2018 Floods, Lao PDR. Available at: https://www.gfdrr.org/en/publication/post-disaster-needs-assessment-2018-floods-lao-pdr. Accessed on: 4 May 2021

[34] Post-Disaster Needs Assessment: 2018 Floods, Lao PDR. Available at: https://www.gfdrr.org/en/publication/post-disaster-needs-assessment-2018-floods-lao-pdr. Accessed on: 4 May 2021

[35] Center for Excellence in Disaster Management & Humanitarian Assistance. Disaster Management Reference Handbook: Lao (2017). Available at: https://reliefweb.int/sites/reliefweb.int/files/resources/CFE%20DM%20Reference%20Handbook-Lao%20PDR%202017.pdf

[36] UNDRR (2019). Disaster Risk Reduction in Lao PDR: Status Report 2019. Bangkok, Thailand, United Nations Office for Disaster Risk Reduction (UNDRR), Regional Office for Asia and the Pacific

[37] Post-Disaster Needs Assessment: 2018 Floods, Lao PDR. Available at: https://www.gfdrr.org/en/publication/post-disaster-needs-assessment-2018-floods-lao-pdr. Accessed on: 4 May 2021

Vietnam to the east and Thailand to the west. Although Savannakhet has a hotter and drier climate than other provinces, it is still rich in natural resources — such as agricultural land, forests, rivers, mineral deposits and biodiversity[38]. A considerable amount of the total area of Savannakhet Province, ~607,000 ha, comprises dry dipterocarp forests, of which the environmental and economic value is not well understood[39]. The limited awareness of the value of forests and other ecosystems can lead to unsustainable land-use changes that exacerbate degradation and increase the vulnerability of communities to extreme climate events[40].

Most of Savannakhet Province lies within the ~19,500 km^2 Xe Bang Hieng River Basin, with the river's headwaters located in the Annamite mountains along the Lao PDR–Vietnam border, in the north-eastern region of the province[41]. From there, the river flows into the Mekong River — which flows along the western border of the province and drains south into Cambodia. The hydrology of the Xe Bang Hieng River Basin is driven by annual monsoon rainfall, characteristic of the lower Mekong River Basin, and backwater effects from the Mekong River during the wet season, May–October. The resulting hydrological regime is highly seasonal and has high interannual variability, with 90% of river discharge occurring during the wet season[42]. Of the 28 tributary sub-catchments that comprise the Xe Bang Hieng River Basin, the sub-catchments in the west have the highest rates of rice paddy cultivation, while the more central and eastern sub-catchments are more highly forested[43].

Agriculture is also particularly important for Savannakhet Province, with 75% of the population (of ~1 million people) living in rural areas and relying on subsistence agriculture for their livelihoods. This has subsequently resulted in an area of ~1.5 million ha being used for agricultural practices within the province[44]. The western lowland regions of the Xe Bang Hieng River Basin are especially important for agricultural activities, with farms in this area responsible for supplying ~25% of the rice consumed in Lao PDR. Forestry is also a significant contributor to the provincial economy, with ~607,000 ha of the land area in Savannakhet comprising forest ecosystems. Combined, agriculture and forestry account for 66% of the investment into Savannakhet Province, with timber and wood products being the third most significant export from the province, following copper and gold[45].

Savannakhet Province experienced an increase in the demand for land concessions after the completion of the second Lao-Thai Friendship Bridge[46] expanded access to international markets in 2006. This direct connection between the province and international markets further supported the granting of concessions to foreign companies, with more than 20 foreign companies operating industrial agriculture and plantation forestry by 2009[47].

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[38] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).

[39] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).

[40] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).

[41] Natural Resources Environment Research Institute (NRERI). Xebanghieng River Basin Water Resources: Assessment and Modelling Report (2020).

[42] Natural Resources Environment Research Institute (NRERI). Xebanghieng River Basin Water Resources: Assessment and Modelling Report (2020).

[43] Natural Resources Environment Research Institute (NRERI). Xebanghieng River Basin Water Resources: Assessment and Modelling Report (2020).

[44] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).

[45] UNDP. 2015. GEF Project Document: Sustainable Forest and Land Management in the Dry Dipterocarp Forest Ecosystems of Southern Lao PDR

[46] This is a bridge that spans the Mekong River to connect Mukdahan Province in Thailand to Savannakhet Province in Lao PDR.

[47]Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).

The four largest concession holders alone accounted for, respectively: i) 41,000 ha for a eucalyptus plantation; ii) 10,000 ha for a sugarcane plantation; iii) 12,000 ha for another sugarcane plantation; and iv) 10,000 ha for a rubber plantation[48]. Although the Forestry Law of Lao PDR mandates that plantations must be developed on degraded land, the definition of degradation is unclear, which leads to the unsustainable development of forestland into plantations. These plantations — either for monocrop cultivation or the extraction of timber from natural forests — exacerbate the loss of natural forests and can result in land being degraded and abandoned, once the natural forests have been completely harvested[49].

Savannakhet Province is sub-divided into 15 districts, of which five will be targeted for project interventions. These five target districts include the lowland districts of Champhone, Songkhone and Xonbuly and the headwater districts of Nong and Sepone. Both the headwater and lowland communities of the Xe Bang Hieng River Basin are increasingly vulnerable to climate hazards, particularly floods and droughts. Major flood events in recent years have destroyed and damaged homes, displaced people, damaged farmlands and damaged infrastructure related to transport, communication, agriculture, education, water and sanitation, and electricity[50,51,52]. Droughts in Savannakhet Province have resulted in the loss of pasture, damage to fisheries and degradation of forests, all of which led to decreasing food security across both the province and the entire country[53].

Luang Prabang city

The city of Luang Prabang is located in the north of Lao PDR, in Luang Prabang Province, at the confluence of the Mekong River and one of its tributaries, the Nam Khan[54]. Home to one of the three UNESCO World Heritage Sites in Lao PDR, Luang Prabang city is of cultural and historical importance. The city is also a popular tourist destination for local and international travellers. It is the fourth largest city in the country, with a population of ~90,000. Luang Prabang city is surrounded by mountainous terrain, with steep river valleys and a limited floodplain area, which exposes the population to extreme climate events such as typhoons. These extreme climate events — combined with a lack of effective early warning systems (EWS) — can lead to flash flooding and landslides, resulting in damages and losses to local communities as well as the UNESCO heritage site [55].

Problem Statement

The increasing frequency and intensity of floods and droughts resulting from climate change are putting livelihoods and water resources in the rural headwater and lowland communities of the Xe Bang Hieng River Basin at risk, in addition to threatening assets and infrastructure of urban communities in Luang Prabang city. Anthropogenic drivers such as increasing urbanisation, ecosystem degradation and deforestation exacerbate the vulnerability of these communities to climate hazards — specifically floods and droughts. As ecosystems are destabilised by unsustainable use, impacts from extreme climate events disrupt the delivery of ecosystem services and further reduce natural hazard protections provided by these ecosystems.

The vulnerable communities of the Xe Bang Hieng River Basin do not have the capacity, or the mandate, to reduce the risks and vulnerabilities to climate change-induced flood and droughts they are exposed to. Communities in the Xe Bang Hieng River Basin also lack the capacity to respond to and recover from climate induced disasters, such as flood and drought. Local-, district- and provincial-level interventions are required to address the numerous vulnerabilities, and drivers of vulnerabilities, of these communities. In addition, officials in Luang Prabang city do not

[48]Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).

[49] EIA (Environmental Investigation Agency). 2011. Crossroads: The Illicit Timber Trade between Laos and Vietnam. London.

[50] Ministry of Labour and Social Welfare, GoL. 2017. Disaster Risk Management Operations in Lao PDR.

[51] GoL. 2018. PDNA: 2018 floods in Lao PDR.

[52] ReliefWeb. 2019. Lao PDR: Floods – Aug 2019. Available at: https://reliefweb.int/disaster/fl-2019-000103-lao

[53] MRC. 2019. Drought Management Strategy for the Lower Mekong Basin 2020–2025.

[54] Fumagalli, M. (2020). Luang Prabang: Climate change and rapid development. Cities, 97(October 2019), 102549. https://doi.org/10.1016/j.cities.2019.102549

[55] Fumagalli, M. (2020). Luang Prabang: Climate change and rapid development. Cities, 97(October 2019), 102549. https://doi.org/10.1016/j.cities.2019.102549

have sufficient institutional and technical capacity to effectively plan for and respond to flood events, while communities in the city do not have sufficient awareness of the risks from floods or the drivers of increased flooding in urban areas to take adaptive action.

Observed climate trends

Observed temperature changes for Lao PDR indicate an increase in the average annual temperature of ~0.05°C per annum between 1970 and 2010. In addition, the frequency of months with average rainfall greater than 600 mm increased over this period, while monthly rainfall within the range of 300–500 mm was decreasing[56]. This indicates a general increase in rainfall intensity. These trends are expected to continue, with long-term climate projections predicting: i) a mean annual temperature increase of 1.4–4.3°C by 2100[57]; ii) an increase in the number of days classified as 'hot'[58]; iii) a 10–30% increase in mean annual rainfall — particularly in the southern and eastern parts of the country, and concentrated in the wet season (June–September); iv) an increase in the number of days with more than 50 mm of rain; v) a 30–60% increase in the amount of rain falling on very wet days[59]; and vi) changing rainfall seasonality resulting in a longer dry season[60].

Projected climate changes

Climate change projections for the Lower Mekong Basin (LMB), conducted under the Mekong River Commission's Climate Change and Adaptation Initiative, provide rainfall and temperature projections for 2030 and 2060 based on a suite Global Climate Models (GCMs) and greenhouse gas emission scenarios[61]. The GCMs used to generate these projections were, namely: i) drier overall (GISS-E2-R-CC or GS) as the lower bound from CMIP5; ii) wetter overall (GFDL-CM3 or GF) from CMIP3 as the upper bound; and iii) increased seasonality (IPSL-CM5A-MR or IS from CMIP5, drier dry season and wetter wet season combined). These GCM scenarios were downscaled from coarse resolution data (64–640 km × 64–640 km) to 1 km resolution, in order to be applicable to the LMB. These downscaled data were then compared to RCP4.5 and RCP8.5 to develop rainfall and temperature projections (Table 1). These projections indicate that both temperature and rainfall are expected to increase, in the LMB, in the future[62].

Table 1. Future climate scenarios in the Lower Mekong Basin in 2030 and 2060[63]

	Emissions scenario			
	Medium emission (RCP4.5)		**High emissions (RCP8.5)**	
	2030	2060	2030	2060
GCMs				
Drier overall				
Rainfall (mm)	1421	1587	1592	1454
Temperature (°C)	26.0	26.7	26.7	28.3
Increased seasonality				

[56] GoL. 2013. Second National Communication to the UNFCCC (SNC)

[57] The lower value in this range is the projection for RCP4.5 and the higher value for RCP8.5.

[58] Days where the maximum temperature surpasses 35°C, as classified by the World Bank Group's Climate Change Knowledge Portal (CCKP). More information available at: https://climateknowledgeportal.worldbank.org/

[59] Days where the daily precipitation rate exceeds the local 95th percentile of daily precipitation intensity, as classified by the World Bank Group's Climate Change Knowledge Portal (CCKP). More information available at: https://climateknowledgeportal.worldbank.org/

[60] Projections i) to v) are from: World Bank Group. 2020. Climate Change Knowledge Portal: Laos. Available at: https://climateknowledgeportal.worldbank.org/country/laos/climate-data-projections

[61] Trisurat, Y., A. Aekakkararungroj, V. Nuon, T. Piman; P. Huong Thuy Nguyen and J.M. Johnston, 2016 Basin-wide Impacts of Climate Change on Ecosystem Services in the Lower Mekong Basin. MRC CCAI

[62] Trisurat, Y., A. Aekakkararungroj, V. Nuon, T. Piman; P. Huong Thuy Nguyen and J.M. Johnston, 2016 Basin-wide Impacts of Climate Change on Ecosystem Services in the Lower Mekong Basin. MRC CCAI

[63] Modified after: Trisurat, Y., A. Aekakkararungroj, V. Nuon, T. Piman; P. Huong Thuy Nguyen and J.M. Johnston, 2016 Basin-wide Impacts of Climate Change on Ecosystem Services in the Lower Mekong Basin. MRC CCAI

Rainfall (mm)	1759	1794	1791	1882
Temperature (°C)	26.0	26.5	26.5	28.0
Wetter overall				
Rainfall (mm)	1782	1835	1831	1968
Temperature (°C)	26.0	26.7	26.5	26.5

As a result of the increasing variabilities and extremes of temperature and rainfall caused by climate change, the frequency of related extreme climate events, such as floods and droughts, has increased in the country in recent decades[64]. Because of these increases, floods and droughts are likely to: i) occur during periods not previously associated with them; ii) result in greater damages and losses, particularly for vulnerable communities; and iii) impact greater or different areas to those previously affected. These changes will intensify the vulnerability of communities to the impacts of floods and droughts as they become increasingly difficult to predict and prepare subsequently.

Communities throughout the target areas are vulnerable to the impacts of climate change-induced floods and droughts. Lowland communities in the Xe Bang Hieng River Basin and urban communities in Luang Prabang city are particularly at risk to floods, while headwater communities in the Xe Bang Hieng River Basin are at particular risk to droughts. The high flood exposure in the lowland communities (including those of Luang Prabang city) results from their location on floodplains where the natural geography exposes them to flood events. Conversely, headwater communities are located in the province's mountainous regions, where water resources are scarcer and more difficult to manage sustainably — resulting in a higher incidence of drought. The impacts of these events are exacerbated by the degradation and loss of riverine and forest ecosystems — through deforestation and unsustainable agricultural practices – which would normally provide protective ecosystem services.

Severe flooding of lowland areas in recent years has resulted in the damage and destruction of homes, farmlands and infrastructure, as well as the displacement of communities located in the basin. For example, 20-40% of the 50,000 ha of fertile farmland available in the area between the Xe Champhone and Xe Xanxay tributaries are damaged annually by floods. In 2019, floods affected ~85,000 people in Savannakhet Province and resulted in an estimated US$164 million in damages and losses[65]. In particular, the Champhone district of Savannakhet Province experienced extreme rainfall over a 15-day period between August and September 2019, which resulted in substantial damage to crops and livestock loss from flash flooding, adversely affecting food security in the district.

In Luang Prabang, recent floods have resulted in damage to transport and communication infrastructure, houses and agricultural lands surrounding the city. For example, floods in 2018 had considerable impacts, including damaging or destroying: i) the embankment of the Nam Khan River in the Luang Prabang UNESCO World Heritage Site, which required ~US$13 million to repair; ii) urban water supply and sanitation infrastructure; iii) schools; and iv) ~250 houses[66]. Flooding events also threaten water security in the city by polluting water sources[67], while losses to the tourism industry have a notable impact on the local economy. The impact of floods that occurred in 2018 across the country caused US$100 million in losses and damages to the tourism industry[68].

The increasing frequency and intensity of droughts in Lao PDR have also had severe adverse impacts on the country. These events exacerbate forest degradation, damage fisheries and decrease the productivity of pastures, severely compromising food security in the country. For example, droughts in 2019 affected water resources for both rainfed

[64] Climate Risk and Adaptation Country Profile: Lao PDR. 2011. GFDRR.
[65] UNDP. 2015. GEF Project Document: Sustainable Forest and Land Management in the Dry Dipterocarp Forest Ecosystems of Southern Lao PDR
[66] GoL. 2018. PDNA: 2018 Floods, Lao PDR.
[67] Bhattacharya A. 2018. Exclusive: Luang Prabang fights to stay afloat. In: Gov Insider. Available at: https://govinsider.asia/connected-gov/exclusive-luang-prabang-fights-stay-afloat/
[68] GoL. 2018. PDNA: 2018 Floods, Lao PDR.

and irrigated agricultural areas. This led to a 40% decrease in the available land area throughout Lao PDR for rice planting compared with previous years[69]. Savannakhet Province has been classified as the most vulnerable province to drought in Lao PDR, with the Xe Bang Hieng River's headwaters particularly at risk[70]. In addition to the pressures placed on ecosystems by the limited availability of water, droughts also decrease agricultural productivity. To compensate for loss of agriculture-base livelihoods and the resulting impacts of food security, communities often resort to the unsustainable use of local ecosystems' goods and services. As many communities are already reliant on wild forest foods to supplement rice in their daily diets, increasing reliance on ecosystem goods and services will increase pressure on these natural resources[71,72].

The impacts of the increasing frequency and severity of climate change-induced floods and droughts are further compounded by rapid urbanisation — with the national ratio of the urban-rural population increasing from 27:73 to 33:67 between 2005 and 2015[73,74]. Urbanisation leads to the degradation and overuse of ecosystems for both land and natural resources — which would naturally provide buffers against the impacts of floods and droughts. Moreover, urbanisation increases the relative proportion of artificial and impermeable surfaces compared with natural surfaces, which leads to decreased infiltration and increased surface runoff. These factors exacerbate the impacts of increasing rainfall trends and lead to more frequent and severe flooding in urban areas.

Underlying Causes

The vulnerability of communities in Lao PDR to extreme climate events is underpinned by challenges related to land management in the country. Specifically, mismanagement of land has impacted communities by, *inter alia*: i) reducing the availability of suitable land to support livelihoods; ii) reducing the availability of natural resources through ecosystems degradation and overexploitation; and iii) disrupting water sources through the installation of infrastructure for water retention, irrigation and storage. Deforestation and degradation of ecosystems as a result of unsustainable use of natural resources in the Xe Bang Hieng River Basin also compound the existing vulnerabilities of the area's communities to extreme climate events. In particular floods and droughts decrease or remove the natural protective buffers that forest and river ecosystems can provide.

The challenge of land management is further exacerbated by recent investments into agriculture, forestry, land concession, hydropower development and mining. These investments have resulted in numerous negative impacts, including: i) cases of land leases and concessions being granted within official Conservation and Protection Forest areas; ii) the granting of leases and concessions leading to conflict between communities and investors; and iii) the relocation of large numbers of people — which is often coupled with reduced access to natural resources such as grazing land, non-timber forest products (NTFPs), wildlife, construction materials and traditional medicines[75].

The granting of concessions for commercial agriculture and forestry play an important role in the provincial economy by providing jobs for local community members, but also lead to forest clearing and reduced access to forest and land resources by local communities. Consequently land-use change reduces the adaptive capacity and increases the economic sensitivity of local communities to climate change by inhibiting their access to land for cultivation and forests for grazing, as well as for the sale and consumption of NTFPs[76]. In addition to legally granted concessions,

[69] ReliefWeb. 2019. Severe Drought in Mekong Region Reduces Rice Planting in Laos. Available at: https://reliefweb.int/report/lao-peoples-democratic-republic/severe-drought-mekong-region-reduces-rice-planting-laos

[70] Mekong River Commission (MRC). 2019. Drought Management Strategy for the Lower Mekong Basin 2020–2025

[71] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).

[72] Mekong River Commission (MRC). 2019. Drought Management Strategy for the Lower Mekong Basin 2020–2025

[73] GoL. 2013. Second National Communication to the UNFCCC (SNC).

[74] Lao PDR Population and Housing Census (PHC) 2015. The 4th Population and Housing Census, Results of population and housing census.

[75] UNDP. 2015. GEF Project Document: Sustainable Forest and Land Management in the Dry Dipterocarp Forest Ecosystems of Southern Lao PDR

[76] Program on Forests. 2015. Using Forests to Enhance Resilience to Climate Change: The case of Smallholder Agriculture in Savannakhet Province in Lao PDR.

illegal logging operations in protected and conservation areas is one of the primary drivers of deforestation and degradation in Lao PDR[77].

Expansion of hydropower schemes and illegal logging operations — driven by demand for power and timber — has further led to deforestation in Lao PDR. The forced return of more than 100,000 migrant workers to Lao PDR as a result of restrictions for combatting Covid-19 — given that Savannakhet Province had the second-highest number of returning migrant workers[78] — is a potential new driver of population pressures causing increased ecosystem degradation and deforestation.

Immediate Causes

Savannakhet Province

Low agricultural productivity, food insecurity and limited alternative livelihood opportunities have led to small-scale farmers practising unsustainable farming techniques, such as swidden agriculture, in the rural areas of the province[79,80,81,82]. These techniques have contributed to the deforestation and degradation of the upper Xe Bang Hieng River Basin by reducing the capacity of local forest ecosystems to: i) facilitate rainwater infiltration and retain water; ii) support livestock grazing areas; iii) supply NTFPs for food, livelihoods, as well as economic and household purposes; and iv) supply other ecosystem goods and services, such as recreational and cultural benefits. Other degradational activities, such as commercial plantations and hydropower development, also have a negative impact on ecosystems in Savannakhet Province. Ecosystem degradation is exacerbated by lacking or outdated land-use plans in the province. The impacts of the increasing frequency and intensity of floods and droughts are likely to be further exacerbated as these capacities of local forest ecosystems are reduced, in turn further pressuring vulnerable communities resource needs and forcing them to continue practices which use natural resources unsustainably.

As mentioned above, the proposed project will be implemented in five districts within Savannakhet Province — Champhone, Xonbuly, Songkhone, Sepone and Nong districts — all of which are located within the Xe Bang Hieng River Basin (Figure 2). These districts are all impacted by floods and droughts to differing degrees, depending on where they are located within the reaches of the Xe Bang Hieng River Basin. The specific contexts of the five target districts were established during stakeholder consultations with district officials in March 2021 and are discussed below. The project will be implemented in three villages from each of the five districts, for a total of 15 target villages (indicated in Table 2 and Figure 3 below).

[77] EIA (Environmental Investigation Agency). 2011. Crossroads: The Illicit Timber Trade between Laos and Vietnam. London.

[78] Lao People's Democratic Republic Returning Migrants Survey, International Organization for Migration: Displacement Tracking Matrix, 2020. Available online: https://www.iom.int/sites/default/files/dtm/final_Lao PDR_returning_migrants_survey2_eng.pdf

[79] Chanthirath, K. Forestry Resources and the Underlying Causes of Deforestation and Forest Degradation in Lao P.D.R. Available online at: https://www.iges.or.jp/en/publication_documents/pub/researchreport/en/740/ir98-5-10.pdf

[80] Phompila, Chittana, Megan Lewis, Bertram Ostendorf, and Kenneth Clarke. 2017. "Forest Cover Changes in Lao Tropical Forests: Physical and Socio-Economic Factors are the Most Important Drivers" *Land* 6, no. 2: 23. https://doi.org/10.3390/land6020023

[81] Lao PDR National Action Programme on Combating Desertification. 1999. Available online at: https://knowledge.unccd.int/sites/default/files/naps/laos-eng2000.pdf

[82] Rahman, S.A., Jacobsen, J.B., Healey, J.R. *et al.* Finding alternatives to swidden agriculture: does agroforestry improve livelihood options and reduce pressure on existing forest?. *Agroforest Syst* **91,** 185–199 (2017). https://doi.org/10.1007/s10457-016-991

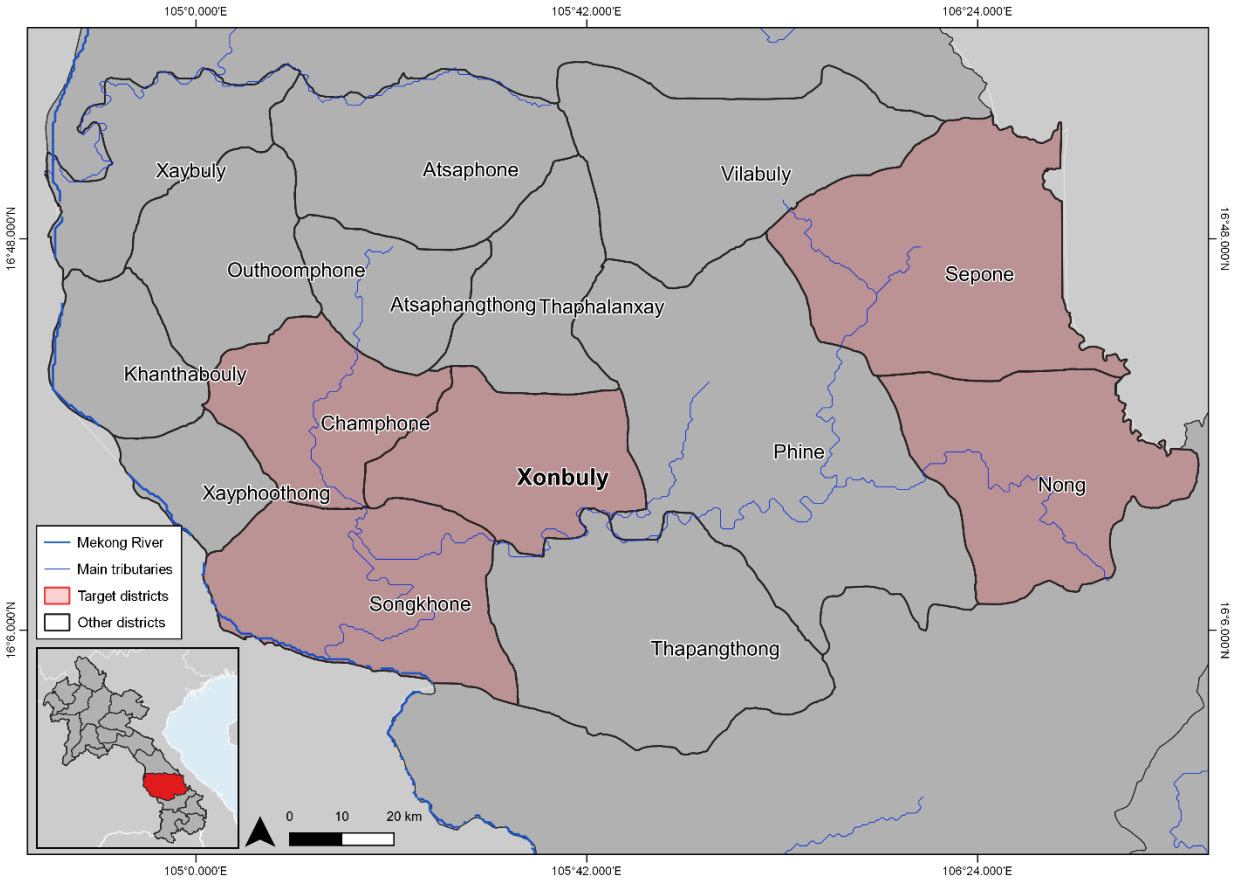


Figure 2. Map of the five selected districts that will be targeted for the proposed project's interventions.

Table 2. Target villages per district in Savannakhet Province.

Nong district	Sephone district	Songkhone district	Champhone district	Xonnabouly district
1. Nongvilai village 2. Tangalai Neua village 3. Saveu village	1. Sopalou village 2. Kanghoupa village 3. Thamae village	1. Kangdone village 2. Songkhone village 3. Houaykor village	1. Piaka village 2. Dongmeuang village 3. Silivay village	1. Nachanyai village 2. Mueanghong village 3. Nonesavang village

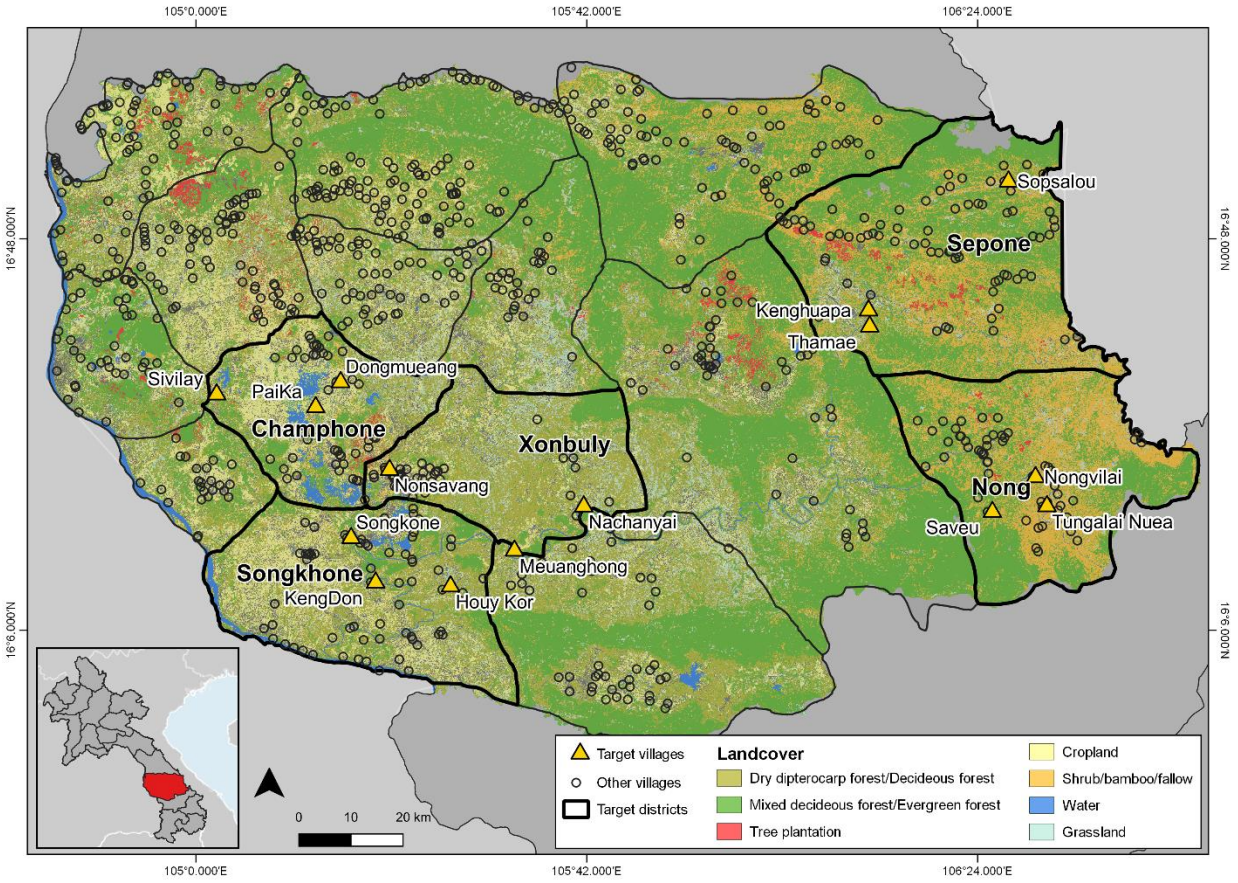


Figure 3. A map of the target villages in their respective districts of Savannakhet Province. Landcover information provided to give context of site areas.

Champhone district

Champhone district has a population of ~120,000 people, of which ~61,000 are women. The district consists of ~54,000 ha of wetland, with ~12,000 of those hectares designated as a Ramsar site[83], and ~21,000 ha of rice paddies. Communities in Champhone district are strongly reliant on the wetland as a source of food, income and water for large-scale irrigation. The resultant encroachment of communities onto the wetland — for agricultural use or the issuing of titles for individual property — has been identified as a major concern for the Office of Natural Resources and Environment (DONRE). Degradation of the forests surrounding the wetland caused by community encroachment results in heavy rains transporting sand into the wetland and decreasing the water level.

Several villages in Champhone district are also severely impacted by floods. In 2020, for example, 10,049 people — from 18 villages in 2,042 households — experienced some level of property loss or livelihood impacts as a result of floods in Champhone district. Of these, 1,212 households in nine villages were forced to leave their villages and seek shelter in unaffected villages with relatives or temporary shelters. Additionally, the 2020 flooding had a considerable impact on agricultural activities, adversely affecting: i) ~7,000 ha of rice paddies; ii) 123 ha of other crops; iii) the irrigation systems of 23 agricultural projects; iv) 218 fishponds; and v) ten roads. Droughts, while not as frequent in Champhone district as floods, also have an impact on villages in the district and result in damage to rice paddies.

Activities in Champhone district will focus on supportive hard infrastructure to mitigate the effects of flooding. This will include structures such as drainage channels, cascading weirs and retention ponds. These interventions will reinforce the EbA activities implemented upstream to improve water management in the district. This will be further

[83] A Ramsar site is a wetland site designated to be of international importance under the Ramsar Convention.

reinforced by the improvement of early warning systems (EWS) and by diversifying livelihoods through Community Conservation Agreements (CCAs) for better climate resilience.

Xonbuly district

Xonbuly district has a population of ~67,000 people, of which ~33,000 are women. The primary livelihood activities practised by this population are rice and crop cultivation and the raising of livestock. This is despite ~51% of the district's ~160,000 ha area being covered with forests. Floods have had a significant impact on the ~16,000 ha of rice paddies in the district, with large areas of these paddies becoming covered in sand and mud deposited by floodwaters. This has led villagers to increasingly rely on forests for their livelihoods, exacerbating pressures on forests.

Flooding in October 2020 affected 45 out of 63 villages in the district and ~30,000 people from ~4,400 households. This flooding covered an area of ~7,300 ha and affected 176 ha of vegetable gardens, 369 fishponds, nine irrigation points, three sluice gates and 12 roads connecting villages in the district.

In Xonbuly, the proposed activities will focus on similar protective hard infrastructure as in Champhone district. This will include drainage channels, cascading weirs and retention ponds. Further to this, project activities in Xonbuly will also mitigate drought impacts experienced by communities in the district through the implementation of reservoir networks and rainwater harvesting infrastructure. Improved EWS and climate-resilient livelihood interventions will further support adaptation in this district.

Songkhone district

Songkhone district represents the lowest point of the Xe Bang Hieng River Basin and, as a result, is highly susceptible to flooding, having reached a flood level of ~20 m in both 2019 and 2020. The vulnerability of these communities is further exacerbated by their reliance on agriculture — specifically, rice cultivation — which accounts for ~67% of the district's GDP and accounts for considerable land use, with rice paddies covering ~32,000 ha.

Recent floods in Songkhone district impacted ~16,000 people from 24 villages and resulted in ~6,000 ha of rice paddies, 366 fishponds and 145 ha of vegetable gardens being affected. Floods have also impacted infrastructure by damaging irrigation systems, such as agricultural water channels and reservoirs, and affecting roads through localised flooding, erosion of road surfaces and subsequently leading to landslides which damage or block access to roads.

Activities in Songkhone district will focus on supportive hard infrastructure to mitigate the effects of flooding. This will include structures such as drainage channels, cascading weirs and retention ponds. These interventions will reinforce the EbA activities implemented upstream to improve water management in the district. This will be further reinforced by the improvement of EWS and by diversifying livelihoods for better climate resilience.

Sepone district

Sepone district contains three major rivers — the Xe Bang Hieng, Xe Kok and Xe Poun — and several commercial plantations. The interactions between these plantations and rivers compound the vulnerability of the 88 villages located in the district. Specifically, the use of chemicals by plantations and their high water requirements have led to the degradation of riparian ecosystems and increased threat of water insecurity in downstream communities, despite plantations only accounting for ~11,000 ha of the ~2,500,000 ha in the district. Increasing ecosystem degradation leads to a decrease in the areas available to villages for the harvesting of NTFPs, while also leading to increased soil erosion along riverbanks.

The degradation of ecosystems, combined with increasingly unpredictable rainfall, increases the vulnerability of communities in Sepone. Flooding in 2018, 2019 and 2020 impacted 51 of the 88 villages in the district. For example, recent floods resulted in 30 ha of rice paddies at the target village of Keng Hua Pa becoming buried under mud that was transported from upstream by flood waters. The increasing risk to rice cultivation from floods and droughts leads to communities turning to slash and burn agriculture as an alternative.

The proposed project activities in Sepone district will include the conservation of protected areas and the restoration of degraded ecosystems. This will be done by planting ecologically appropriate species to restore ecosystem function, as well as other methods including assisted natural regeneration and forest boundary management. In addition, project interventions in Sepone district will include water management — such as retention ponds and rainwater harvesting infrastructure — to mitigate the water shortages experienced by these communities.

Nong district

Nong district is located in the headwaters of the Xe Bang Hieng River Basin and comprises mostly mountainous areas or plateaus, with little available land for livelihood activities such as agriculture. Accordingly, the need for land has led to substantial deforestation through illegal logging and unsustainable swidden agricultural practices, which decrease the protective services offered by ecosystems in the district. As a result of these practices, land degradation reduces the productivity of available agricultural land, subsequently leading to further reliance on these same unsustainable practices, creating a negative cycle of degradation with increasing the pressure on protected areas as the amount of available land decreases.

Droughts in 2020 affected ~30,000 people, from 69 villages, in Nong district and impacted approximately: i) 1,400 ha of rice paddies; ii) 6,000 ha of upland rice areas; iii) 15 ha of maize fields; iv) 29 ha of cassava fields; and v) 133 ha of other crops.

Similar to Sepone, the proposed project activities in Nong will focus on the conservation of protected areas and the restoration of degraded ecosystems. This will be done by planting ecologically appropriate species to restore ecosystem function, as well as other methods including assisted natural regeneration and forest boundary management. To reduce the impacts of unsustainable agricultural practices, the proposed project will implement livelihood diversification interventions via CCAs.

Luang Prabang city

Luang Prabang city is located on low-lying land with little floodplain area which, combined with its proximity to the convergence of the Mekong River with the Nam Khan River, makes it susceptible to impacts from flooding events. The city is designated as a UNESCO World Heritage site, and, therefore, its protection from the impacts of climate change is of significant national cultural importance.

In 2018, floods in Luang Prabang resulted in damage to transport and communications infrastructure, housing and agricultural lands surrounding the city, as well as threats to water security through the pollution of water sources[84]. These impacts and risks are likely to increase in severity as a result of projected increases in frequency and intensity of extreme rainfall events. Continued urban development and expansion, without consideration of appropriate flood management practices, will likely lead to an increase in the impacts of climate change-induced floods in Luang Prabang, as well as other urban centres.

Luang Prabang, unlike the target districts in Savannakhet Province, will not receive hard, on-the-ground interventions. The proposed project activities in Luang Prabang will instead focus on the valuation of urban ecosystem services and protective options and the development of Integrated Climate-Resilient Flood Management Strategies, in alignment with the Urban Plan that considers the development of the World Heritage site.

Throughout Lao PDR, the resilience of vulnerable communities to the impacts of climate change will have been further weakened as a result of the first national lockdown that was instituted on 23 March 2020 to combat the spread of the Covid-19 pandemic and a second longer national lockdown from April 2021 and still ongoing as of August 2021. National lockdowns are having a significant impact on financial security, especially for people employed by micro- or small-enterprises and those involved in the informal sector, while the forced return of migrant workers will further strain ecosystem' goods and services, further details of which can be found in Annex 13c: Covid-19

[84] Bhattacharya A. 2018. Exclusive: Luang Prabang fights to stay afloat. In: Gov Insider. Available at: https://govinsider.asia/connected-gov/exclusive-luang-prabang-fights-stay-afloat/

Analysis and Action Framework. For Luang Prabang, international tourism has stopped since March 2020 and the impact on this tourism dependant city has been substantial.

Baseline Analysis

The baseline is the "business-as-usual" scenario that would take place during the next four years in the absence of the interventions planned under the proposed project. Under the baseline scenario, development activities would be undertaken — however these activities would be limited in scope, scale and sustainability.

Under this business-as-usual scenario, communities in the Xe Bang Hieng River Basin will be increasingly vulnerable to the impacts of climate change and land degradation, as both headwater and lowland communities rely heavily on forest resources and the climate-sensitive sector of agriculture, with limited capacity for alternative livelihoods. Despite current efforts of the Government of Lao PDR (GoL) to address deforestation, the vulnerability of the headwater communities to floods and droughts will be increased without an integrated approach to reduce their vulnerability taking into account both climate change and land degradation. Lowland communities will further be affected by more frequent and intense floods, exacerbated by forest degradation happening locally. These extreme climatic events will lead to increased runoff, soil erosion and losses of: i) crops; ii) livestock; iii) drinking water; and iv) soil nutrients, amongst other impacts.

Currently, the expansion of swidden agriculture into natural ecosystems is exacerbating the degradation of forests in the Xe Bang Hieng river basin[85]. The reduction of these farming techniques is a priority for the GoL, partly because degradation of forest ecosystems reduces the capacity of local communities in both lowlands and headwaters — mostly affected by floods and droughts, respectively — to adapt to the negative effects of climate change. This makes these local communities exceedingly dependent on forest ecosystems, and especially vulnerable to these disasters.

Rapid urban growth in cities adjacent to the Mekong River, such as Luang Prabang, is adding to the challenge of managing climate change-induced flooding in Lao PDR. During the wet season, heavy rainfall in catchments with low infiltration rates causes large volumes of rapidly flowing runoff. This results in flash floods in urban and peri-urban streams and canals. These flash floods damage infrastructures as well as urban agricultural areas. In cities with inadequate drainage, such as Luang Prabang, runoff accumulates and causes ponding that results in disruptions to business, damage to property and human health, as well as agricultural losses. In a business-as-usual scenario, increased floods in Lao PDR will threaten urban food and water security, population health and infrastructure and decrease the potential for tourism in the heritage site of Luang Prabang.

To address the abovementioned problems, the GoL has begun to develop institutional frameworks focused on climate change, environmental degradation and natural disasters, including a National Strategy on Climate Change and a Forestry Strategy (Table 3). However, these frameworks are currently in nascent stages and often address each of these issues separately. Despite having national targets and plans for addressing both climate change adaptation and land degradation, there has been little integration between these two focal areas. For example, the 2010 Strategy on Climate Change of the Lao PDR recommends adaptation options in the forestry, agriculture and water sectors separately, as opposed to taking an integrated approach. Similarly, in Savannakhet Province, the linkages between water flows, agriculture and forests in the context of climate change are not well integrated into development planning, resulting in a siloed approach to addressing climate change. Despite the need for an integrated approach to increase the resilience of communities such as those in the Xe Bang Hieng River Basin, the national and provincial governments currently do not offer integrated catchment management interventions as proposed in the LDCF project.

[85] National Report on Land Degradation Neutrality Target Setting Programme: Lao PDR. Available online at: https://knowledge.unccd.int/sites/default/files/ldn_targets/2020-11/Lao%20PDR_LDN%20TSP%20Final%20Report%20%28English%29.pdf

Under the business-as-usual scenario, current and predicted impacts of climate change will continue to negatively affect headwater and lowland communities of the Xe Bang Hieng River Basin, as well as urban communities of Luang Prabang city.

The GoL and its development partners (donor community) have initiated activities to address the increasing impacts of climate change in Lao PDR. These activities have included: i) identifying priority climate change impacts and vulnerabilities (for example through the country's NAPA and Second National Communication); ii) developing policies and strategies to respond to climate change (such as the National Strategy on Climate Change and the 7th National Social Economic Development Plans); and iii) the implementation of baseline climate change initiatives. In addition, government departments such as the Department of Water Resources — within the Ministry of Natural Resources and Environment — are collecting climate information to inform the management of, and response to, climate change scenarios. The GoL's focus on preparatory work and engagement with global the climate change agenda have provided a foundation for climate-resilient development and planning within the country. However, as a result of limited technical and institutional capacity in Lao PDR, the GoL has not been able to build on this foundation sufficiently. Further details of baseline initiatives can be found in Section IV. Results and Partnerships.

Baseline initiatives

The proposed project will specifically build on and complement several baseline projects in the Xe Bang Hieng River Basin:

Sustainable Forest and Land Management in the Dry Dipterocarp Forest Ecosystems of Southern Lao PDR (SAFE Ecosystems) (2016-2022)
The completed GEF Trust Fund (TF) SAFE Ecosystems Project was implemented in an area covering much of the Xe Banh Hieng River Basin. This project seeks to i) strengthen land and resource use planning capacities and procedures; ii) strengthen the policies and regulations that govern them; iii) expand and strengthen the management of resources on the ground by government agencies, local communities and private sector actors; and iv) develop innovative financing mechanisms and programmes – including ecotourism and livelihoods programmes – that can ensure the sustainability of improved land use and resource management approaches.

The proposed project will build on the enabling policy environment developed under Component 1 of the SAFE Ecosystems project, using the assessments and plans developed under the SAFE Ecosystems project to inform the training and capacity building activities and the development of plans. Furthermore, the project will enable the upscaling of training and capacity building from SAFE Ecosystem project target districts to its target districts and Luang Prabang city. The expansion of protected areas and increased sustainable forest management under the SAFE Ecosystems project will inform the implementation of Component 2 of the project, specifically the support related to restoration of degraded forests and strengthening the capacity of local communities to sustainably manage local ecosystems. Component 2 will be further supported by the incentives and sustainable financing developed and promoted under the SAFE Ecosystems project, which will inform the development of CCAs and diversified livelihood opportunities. The proposed project will build off the SAFE Ecosystems project interventions implemented in Xonnabouly and Songkhone districts and will upscale the interventions implemented in Phine, Phalamxay and Thapangthong to Champhone, Nong and Sepone districts.

'Mekong Integrated Water Resources Management Project' (2012–2021)
The World Bank Mekong Integrated Water Resources Management Project focuses on the development of comprehensive water resources modelling packages and river basin management plans for 10 priority river basins — including the Xe Bang Hieng River Basin. Component 1 of the proposed project will build on the outcomes of the World Bank project, specifically the National Water Resources Management Component, in the development of ICM and urban EbA strategies. Furthermore, the National Water Resources Management Component (Component 3.1) will inform the design of training and capacity building for climate risk-informed water management. The Mekong Integrated Water Resources Management Project's multi-level focus on regional, national and site-specific water management will inform how Integrated Climate-Resilient Flood Management Strategies are designed, specifically informing the upscaling potential of these strategies for application in other districts, provinces and across the

region. The proposed project will complement this flood management planning by focusing its activities no climate change-induced flooding and drought management in the river basin. The activities will include mapping current and future zones of the Xe Bang Hieng River Basin which area at risk of climate change-induced flooding and drought. The proposed project will also build upon the institutional arrangements made under the World Bank Project by training the Xe Bang Hieng River Basin Coordinating Committee, established under the World Bank project, on the use of climate risk information in planning and implementing water management practices. Coordination meetings between the ongoing World Bank and proposed LDCF project teams in Savannakhet are envisaged before the closure of the World Bank project in 2021.

Community-led initiative in critical wetland biodiversity in four districts of Savannakhet Province (2020-2024)
A part of the Wildlife Conservation Society (WCS) Lao PDR's Savannakhet Landscape program, this initiative is supporting communities in the Xe Champhone wetlands to develop land and resource-use plans that improve local livelihoods and biodiversity conservation. The focus of this initiative is to fill the gap of lacking informed, cohesive resource and land-use planning that has resulted in the over exploitation of fisheries and degradation of land and water in Lao PDR's largest wetlands. To achieve sustainable use of the Xe Champhone Wetlands, this initiative has developed frameworks for participatory data collection and mapping with communities in the affected areas.

The proposed project will build on the frameworks developed by this initiative to inform the development of land-use and resource management plans under Component 1 that will be undertaken in the target districts, including Champhone. Further to this, the alternative livelihood strategies and Community Conservation Agreements (CCAs) under Component 2 of the proposed project will build on the strategies for community engagement developed by the WCS initiative.

Alignment with National Policies, Strategies and Plans
The proposed project is aligned with the national policies, strategies and plans of Lao PDR, as described in the table below.

Table 3. Alignment of the proposed project with national policies, strategies and plans.

National Strategies/Plans	Alignment
National Adaptation Programme of Action (NAPA), 2009	The NAPA identifies supplementary activities and recommends that the GoL: i) strengthen the capacity of the National Disaster Management Committee to deal with likely future adverse impacts; ii) strengthen the Climate Change Office; iii) install an early-warning system (EWS) for flood-prone areas and improve existing flood protection systems; iv) initiate in-depth studies on the impacts of climate change; v) formulate a strategy on climate change; and vi) increase reforestation efforts for the protection of watersheds and the reduction of erosion in areas vulnerable to floods and droughts. The proposed project is aligned with the adaptation priorities set out in the NAPA, particularly improving flood and drought resilience. This will be done by improving EWS (Output 1.2), on-the-ground protection measures (Outcome 2) and enhancing climate-resilient livelihoods (Output 2.2). The project will also contribute to building national and provincial capacity for adaptation planning and building the climate resilience of water resources.
Decree on Climate Change, 2019	The decree determines the principles, regulations and measures on the management, monitoring and inspection of tasks relevant to climate change. This intends to prevent, protect and decrease the potential impacts of climate change, with the aim of ensuring the safety of lives, health, property, environment, biodiversity, and infrastructure. In addition, this includes coordination with regional and international stakeholders to contribute to socioeconomic development for sustainability and green growth. The proposed project will be implemented in line with the principles, regulations and measures of the decree.

National Strategy on Climate Change (NSCC), 2010	The NSCC highlights integrated solutions, awareness, education, community participation, innovative financial instruments, and the integration of climate and disease-resilient crops and farming patterns into landscapes. The strategy further outlines adaptation and mitigation options for different sectors, which the proposed project will contribute to realising, including: i) improving and monitoring water resources and water supply systems and rehabilitating flood control systems in the agricultural sector; ii) improving forest management systems; and iii) developing reliable EWS to reduce the impacts of disasters such as floods and droughts (Output 1.2).
Climate Change Action Plan (CCAP)	The proposed project is consistent with the adaptation actions outlined in the CCAP. This includes actions to: i) develop institutional and human capacity to address climate change (Outcome 1); ii) build climate resilience for urban communities, farming systems and rural economies (Outcome 2); iii) improve the resilience of forest ecosystem goods and services (Outcome 2); iv) improve the management of agricultural lands; and v) strengthen education and public awareness in media (Outcome 3).
Lao PDR – United Nations Partnership Framework 2017–2021	The Lao PDR–UN Partnership Framework (UNPF) is an articulation of the shared commitment of the UN Country Office to coordinate their efforts and maximise resources and contributions in the best interests of the people of Lao PDR. The proposed project aligns with Outcome 3 of Pillar I of this framework, which relates to the protection of ecosystems and the increased resilience of people to climate-related events and disasters.
Law on Meteorology and Hydrology, 2017	This law defines how meteorological and hydrological activities are to be monitored, managed and evaluated in Lao PDR, to prevent and reduce the impacts of natural disasters. The law also aims to provide timely and accurate data that can be integrated at regional and international levels to contribute to sustainable national socioeconomic growth. The proposed project will contribute to the provisions of this law by increasing the capacities of national and provincial government for monitoring and evaluating flood and drought risks (Output 1.1).
Environmental Protection Law, 2013	The Environmental Protection Law defines the principles, regulations and measures related to environmental management and monitoring of environmental protection, control, preservation and rehabilitation and the reduction of global warming. Additionally, the law relates to the prevention and management of natural disasters. The proposed project will contribute to the provisions of this law by conserving and restoring protected and degraded areas (Output 2.1) and introducing Community Conservation Agreements that will incentivise communities to maintain ecosystems and expand restored areas (Output 2.2).
Water and Water Resources Law, 2019	This updated law adds new provisions on water rights and use, including waste-water discharge permits, wetlands and water-resources protection, groundwater management, and river-basin management. Additionally, the law expands the terms and conditions of large-, medium-, and small-scale uses and includes articles on environmental flows for hydropower as well as stipulations related to irrigation use. The proposed project will contribute to the provisions of this law by increasing capacities for protecting wetlands and water resources through improved land-use planning and updated hydrological monitoring networks (Output 1.2)
Forestry Law, 2019	The Forestry Law determines the principles, regulations and measures on forest and forestland's: i) management; ii) preservation; iii) development; iv) utilisation; and v) inspection. The law promotes tree plantation and regeneration to ensure forest resources are rich and stable livelihood sources for the people of Lao PDR. The law also aims to ensure the protection of soil quality, air quality, water sources and biodiversity of forest and forestland, which contributes to national socioeconomic development. The reforestation and restoration activities of the proposed project (Output 2.1) will contribute to the protections under this law. Climate resilient livelihoods and Community

	Conservation Agreements (CCAs) established under Output 2.2 will also contribute to the stable livelihood sources the Forest Law seeks to protect.
Disaster Risk Management Law, 2019	This law determines the regime, regulation and measures relating to disaster management to ensure the efficient, effective and up-to-date implementation of disaster management. The key intention of these measures is to examine and mitigate the impact of disasters on human health, life, communal and individual assets, impacts on the environment and on infrastructure. Disaster management shall ensure timely and clear information dissemination that also links with the regional and international community while contributing to green and sustainable socioeconomic development, which also contributes to ensuring national security. The proposed project will contribute to the intended measures of this law by increasing the capacities of national and provincial government to plan for and respond to natural disasters (Outcome 1). Community awareness and ecological monitoring systems established under Outcome 3 will further support the measures of the Disaster Risk Management Law.
Ten-Year Natural Resources and Environment Strategy, 2016-2025	The National Natural Resources and Environmental Strategy to 2025 provides a vision and strategic direction for the development and management of natural resources and the environment, ensure sustainable socioeconomic development, and build capacity for climate change adaptation and mitigate the risks of natural disaster. This strategy aims to achieve sustainable utilisation and management of natural resources and the environment, together with improving a healthy environment and wealth for all people in Lao PDR. The proposed project aligns with this strategy's aims by: i) building capacity of provincial and national governments for climate change risk reduction (Outcome 1); and ii) establishing CCAs and climate-resilient livelihoods for sustainable use of natural resources (Output 2.2).
Urban Development Strategy to 2030	This strategy outlines the Ministry of Public Works and Transport's vision on urban development and the country's regional integration into the main transport and development corridors of the Great Mekong Subregion from 2016 to 2030. The main objective is to define directions, targets and investment plans for urban development and should serve as the main reference for infrastructural developments and the protection of the country's architectural, cultural and environmental heritage. Rationales include the urbanisation of rural areas through the development of small towns towards reducing rural-urban disparities, as well as strengthened regional integration through the development of economic centres along main trans-country corridors. The proposed project will contribute to this strategy through the establishment of climate-resilient development and land-use plans in Savannakhet province and Luang Prabang city (Output 1.2) which can be upscaled to other areas through the technical training programmes under Output 1.1.
Vision 2030 and Ten-Year Socio-economic Development Strategy (2016-2025)	The Vision 2030 aims for Lao PDR to "become a developing country: i) with upper-middle income and with innovative, green and sustainable economic growth; ii) where there is availability of industrial pillars and a strong basic infrastructure system to support industrialization and modernization (the country systematically follows a socialist market economy); iii) where there is social justice, peace and order; iv) where peoples' livelihoods are improved and solidarity promoted; v) where there are improved development disparities between urban and rural areas; vi) where there is improved human development that ensures all have access to quality social services; vii) where peoples' rights are protected under the effective rule of law, the administrative system is enhanced by following the '3-builds' directive; viii) where there is environmental protection through efficient utilization of the natural resources to ensure sustainability; ix) where there is political stability and strength; x) where the country is actively moving toward regional and international integration". The 10-year strategy builds upon Lao PDR's goal to graduate from LDC status by 2020 and the national strategy for the transition period of LDC graduation by 2025. The proposed project will contribute to the

	Vision 2030 aims through i) sustainable growth income under Output 2.1; ii) implementing environmental and ecosystem protections with EbA and protective infrastructure under Output 2.2; and iii) facilitating knowledge sharing at local and regional levels (Output 3.1).
Agricultural Development Strategy (ADS), 2011-2020	The ADS highlights the threat of land degradation, lower productivity and desertification from shifting cultivation. Particularly relevant are the objectives to restore degraded forests and reduce upland degradation to improve resilience to climate change, as well as the aim to stabilise swidden agriculture by 2020. The proposed project will contribute to these objectives by facilitating Integrated Catchment Management (ICM) and the implementation of EbA in the Xe Bang Hieng River Basin to restore functional forest ecosystems. In addition, the project will work with rural communities to facilitate a transition to more sustainable agricultural practices and alternative climate-resilient livelihoods.
Forestry Strategy for 2020 (FS 2020)	Priorities set out in the FS 2020 are consistent with the EbA and forest restoration interventions to be implemented through the proposed project as well as the livelihood enhancement activities. The FS 2020 addresses the development of the forestry sector in accordance with national socioeconomic development plans and environmental conservation measures. To support poverty reduction goals through forestry, the FS 2020 highlights capacity-building, participation, NTFP management and the protection of soils and watersheds as priorities, which have been incorporated into the proposed project under Outcome 2.
National Growth and Poverty Eradication Strategy (NGPES)	The NGPES highlights the agricultural and forestry sectors as priorities where there are opportunities for supporting growth and poverty reduction, with agroforestry identified as a key sub-sector to support growth. The proposed project is aligned with the NGPES in promoting and building capacity for sustainable forest and watershed management.
9th Five-Year National Socio-Economic Development Plan (NSEDP), 2021-2025	The 9th National Socio-Economic Development Plan (NSEDP) 2021-2025 highlights *inter alia* the priority to: i) ensure quality economic growth through a shift to sustainable natural resource use; ii) protect and sustain the environment and plan for climate change mitigation, specifically to preserve and enhance forest cover and conserve water; iii) develop comprehensive plans for land allocation and management of natural and environmental resources at the provincial level; and iv) ensure water resources are used to maximize socioeconomic development and sustainability. The proposed project's outcomes of enhancing the capacity for land use planning and management, improving watershed management strategies and promoting climate-resilient alternative livelihoods will contribute to the goals of the NSEDP.
Second National Communication (SNC), 2013	The SNC highlights Lao PDR's commitments to addressing climate change and contains *inter alia*: i) an outline of the country's national and regional development priorities, objectives and circumstances with regards to addressing the adverse impacts of climate change; ii) a description of steps taken or envisaged by the GoL to integrate climate change into development planning; iii) a description of Lao PDR's vulnerability to the identified climate threats, including the most vulnerable economic sectors to these threats; and iv) the adaptation needs of the country, as well as barriers to achieving the adaptation and mitigation targets outlined in the country's NDC. The proposed project contributes to addressing the adaptation needs and vulnerability of communities by: i) integrating climate change into development planning (Component 1); and ii) addressing the vulnerability of important economic sectors threatened by climate change impacts, as identified in the SNC (Component 2).
Land Law, 2003	The interventions under the proposed project to promote fine-scale land-use planning and restore functional ecosystems are aligned with the Land Law. The objectives of the law are to determine the regime on the management, protection and use of land and to contribute to socioeconomic development and environmental protection.

Lao PDR Nationally Determined Contribution (NDC), 2020	Lao PDR's NDC 2020 has an increased focus on enhancing actions that aim to strengthen Lao PDR's response to the threat of climate change. The proposed project is aligned with the NDC, which highlights the risk of flooding and how it will increase as a result of climate change, and also contributes to the implementation of adaptation priorities relating to water resources, agriculture, forestry and land-use change. Several of Lao PDR's key sectors for long term adaptation objectives outlined in the 2020 NDC will be supported by the project interventions, including: i) agriculture; ii) forestry and land use changes; and iii) water resources.
MoNRE Vision towards 2030	The proposed project is aligned with the Vision 2030, which provides direction for: i) the development and management of natural resources and the environment; ii) building capacity for climate change adaptation; and iii) ensuring sustainable socioeconomic development. The Vision further highlights the impacts of floods and droughts on Lao PDR and how climate change affects the frequency and intensity of these disasters.
National Biodiversity Strategy and Action Plan 2016-2025	The restoration activities of the proposed project (Outcome 2) will support the National Biodiversity Strategy and Action Plan (NBSAP) 2016–2025 that seeks to establish direct interventions and build capacity within the GoL and partners to address the underlying issues affecting biodiversity loss, including in the agricultural and forestry sectors. The CCAs developed under Output 2.2 will address the underlying issues of degradation in the target areas while the EbA interventions and protective infrastructure interventions under Output 2.1 will contribute to ecosystem restoration and biodiversity loss mitigation.

III. STRATEGY

Theory of Change

The proposed project will promote the integrated management of land and water resources at target sites in the Xe Bang Hieng River Basin and Luang Prabang city. This will increase the climate resilience of target communities to the impacts of floods and droughts — both of which are projected to become more intense and frequent under future climate scenarios, including the AR5[86] greenhouse gas emissions scenarios[87].

The preferred solution to overcoming climate change-induced floods and droughts in the target areas is to implement integrated catchment management (ICM) in the Xe Bang Hieng River Basin and strengthen government officials and decision-makers' capacity to implement integrated urban flood management in Luang Prabang city (further detailed below). In the Xe Bang Hieng River Basin, climate vulnerability is driven by land conversion — for, inter alia, agriculture, growing urbanization and logging — and environmental degradation, which destabilises the integrity of ecosystems and reduces their ability to provide buffer against climate-induced hazards — such as extreme flooding and droughts. To address this climate vulnerability, the proposed project will utilise EbA interventions complemented by protective infrastructure and alternative livelihood opportunity development that will further facilitate the EbA solutions.

An integrated approach to catchment management is required to reduce the impacts of floods and droughts on vulnerable communities in the Xe Bang Hieng River Basin because these impacts are widespread and can vary in scale — impacting the population at the community and village, city, district and provincial level. This integrated approach will therefore ensure that project interventions are developed in support of one another and that the project is able to overcome the aforementioned barriers at all levels. In addition to Ecosystem-based Adaptation (EbA), protective infrastructure interventions and introducing alternative livelihood opportunities, the proposed

[86] IPCC Fifth Assessment Report (AR5). More information is available at: https://www.ipcc.ch/report/ar5/syr/
[87] UNDP (2021). Draft country programme document for the Lao People's Democratic Republic (2022–2026).

project will strengthen the capacity of government officials and decision-makers — on each level — and will develop Integrated Climate-Resilient Flood Management Strategies at both catchment and city scales.

Implementing this suite of adaptation interventions will positively impact local communities by reducing their vulnerability and increasing their resilience to floods and droughts. For example, the construction of hard infrastructure and the development of integrated climate-resilient flood management strategies will ensure that water resources and flood risks in the areas are managed in an integrated manner, considering the spatial interlinkages and dependencies between land use and ecosystem health, as well as the underlying causes of vulnerability to climate change. Linked to ecosystem health, the integrated approach to catchment management will enable the protection and restoration of important ecosystems — such as rivers, forests and the riparian buffer zone — to improve the provision of ecosystem goods and services in the Xe Bang Hieng River Basin. This includes improving non-economic benefits such as reduced surface runoff and increased infiltration of rainwater.

To address the threats presented to headwater and lowland communities — particularly protecting the livelihoods and assets that are frequently damaged by floods — climate change considerations and accurate hydrological information need to be incorporated into the planning and management of the Xe Bang Hieng River Basin. This can be promoted by introducing alternative livelihood options such as: i) conservation-related employment in communities near or in protected areas; ii) the harvesting of non-timber forest products; or iii) the implementation of sustainable village forestry activities in the Xe Bang Hieng River Basin. These options will provide economic opportunities that are both economically and ecologically sustainable to vulnerable communities.

In Luang Prabang, urban flood management interventions that are being implemented in other Laotian cities — such as the development of urban wetland management plans and urban EbA guidelines developed under the GCF urban resilience project [88] — will be upscaled to reduce the vulnerability of urban communities in the city to the intensifying impacts of climate change-induced flooding. In addition, training programmes will be implemented to develop the capacity of Luang Prabang officials for climate-risk informed urban water management practices to strengthen urban-level responses to floods. Complementary awareness-raising campaigns on climate change impacts will be implemented to reduce the vulnerability of urban communities to floods.

Barriers to the preferred solutions

The identified barriers to achieving the preferred solutions are presented below.

Barrier 1: Limited availability of comprehensive ecosystem evaluations and hydrological data to inform ICM and urban flood management decisions.

Although other initiatives are improving the capacity for generating climate information from hydrometeorological monitoring and trends in Lao PDR, this information is not always adequate to support the development and implementation of climate change adaptation activities. Similarly, the scarcity of ecosystem evaluations compounds the systematic underappreciation and limited consideration of these ecosystems in land-use and risk planning. Comprehensive ecosystem evaluations, as well as hydrological assessments based on high-quality spatial data and model calibration, are required to support the planning of water resource, catchment and flood management solutions. In the Savannakhet Province, the need to map flood-prone areas was identified as a priority for the Government of Lao (GoL) following the devastating 2019 floods[89]. The GoL has limited capacity to collect and analyse hydro-meteorological data at the river basin level to plan for climate change-induced disasters such as floods and droughts. Although other initiatives, such as the GCF urban resilience project, are partially addressing this barrier, their scope is limited at present and does not include the target areas of this project.

Barrier 2: Limited capacity within national and provincial governments to implement sustainable forest management and EbA.

[88] Building resilience of urban populations with ecosystem-based solutions in Lao PDR. Available at: https://www.greenclimate.fund/project/sap009

[89] Savannakhet Department of Natural Resources and Environment. Flooding Report – Savannakhet 2019.

Lao PDR's forestry sector has a long-term strategy on forestry, but notable capacity limitations hamper its enforcement in the Ministry of Agriculture and Forestry, which are compounded by limited or ineffective coordination between relevant stakeholders from the sector and Ministry. Specifically, decision-makers, planners and contractors require technical training on effectively implementing EbA solutions to improve flood management. Capacity limitations and limited coordination among stakeholders in Lao PDR also prevents the effective implementation of forestry specific initiatives such as REDD+[90].

Although the recently approved GCF urban resilience project[91] is partially addressing this barrier, the project is limited to urban EbA and does not include Luang Prabang city or the Xe Bang Hieng River Basin — which are particularly vulnerable to flooding, as described in Section II [92]. In addition to limited knowledge on the implementation of EbA, GoL decision-makers have insufficient access to resources and technical expertise to account for and value ecosystem services.

Barrier 3: Knowledge, technology and other capacity limitations in climate-resilient integrated flood management.

To date, flood management and response in Lao PDR has largely been: i) reactive or post-hoc, as opposed to proactive; ii) of limited geographical or sectoral scope; iii) inadequately coordinated between relevant ministries, such as the Ministry of Agriculture and Forestry; iv) constrained by technical and institutional capacity limitations amongst government agencies; v) occasionally not implemented because of limited financing, uncoordinated investments and competing development pressures; and vi) limited in its consideration of the impacts of climate change on future land-use needs. This has led to considerable loss and damage, maladaptation and negative externalities, particularly where competing interests or needs are not considered in risk planning. In Savannakhet Province, raising awareness for communities to prepare for flooding resulting from climate change was identified as a priority following the 2019 floods which severely affected the province[93].

Barrier 4: Lack of incentives for communities to change farming and land management practices.

At present, the understanding and acknowledgement of the impacts of climate change on the ecosystems on which their livelihoods depend is limited in rural communities of Savannakhet province. Headwater communities often prioritise the short-term false economies[94] of selling land to concessions or engaging in forest degrading activities over longer-term economic activities that engage sustainably with local ecosystems. By underestimating or overly discounting the long-term impact of the loss of forest ecosystems on their agricultural production, these degradational practices lead to a depletion of resources. In addition, the loss of these ecosystems' goods and services, as well as the associated impacts on water resources and communities' primarily agricultural livelihoods, compound communities' vulnerability to climate change and reduce their capacity to adapt. Moreover, in lowland communities, specific conventionally practised agricultural techniques — such as swidden agriculture — can compound the impacts of flooding by exacerbating soil erosion and reducing infiltration. Improved quantification and valuation of the ecosystem services and the means and incentives to change farming and land management practices are necessary to effect transformative change to protect these ecosystems, build climate resilience, and reverse degradation that increases these rural communities' vulnerability to floods and droughts.

Project Approach

The main barriers to the integrated management of water resources in the target areas — identified above and in the Theory of Change (Figure 4) — will be addressed in a manner that contributes to and expands on the preferred

[90] Lestrelin G, Trockenbrodt M, Phanvilay K, Thongmanivong S, Vongvisouk T, Pham TT and Castella J-C. 2013. *The context of REDD+ in the Lao People's Democratic Republic: Drivers, agents and institutions*. Occasional Paper 92. Bogor, Indonesia: CIFOR

[91] Building resilience of urban populations with ecosystem-based solutions in Lao PDR. Available at: https://www.greenclimate.fund/project/sap009

[92] Building resilience of urban populations with ecosystem-based solutions in Lao PDR. Available at: https://www.greenclimate.fund/project/sap009

[93] Savannakhet Department of Natural Resources and Environment. Flooding Report – Savannakhet 2019.

[94] A false economy is an apparent financial saving that instead leads to greater expenditure.

solution, by: i) improving hydrological and climate risk modelling and information systems to inform flood management, as well as adaptation planning; ii) implementing on-the-ground interventions such as improving cascading weirs, conserving protected areas, restoring degraded ecosystems and strengthening reservoir networks; and iii) implementing Community Conservation Agreements (CCAs) to introduce alternative and enhanced livelihood opportunities, as well as to engage communities in conservation and restoration activities. The involvement of UNDP as the development partner for the project will ensure that the GoL is supported in addressing these barriers[95]. The improved climate and hydrological information will be made accessible to national and provincial decision-makers as well as local stakeholders who will be capacitated to use it in the management of floods and droughts. Using the ICM and integrated urban flood management approaches and based on integrated adaptation planning, on-the-ground interventions to improve water resource management and reduce vulnerability to floods and droughts will be undertaken, including EbA. Communities will benefit from the deployment of technologies and innovative solutions to reduce climate-related risks and enhance resilience, including the development of early warnings and climate information. The resilience of physical assets to climate variability and change will also be increased through the implementation of CCAs, which will be informed by a comprehensive market analysis. These interventions will be complemented by capacity development and awareness raising as well as support for rural communities to adopt climate-resilient livelihood strategies and climate-resilient agricultural practices.

The above approach will be implemented through the following three interrelated components:

- Component 1: Developing national and provincial capacities for Integrated Catchment Management (ICM) and integrated urban Ecosystem-based Adaptation (EbA) for climate risk reduction.
    - Outcome 1: Enhanced national and provincial capacities for integrated catchment management and integrated water resource management in target rural and urban communities.
- Component 2: Ecosystem-based Adaptation (EbA) interventions under an Integrated Water Resource Management (IWRM) framework, with supporting protective infrastructure and livelihood enhancement.
    - Outcome 2: Reduced flood risk through headwater conservation, restoration and protective infrastructure, supported by climate-resilient and alternative livelihoods.
- Component 3: Knowledge management and Monitoring and Evaluation (M&E).
    - Outcome 3: Effective knowledge management and M&E through awareness/advocacy and monitoring of climate change impacts and adaptation opportunities in target rural and urban communities.

In the absence of adaptation measures, water security and agricultural productivity are likely to decline further, threatening the income and food security of communities in the Xe Bang Hieng River Basin. In Luang Prabang city in particular, adaptation measures are necessary to protect urban infrastructure and livelihoods as well as the city's important cultural assets.

[95] UNDP (2021). Draft country programme document for the Lao People's Democratic Republic (2022–2026)

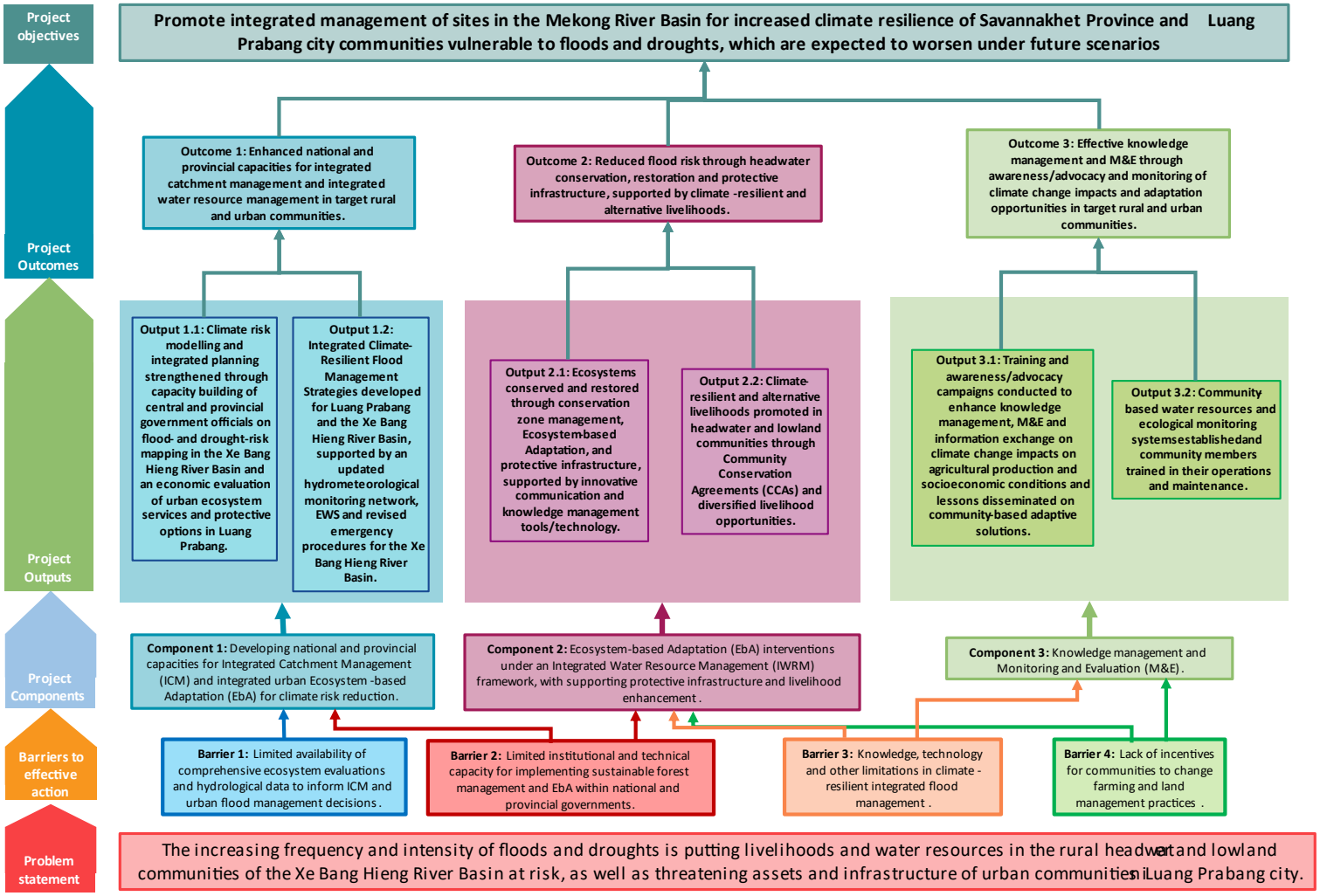


Figure 4. Theory of Change diagram

Assumptions underlying the identified solutions

The preferred solution for the proposed project is dependent on the certain, primary, assumptions.

1. National political commitment and support for the development of a coordinated approach, ICM and EbA approaches within the sites of the Mekong River Basin will remain very high.
2. Local communities will change their behaviour when provided with appropriate alternatives and presented with awareness raising campaigns to move away from inefficient and unsustainable practices of resource use.
3. An ICM approach and EbA model developed in the Xe Bang Hieng River Basin and Luang Prabang urban area will result in global benefits in terms of enhanced biodiversity, reduced and reversed land degradation, and improved provision of ecosystem goods and services — such as clean water, soil stabilisation and non-timber forest products (NTFPs).
4. Project activities will be able to be implemented safely, effectively and in consideration of national Covid-19 restrictions and guidelines.
5. Communities will accept and implement Community Conservation Agreements beyond project completion.

Figure 5 below presents a problem tree that identifies where project interventions will disrupt the pathways of drivers and hazards — that lead to the impacts on communities identified in Section II — to achieve the preferred solution. These disruptions are identified as orange bordered text boxes situated along the impact pathways, the numbers inside identifying the project outcome most likely to result in a disruption of the pathway. This problem tree is separated into four stages, namely: i) climate/anthropogenic drivers; ii) climate hazards; iii) impacts on ecosystems; and iv) impacts on communities. These four stages, and the drivers and impact pathways within them, outline a simplified version of the causal chain analysis discussed in Section II.

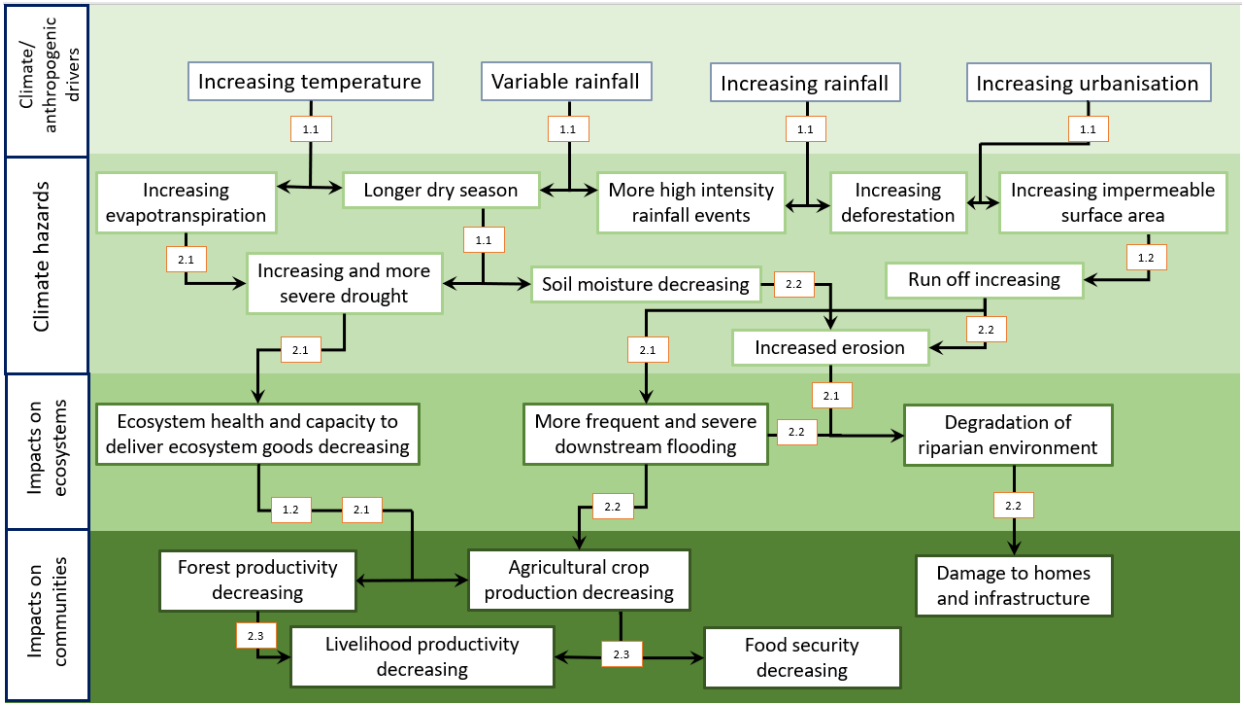


Figure 5. Problem tree demonstrating where project interventions will disrupt the pathways of drivers and hazards. Project Outcomes are identified numerically in orange bordered boxes.

Figure 6 below presents a solution tree that outlines where project interventions will overcome the identified problems to achieve the preferred solution. The solution tree is separated into identified problems (red boxes) and proposed solution pathways (blue boxes), with the project outputs that will promote these solution pathways identified (green boxes). Additionally, the assumptions underlying the identified solution are located along the pathways which are most reliant on them to succeed.

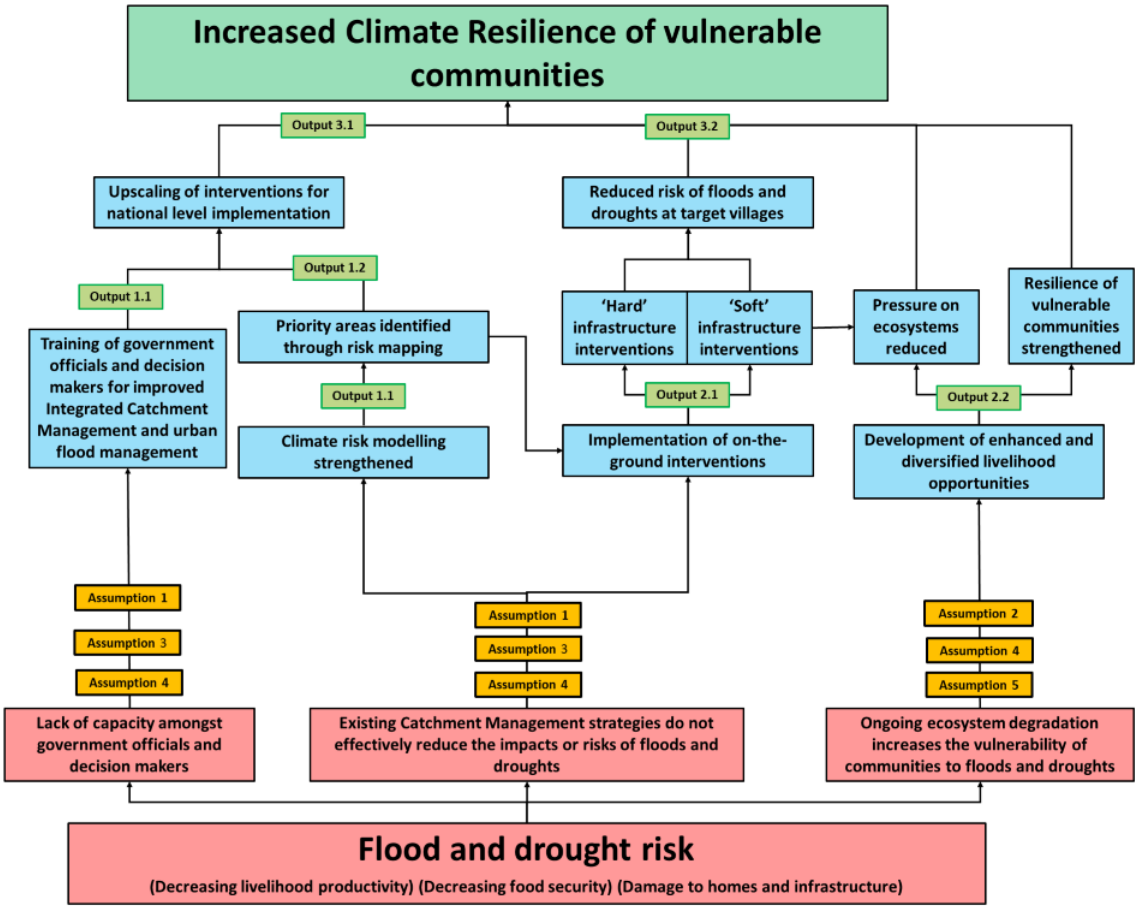


Figure 6. Solution tree outlining how the project will overcome the identified problems to achieve the preferred solution.

To achieve the preferred solution, as well as overcome the barriers discussed in Section II and ensure the disruption of the impact pathways detailed in Figure 5, several interventions and institutional changes are required.

- *The resilience of ecosystems and communities to climate change is increased through drought and flood management adaptations and diversified livelihood opportunities.* The proposed project will enhance conservation zone management to restore and protect ecosystems and improve climate resilience in the Xe Bang Hieng River Basin. Specifically, conservation zones in the Xe Bang Hieng headwater areas will be restored to ensure that ecological integrity and the delivery of ecosystem services are improved. The proposed project will also support management organisations in headwater conservation zones to enhance resilience to climate change. In lowland communities, protective infrastructure – such as cascading weirs and drainage channels – will be constructed to reduce flood risk, while the construction of reservoir networks and rainwater harvesting infrastructure will manage drought risk. The proposed project will also undertake Community Conservation Agreements (CCAs) in the Xe Bang Hieng communities to encourage climate-resilient agriculture, fisheries and forest-driven livelihoods and practices. Through these CCAs, the project will introduce diversified activities and opportunities in agriculture, fisheries, NTFPs and other livelihoods. The introduction of these diversified livelihoods will be informed by a market analysis, which includes: i) analysis of supply chains for climate-resilient crops, livestock and farming inputs; ii) assessment of economic impacts and market barriers; and iii) recommendations for mitigating strategies to address these barriers.

- *Institutional and technical capacity of national and provincial governments is strengthened to implement climate-resilient land and water management practices.* The proposed project will enhance the technical and institutional capacity of GoL officials and decision-makers for climate risk modelling and integrating planning in

the Xe Bang Hieng River Basin and Luang Prabang city. This will be achieved by implementing central and provincial training programmes to enable climate-risk informed water management practices in target urban and rural areas. In the Xe Bang Hieng River Basin, current and future zones of the catchment at risk of climate change-induced flooding and drought will be mapped based on hydrological models and protected infrastructure optioneering[96]. In Luang Prabang, technical capacity will be built by conducting economic valuations of urban ecosystem services and protective options in the city, which can be used in future management plans. Sustainable management practices will be enhanced in both urban and rural communities by drafting and validating fine-scale climate-resilient development and land-use plans. Current hydrological monitoring networks in the Xe Bang Hieng River Basin— including village weather stations — will be assessed and updated for improvements. In addition, early warning systems (EWS) and emergency procedures of identified vulnerable communities will also be reviewed and revised for efficiency.

- *Knowledge management and M&E of adaptation interventions to promote replication and up-scaling.* The proposed project activities include awareness-raising campaigns and establishing a comprehensive system for M&E of ICM flood interventions and sustainable land use management. For the private sector and communities, awareness campaigns in Luang Prabang city will focus on the benefits of urban EbA and flood management implementation. Training and awareness-raising campaigns in the headwater and lowland communities of the Xe Bang Hieng will include: i) climate change impacts on agricultural production and socioeconomic conditions; and ii) community-based adaptation opportunities and strategies — such as water resources management, agroforestry, conservation agriculture, and their benefits. Along with awareness raising, community-based water monitoring systems will be developed and implemented to measure changes in ecological determinants of ecosystem health and resilience in the Xe Bang Hieng River Basin.

The implementation of the above interventions and institutional changes will enable vulnerable communities to increase their resilience to the immediate impact of floods and droughts, through the implementation of hard infrastructure interventions and restoration activities. They will also enable communities and officials to address the underlying and root causes of increased vulnerability to floods and droughts — through improved decision-making by provincial, district and local officials, engaging communities in CCAs, the implementation of capacity-building programmes and the initiation of awareness-raising campaigns.

Alignment with GEF focal areas

The implementation of the proposed project will align with the GEF focal areas and Impact Program strategies. This conformity was considered in the design of the project's components.

The proposed project contributes to the three core objectives of the GEF programming strategy on adaptation to climate change for the LDCF 2018-2022:

Objective 1: Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation.
The proposed project will reduce the climate change vulnerability of target communities and increase resilience by restoring degraded forest and river ecosystems using an EbA approach (Component 2). Further to this, the project will increase the capacity of local communities living around these ecosystems to adopt innovative and climate-resilient livelihoods through Community Conservation Agreements.

Objective 2: Mainstream climate change adaptation and resilience for systemic impact.
The proposed project will facilitate the integration of climate risk-informed water management practices by enhancing the capacity for integrated catchment and flood management of government officials in the target rural

[96] Optioneering is a systematic examination of the performance of alternative products and designs to better meet a challenge. It takes into account the impact of each product or design method on a project's cost, environmental footprint, and safety issues.

and urban communities (Component 1). Climate-resilient development and land-use plans developed by the proposed project under Component 1 will mainstream climate change adaptations at local and provincial levels.

Objective 3: Foster enabling conditions for effective and integrated climate change adaptation.
The proposed project will conduct community awareness raising campaigns on the impacts of climate change and community-based adaptation opportunities and strategies in the target areas of the Xe Bang Hieng River Basin and Luang Prabang city (Component 3). Community-based water resources and ecological monitoring systems establish by the proposed project will ensure the sustainability and integration of climate change adaptations.

Three GEF Focal Area Outcomes will be addressed through the proposed project, as detailed below:

CCA 1.1 Technologies and innovative solutions piloted or deployed to reduce climate-related risks and/or enhance resilience
The proposed project will facilitate the adoption of ICM and integrated urban flood management as institutional mechanisms for enhancing the climate resilience of vulnerable communities in the Xe Bang Hieng basin and Luang Prabang city — and subsequently in other river basins and cities across Lao PDR. These approaches provide innovative strategies for considering and incorporating numerous stakeholders' interests and priorities into increasing drought and flood resilience. Based on the ICM framework, several adaptation and climate risk-reduction measures will be deployed in a coordinated manner in the Xe Bang Hieng basin. These measures will include EbA interventions, complemented by flood protection measures and communication systems (Outcome 2). Community climate resilience will be further increased through the development of Community Conservation Agreements, which will support communities to deploy new and improved livelihood strategies. Moreover, the use of innovative and accessible communication technologies — such as mobile phone applications — will maximise the benefit of the Community Conservation Agreements and on-the-ground interventions by promoting local awareness of climate risks and adaptation opportunities.

CCA 2.3. Institutional and human capacities strengthened to identify and implement adaptation measures.
Under Outcome 1 of the proposed project, the institutional capacity of Lao PDR's national and provincial governments to implement integrated catchment and flood management strategies will be improved. Specifically, the implementation of this Outcome will include capacity development and training programmes— at the central and provincial level— to enable climate risk-informed water management practices in urban and rural areas. Human capacities for the implementation of adaptation measures will be strengthened under Outcome 2 by training communities on how to support conservation zone management activities and the introduction of alternative livelihood opportunities, which will reduce pressures on local ecosystems. Furthermore, human capacity will be strengthened under Outcome 3, by training communities and raising awareness on: i) the implementation, operation and maintenance of community-based monitoring systems; ii) climate change impacts on agricultural production and socioeconomic conditions; and iii) community-based adaptation opportunities, strategies and their benefits

CCA 3.1: Climate-resilient planning enabled by stronger climate information decision-support services and other relevant analysis
Under Outcome 1 of the proposed project, the capacity of Lao PDR's national and provincial governments to undertake climate risk modelling will be improved. This outcome will be implemented in coordination with the ongoing World Bank project, entitled 'Mekong Integrated Water Resources Management Project', which focuses on developing comprehensive water resources modelling packages and river basin management plans — at the regional, national, and sub-national levels. The capacity development activities that will be implemented under Outcome 1 of the proposed project will target technical staff and use existing hydrological modelling and climate risk assessment systems to produce high-resolution assessments of the Xe Bang Hieng River Basin and Luang Prabang city. The results generated from this project outcome will inform sustainable development and land-use planning in the Xe Bang Hieng River Basin, as well as the development of Integrated Climate-Resilient Flood Management Solutions (ICFMS) for Luang Prabang city. Early-warning and response systems will also be strengthened using this

information to ensure that target communities are able to effectively plan for and respond to climate change-induced disasters, which will improve the climate resilience of these communities. Outcome 1 will also support the continuous updating and improvement of hydrological observation systems, which will facilitate continuous improvements in hydrological information availability to support climate-resilient planning. Through a community-based monitoring system (Outcome 3), lessons learned, and an evidence base for EbA and flood protection measures will be developed. This information will be disseminated to decision-makers and communities — both provincially and nationally — to facilitate the implementation and upscaling of effective adaptation measures, as well as inform adaptation planning across Lao PDR.

CCA 3.3: Institutional and human capacities strengthened to identify and implement adaptation measures
The proposed project will develop technical and institutional capacity for effective climate change adaptation at national-, river basin- and community-levels in Lao PDR. This will be achieved by: i) identifying and integrating context-specific adaptation opportunities for the Xe Bang Hieng River Basin and Luang Prabang city into development plans or ICFMS (Outcome 1); ii) providing community-level training on the identification process and on effective techniques for implementing urban EbA measures in Lao PDR (Outcome 3). In addition to this training, an assessment will be undertaken to identify opportunities for improving the climate resilience of local livelihoods in the Xe Bang Hieng River Basin (Outcome 2). Findings from this assessment will inform the development of CCAs and interventions to support the adoption of climate-resilient livelihood strategies and farming methods in the Xe Bang Hieng River Basin — and accordingly, facilitate long-term climate change adaptation in the vulnerable communities located within it.

IV. RESULTS AND PARTNERSHIPS

Expected Results*:*
The overall objective of the project is to promote the integrated management of target sites in the Mekong River Basin) for increased climate resilience of communities in Savannakhet Province and Luang Prabang city vulnerable to floods and droughts. In these communities, the impacts of floods and droughts are projected to worsen under future climate change, such as projected by the AR5 greenhouse gas emissions scenarios[97]. The integrated management objective will be achieved by implementing a suite of complementary adaptation interventions, namely the: i) development of national and provincial capacities to implement Integrated Catchment Management (ICM) and integrated urban Ecosystem-based Adaptation (EbA) in response to the increasing frequency and intensity of floods and droughts; ii) implementation of EbA interventions — primarily conservation[98] and restoration[99] of partly and severely degraded forests — within this ICM framework, with supporting protective infrastructure[100] and sustainable livelihood enhancement; and iii) promotion of knowledge management and Monitoring and Evaluation (M&E) to ensure that the lessons learned and best practices for ICM, flood management and EbA are collected and disseminated to inform the upscaling of these interventions across Lao PDR. Details on the outcomes and outputs that comprise each of the three Components — as outlined in the Theory of Change (**Figure 4**) — are provided below. Details on the activities associated with each output, are provided in Annex 4: Multi Year Work Plan.

Component 1: Developing national and provincial capacities for Integrated Catchment Management (ICM) and integrated urban Ecosystem-based Adaptation (EbA) for climate risk reduction.

[97] World Bank Group. 2020. Climate Change Knowledge Portal: Laos. Available at: https://climateknowledgeportal.worldbank.org/country/laos/climate-data-projections
[98] Conservation activities will include, *inter alia*: i) enhancing conservation zone management, land-use planning and the implementation of regulations related to protected areas; and ii) enhancing the natural regeneration process.
[99] Restoration activities will include, *inter alia*: i) enrichment planting of native species for biodiversity in natural re-growth and secondary forests, following degradation; and ii) planting ecologically appropriate species in degraded forest land areas or planting both ecologically and economically appropriate species in degraded land designated for communities' sustainable agricultural lands.
[100] Such as cascading weirs, drainage channels, reservoir networks and rainwater harvesting structures.

Component 1 of the proposed project will focus on developing national and provincial officials and decision-makers' capacity to design and implement ICM and integrated urban EbA to enhance the climate resilience of rural and urban communities and ecosystems in Lao PDR. This integrated approach will be underpinned by enhanced climate-resilient planning at the national and provincial levels and include the use of innovative tools, such as EbA and hydrological modelling, to ensure that it is comprehensive and effective. Moreover, by considering future climate change projections for target sites, this approach will help planning for current and future flood and drought risks. This will ensure that the applied approaches are contextually relevant for the projected hazards in urban and rural settings. In addition to developing the technical expertise of decision-makers, capacity building will also include a focus on the needs and concerns of vulnerable population groups, including those engaged with during the development of the Stakeholder Engagement Plan (Annex 9). This will ensure that the capacity-building activities effectively integrate community and environmental needs. Activities implemented under Component 1 will involve: i) developing institutional and technical capacity; ii) providing tools and assessments to develop the knowledge base; iii) undertaking planning processes in Savannakhet Province and Luang Prabang; iv) assessing and updating hydrological networks; and v) revising EWS in the Xe Bang Hieng River Basin. Furthermore, the activities under this Component will be complemented by awareness-raising activities that will be conducted under Component 3 of the project.

Outcome 1: Enhanced national and provincial capacities for integrated catchment management and integrated water resource management in target rural and urban communities.

Output 1.1: Flood- and drought-risk maps of and an economic evaluation of urban ecosystem services and protective options produced for the Xe Bang Hieng River Basin and Luang Prabang city, respectively.

Under this output, training will be provided to relevant Government of Lao PDR (GoL) officials, decision-makers and planners to increase their technical and institutional capacity for Integrated Catchment Management (ICM) to plan and improve climate resilience and risk management at a national and provincial level in Lao DPR. This training will enable and result in the production of downscaled and projected climate risk information for the target rural and urban sites. Risk maps will be developed for the Xe Bang Hieng River Basin which identify which current and predicted zones are most at risk from climate change-induced floods and droughts. These maps will be based on existing hydrological models and will be used to inform DWR and DoNRE decision making for ICM. Additionally, the training provided will include gender mainstreaming components, in accordance with the Gender Action Plan (GAP) and will identify how the development of ICM plans and climate risk information can be used to address the concerns of vulnerable communities, such as those highlighted during consultations with vulnerable groups for the development of Annex 9: Stakeholder Engagement Plan. Training activities will also apply GIS-based integrated hydrological models developed under the complementary ongoing World Bank-funded 'Mekong Integrated Water Resources Management Project'[101]. In addition, this training will enable the development of a database on water inventory and will support water-user rights planning and implementation.

Risk maps will be developed for the Xe Bang Hieng River Basin which identify which current and predicted zones are most at risk from climate change-induced floods and droughts. These maps will be based on existing hydrological models and will be used to inform DWR and DoNRE decision making for ICM. Additionally, detailed risk zone maps will enable protective infrastructure optioneering to be conducted, to identify the most effective and appropriate protective infrastructure interventions to implement in the target communities, under Output 2.1. This optioneering will involve assessing the resilience and adaptation needs of each target site to ensure that community needs are considered and met in the design and selection of infrastructure interventions.

Economic valuations focused on the ecosystem services provided by urban riparian areas, wetlands and streams will help identify which areas in Luang Prabang need to be the focus of urban flood management plans. The economic valuations will also include an options analysis of on-the-ground interventions — such as protective infrastructure

[101] This complementary project aims to map several current and future flood and drought risk zones

and EbA alternatives — to inform improved planning and support climate-resilient integrated urban flood management and will be supported by present and projected hydrological assessments. Furthermore, the evaluations will be supported through cooperation with the Department of Heritage — under the Ministry of Information, Culture and Tourism — to ensure that Luang Prabang's status as a UNESCO World Heritage site is considered in all evaluations and that all findings and recommendations are in accordance with government regulations for the preservation and protection of Luang Prabang's cultural heritage.

Activities under this output will include:

- Activity 1.1.1: Design and implement central and provincial training programmes to enable climate risk-informed water management practices in target urban and rural areas
- Activity 1.1.2: Map current and future zones of the Xe Bang Hieng River Basin at risk of climate change-induced flooding and drought based on existing hydrological models and conduct protective infrastructure optioneering based on the identified at risk zones
- Activity 1.1.3: Conduct an economic valuation of urban ecosystem services and protective options in Luang Prabang

Output 1.2: Integrated Climate-Resilient Flood Management Strategies developed for Luang Prabang and the Xe Bang Hieng River Basin, supported by an updated hydrometeorological monitoring network, EWS and revised emergency procedures for the Xe Bang Hieng River Basin.

The results from the implementation of Output 1.1's activities will be applied under Output 1.2 to further support the alignment of policy frameworks with ICM and IWRM frameworks to support long-term climate resilience. The evidence base formed in Activities 1.1.2 and 1.1.3 will inform Integrated Climate-Resilient Flood Management Strategies (ICFMS) necessary to build the long-term resilience of communities and ecosystems in the headwaters and lowlands of the Xe Bang Hieng River Basin and Luang Prabang city. The ICFMS developed under Activity 1.2.1 will include fine-scale climate-resilient development and land-use plans, which will work with the hydrometeorological monitoring network and revised EWS in the basin, updated under Activity 1.2.2. This will further strengthen the capacity of communities and officials to plan for and respond to future flood and drought events, as well as to implement ICM and IWRM strategies.

Access to reliable information, forecasting and EWS was identified by the GoL as a priority for improvement following the 2019 floods in Savannakhet Province[102]. The existing EWS in Xe Bang Hieng Basin communities are inadequate for implementing multiple hazard responses in an integrated manner, as communities currently depend on radio or telephone broadcasts from the Department of Meteorology and Hydrology. There has been no integration between communities that do have basic monitoring equipment and government systems. This reduces the effective coordination of responses across sectors. In addition, these systems are not well adapted to the projected increasing frequency and severity of floods and droughts under climate change scenarios. The data produced by the hydrometeorological stations will be compliant with and transmitted to the World Meteorological Organization's 'Global Basic Observations Network'[103]. The updating of EWS will include capacity building and improved methodologies to analyse and interpret climate data and forecasts — similar to those produced by the hydrometeorological monitoring networks. These updates will also include upgrading formal communication mechanisms — as well as informal tools such as radio, loudspeakers, social media and written materials — used to disperse and communicate climate warnings to affected communities in the target river basins. These updated, formal EWS will be integrated with the community level communication and knowledge management tools introduced under Output 2.1. In addition, climate resilience will be enhanced by designating and protecting areas to prevent further degradation and loss of ecosystem services, which would otherwise compound the negative effects of climate change.

[102] Savannakhet Department of Natural Resources and Environment. Flooding Report – Savannakhet 2019.
[103] The Global Basic Observations Network is a system to provide World Meteorological Organization members with reliable weather forecasts and climate analyses that are essential for public service that help save lives, protect property and foster economic prosperity. Further information available: https://community.wmo.int/gbon Accessed: 18 February 2021

Project interventions in Luang Prabang city will support the creation of an enabling environment that will promote the implementation of EbA solutions in the city. This enabling environment will also complement and support the upscaling of the GCF urban resilience project "Building resilience of urban populations with ecosystem-based solutions in Lao PDR" to Luang Prabang, ensuring that the discrete and separate features of the two projects complement each other, while not replicating interventions. This will be achieved by building the capacity of officials in Luang Prabang, under Output 1.1, and developing ICFMS that are tailored specifically to Luang Prabang and informed and guided by the national urban EbA guidelines and policies developed under the GCF urban resilience project and the hydrological and ecosystems assessments of Luang Prabang conducted under Output 1.1.

Activities under this Output will include:

- Activity 1.2.1: Draft and validate Integrated Climate-Resilient Flood Management Strategies for Luang Prabang city and the headwater and lowland areas of the Xe Bang Hieng River Basin
- Activity 1.2.2: Assess and update current Xe Bang Hieng River Basin hydrological monitoring network — including village weather stations — to improve efficiency
- Activity 1.2.3: Review and revise EWS and emergency procedures of vulnerable Xe Bang Hieng River Basin communities (identified under Activity 1.1.2)

Component 2: Ecosystem-based Adaptation (EbA) interventions under an Integrated Water Resource Management (IWRM) framework, with supporting protective infrastructure and livelihood enhancement.

Component 2 will build upon the enabling environment and ICM framework established under Component 1 through the implementation of EbA interventions — primarily conservation and restoration of partly and severely degraded forests — in Savannakhet Province. The sustainability of the EbA interventions will be supported and reinforced by protective infrastructure and climate-resilient livelihood enhancement. Interventions under this Component will be implemented under an IWRM framework in target villages across the Xe Bang Hieng River Basin. This will include a combination of approaches— such as the implementation of protective infrastructure or the conservation and restoration of protected areas— to address the different dynamics of current and future vulnerability to climate change. Implementing EbA interventions in headwater conservation zones will help support more effective IWRM, while the construction of protective infrastructure in downstream target sites will help reduce climate vulnerability and prevent further loss and degradation. Moreover, the introduction of alternative livelihood opportunities will help increase the climate resilience of both headwater and downstream communities, in addition to helping prevent further ecosystem loss and degradation by shifting communities away from unsustainable practices and behaviours. Activities implemented under Component 2 involve: i) conserving and restoring protected and degraded forest ecosystems; ii) constructing protective infrastructure to reduce flood and drought risk, based on the results of the protective infrastructure optioneering conducted under Activity 1.1.2; iii) developing communication and knowledge management tools for communities and training them on their use; iv) conducting market analyses on community livelihoods; v) engaging communities in the development of Community Conservation Agreements; and vi) introducing diversified livelihood activities and opportunities.

Outcome 2: Reduced flood risk through headwater conservation, restoration and protective infrastructure, supported by climate-resilient and alternative livelihoods.

Output 2.1: Ecosystems conserved and restored through conservation zone management, Ecosystem-based Adaptation, and protective infrastructure, supported by innovative communication and knowledge management tools/technology.

To improve climate resilience in headwater areas, protected areas in the target districts will be conserved and degraded ecosystems will be restored. Under the amended Law on Water and Water Resources, "areas at waterheads" and "areas at risk of flood and drought" — such as the target headwater conservation zones — can be designated as "water resources reserved areas", to which additional protections and regulations can be applied for

the protection of Lao PDR's water resources[104]. Conservation activities will include enhancing conservation zone management, forest boundary management and natural regeneration processes, while restoration activities will include the enrichment planting to promote natural re-growth in secondary forests and reforestation through replanting ecologically appropriate species to restore ecosystem functioning. These activities will be informed by, *inter alia*: i) the predicted impacts of climate change on the target areas; ii) the capacity of introduced species to maintain the provision of ecosystem goods and services under projected climate change conditions, specifically focusing on indigenous species that are drought- or flood-resilient; and iii) community needs and preferences, based on the market analyses conducted under Output 2.2. The conservation and restoration of vulnerable and degraded headwater ecosystems will promote water infiltration, evapotranspiration and availability and will reduce soil erosion and surface runoff. These EbA interventions will help restore and protect critical ecosystem goods and services for communities in the headwaters, including: i) livestock grazing areas[105]; ii) soil nutrient retention and reduced erosion; iii) infiltration; and iv) non-timber forest products (NTFPs) for food, resale, enhanced livelihoods and household purposes. Supported NTFPs will include: i) mushrooms and wild vegetables; ii) frogs, snails and insect products; iii) bamboo and rattan; iv) dammar resin; and v) herbal medicines[106]. The improved provision of ecosystem goods and services resulting from restoration activities will also build the resilience of communities in the Xe Bang Hieng River Basin to extreme climate events — particularly droughts and floods — which are projected to increase in intensity and frequency under future climate change conditions. Conserving and restoring headwater ecosystems will not only increase the climate resilience of headwater communities but also lowland communities. This will result from headwater conservation activities preventing the degradation of headwater ecosystems and restoration activities decreasing surface runoff and overland flow, thereby increasing floodwater attenuation.

Further protection from extreme climate events will be provided through investments in protective infrastructure that mitigates against the impacts of floods and droughts in the lowlands and headwaters, respectively. The selection, design and distribution of these activities will be determined by the land-use planning and protective infrastructure optioneering conducted under Output 1.1 and in consultation with community stakeholders. The implementation of protective infrastructure will prioritise the use of EbA measures as well as measures that combine 'grey' and 'green' interventions. Where possible, the project will implement interventions which are able to support the restoration and rehabilitation of partially degraded forest and riverbank ecosystems. This will involve, for example, vegetative gabion walls, vegetative gabion revetments, live check dams, vegetative gabion spurs, vegetative gabion check dams, vegetative stone rip rap, vegetative dry stone check dams and cascading weirs. Where forest ecosystems are irreparably degraded, non-existent or where EbA is inappropriate given landcover, human settlement or agricultural needs, 'grey' protective infrastructure will mimic the lost ecosystem services for flood management. In addition, infrastructure to reduce drought risk will be built to enhance the adaptive capacity of communities to address water insecurity related to prolonged dry seasons or late-onset wet seasons, which are projected to occur more frequently under future climate scenarios. The design of protective infrastructure will take community needs into consideration and will use lessons learned from projects such as the GIZ project "Measures to fight drought in the lowlands of Ethiopia"[107] to integrate protective measures into agricultural and water resource management systems. This integration will strengthen IWRM in target communities and will support the introduction of alternative and enhanced livelihood opportunities under Output 2.2. The design of protective infrastructure will additionally be supported by engagement with the private sector, facilitated through the knowledge management hub established under Activity 3.1.2. This engagement will provide private sector stakeholders with practical examples of how construction designs and standards can be adjusted to account for the

[104] Lao People Democratic Republic. 2017. Law on Water and Water Resources (Amended version).

[105] Many communities living in the DDP forests practice a rudimentary form of silvopasture, where animals are grazed in forested areas. For more on this, see Russell et al., 2015. *Using Forests to Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Savannakhet Province in Lao PDR*. Available: https://www.researchgate.net/publication/286936624_Using_Forests_to_Enhance_Resilience_to_Climate_Change_The_Case_of_Smallholder_Agriculture_in_Savannakhet_Province_in_Lao_PDR

[106] Russell et al., 2015. *Using Forests to Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Savannakhet Province in Lao PDR*

[107] Measures to fight drought in the lowlands of Ethiopia project outline available online at: https://www.giz.de/en/worldwide/23119.html

impacts and risks of climate change. The designing of specific protective infrastructure will additionally involve the development of specific operations and maintenance (O&M) plans for each intervention. O&M activities will be implemented by DWR and Savannakhet PONRE for a period of 15 years post the completion of the protective infrastructure.

Protective infrastructure interventions will be supported by tools and technologies for advancing communication and knowledge management at the community level to improve community response to — and management of — the abovementioned climate hazards. Communities are currently dependent on radio and telephone broadcast alerts from the Department of Meteorology and Hydrology (DMH), within in MoNRE, for early warnings about extreme climate events. The development and introduction of these new tools and technologies— such as mobile phone apps and improved community radios— will enable the DMH to provide communities with more advanced warnings and longer-term forecasts. The integration of these communication and protective infrastructure interventions with the ICM strategies and EWS developed under Output 1.2 will strengthen the climate resilience of vulnerable communities and enable the implementation of IWRM strategies. In addition to integrating these communication tools with the interventions developed under Output 1.2, they will also be integrated with the community monitoring systems developed and introduced under Output 3.2. This integration will enable decision makers to develop and implement ICM strategies that are informed by community level data from across the Xe Bang Hieng River Basin. The tools and technologies developed under this output will also be integrated with the knowledge management hub established under Output 3.1, to better strengthen communication channels between the target communities and the PMU — and by extension DWR and MoNRE.

The conservation and restoration of protected forests and degraded ecosystems will support the goals for reforestation set by the Savannakhet Provincial Agriculture and Forestry Office. The provincial goals target 16,200 ha for reforestation and ~190,000 ha for forest regeneration. The project will engage with district representatives to ensure that project activities are in accordance with regulations and work towards any specific targets set for the selected districts.

Activities under this Output will include:

- Activity 2.1.1: Conserve Xe Bang Hieng protected forests through enhanced conservation zone management and enhanced natural regeneration and restore Xe Bang Hieng degraded headwater conservation zones and implement EbA interventions to improve ecological integrity for the delivery of ecosystem services.
- Activity 2.1.2: Construct site specific protective infrastructure to reduce flood risk (such as cascading weirs and drainage channels) and drought risk (such as reservoir networks and rainwater harvesting) based on protective infrastructure optioneering conducted under Output 1.1.
- Activity 2.1.3: Develop and distribute communication and knowledge management tools and technologies (such as mobile phone apps and community radio) and train communities on their use to support headwater conservation zone management and increase their resilience to floods and droughts.

Output 2.2: Climate-resilient and alternative livelihoods promoted in headwater and lowland communities through Community Conservation Agreements (CCAs) and diversified livelihood opportunities.

The sustainability of the conservation and restoration activities, as well as the protective infrastructure, implemented in the Xe Bang Hieng River Basin will be enhanced by introducing incentives to communities to maintain ecosystems and expand the restored areas of the river basin. These activities and incentives for improving resilience will include promoting a shift towards more sustainable practices in current livelihoods — such as agriculture, fisheries, and forestry — as well as promoting context-appropriate alternative livelihood products, methods and practices under an IWRM framework. These activities will include, *inter alia*: i) climate-resilient agriculture — such as agroforestry, intercropping, minimum-tillage, integrated soil fertility management and water harvesting and management; ii) silvopasture[108]; iii) cultivation and sale of NTFPs; iv) ecotourism related to protected areas; and v) aquaculture. The selection and application of these livelihood practices— as well as the identification

[108] Silvopasture is the practice of integrating trees, forage and domesticated animal grazing into a mutually beneficial system.

of additional opportunities— will be informed by a robust, climate-sensitive market analysis which will review existing barriers and opportunities to inform long-term climate-resilient strategies and contribute to promoting catchment integrity and reducing deforestation/forest degradation through ICM and IWRM practices. Furthermore, the introduction of alternative livelihoods will take existing livelihood practices into consideration and will ensure that community members engaged in unsustainable practices, such as swidden agriculture or the use of agrochemical fertilisers, are not only informed of alternative opportunities but are trained on how to transition from unsustainable practices to sustainable ones[109]. This training will also raise awareness in communities on the need for sustainable livelihood practices and the impacts that unsustainable practices have on their climate-resilience.

Lessons from the past GEF-LDCF project titled 'Improving the Resilience of the Agriculture Sector in Lao PDR to Climate Change Impacts' and the ongoing GEF-LDCF project 'Sustainable Forest and Land Management in the Dry Dipterocarp Forest Ecosystems of Southern Lao PDR' for example, will also be used to inform livelihood enhancement activities. Livelihood enhancement will be underscored by, and implemented through, CCAs. These agreements are based on the concept of conservation or stewardship agreements, incentivising communities to engage with climate change adaptation activities in return for benefits derived from project outputs. Similar agreements are already practised in the Xe Bang Hieng River Basin and elsewhere in Lao PDR, to conserve and restore ecosystems and promote biodiversity conservation. CCAs have also helped overcome matters related to insecure land tenure and promote community involvement in sustainable natural resource management. The ongoing GEF-LDCF project in the Savannakhet Province[110] is establishing CCAs with 15 villages to relieve pressure from local communities on forest resources in the region. The proposed project will therefore establish CCAs with five villages (one village from Xonbuly district and two villages from each of Sepone and Nong districts), drawing on lessons learned from the ongoing GEF-LDCF project. These CCAs will be signed for a one-year period, after which they will be reviewed and renewed if they are deemed successful. After three years, if the CCAs are determined to be effective and are supported by the community the project will seek to establish links between the successful CCAs and financial sustainability mechanisms, such as trust funds based on payment for ecosystem service schemes, or by promoting the implementation of government programs that will support conservation and livelihood enhancement through the implementation of similar agreements. The specific benefits packages provided by the CCAs will be determined per community, reflecting the needs and circumstances of the target communities. The proposed project will channel benefits through Village Development Funds, as implemented effectively elsewhere in Lao PDR, and will support Village Development Committees in managing the funds and their disbursement through capacity building and the establishment of communication channels between the Village Development Committees, the PMU and the relevant District Office of Natural Resources and Environment (DONRE). The design of the CCAs will take the ICFMS, developed under Activity 1.2.1, into consideration to ensure that the Village Development Committee are able to effectively monitor and report on the implementation of the CCAs.

Investment support provided through CCAs will be specifically conditional on conservation performance, ensuring that communities are aware that funding for the investment is a benefit. Agricultural support, alternative livelihood support and direct payments to Village Development Funds will be provided to target villages on the basis of the implementation of forest conservation strategies (see Budget Note 13 under Section IX. Total Budget and Workplan). These are mutually agreed upon by DONRE and the relevant communities and stipulated in signed CCAs between the parties. This approach will be expanded and built upon so as to ensure the effectiveness of the CCAs and, by extension, the alternative livelihood activities introduced under the proposed project.

The design and development of both CCAs and enhanced livelihood opportunities will also be informed by the results and outputs of projects such as the Participatory Forest and Land Use Planning and Management Process (FALUPAM), developed by The Agro-Biodiversity Initiative[111] and implemented in northern Lao PDR, and the livelihood zones and adaptive capacity maps generated under the GEF project "Strengthening Agro-climatic

[109] National Report on Land Degradation Neutrality Target Setting Programme: Lao PDR. Available online at: https://knowledge.unccd.int/sites/default/files/ldn_targets/2020-11/Lao%20PDR_LDN%20TSP%20Final%20Report%20%28English%29.pdf

[110] Sustainable Forest and Land Management in the Dry Dipterocarp Forest Ecosystems of Southern Lao PDR

[111] Further details on FALUPAM available online at: https://www.tabi.la/results/land-use-planning/falupam-results/

Monitoring and Information Systems (SAMIS) to improve adaptation to climate change and food security in LAO PDR", in partnership with FAO[112].

Activities under this Output will include:

- Activity 2.2.1: Conduct market analyses, including: i) analysing supply chains for climate-resilient crops, livestock, and farming inputs; ii) assessing economic impacts and market barriers; and iii) recommending mitigating strategies to address these barriers.
- Activity 2.2.2: Undertake CCA process to encourage climate-resilient agriculture, fisheries, and forestry/forest-driven livelihoods and practices
- Activity 2.2.3: Introduce diversified activities and opportunities through CCAs (developed under Activity 2.2.1) in agriculture (livestock and crops, including vegetable farming) as well as fisheries, NTFPs, and other off-farm livelihoods.

Component 3: Knowledge management and Monitoring and Evaluation (M&E).

Component 3 will focus on capturing and disseminating the lessons learned during project implementation, as well as ensuring sustainability of project interventions through monitoring systems that will enable the adaptive management of project interventions and the achievement of the preferred solution, as outlined in the Theory of Change. Knowledge management and M&E will be implemented through training and awareness raising campaigns on national and provincial levels, as well as by establishing community monitoring systems on a local level and through project M&E activities. Project lessons will be shared to encourage scaling-up of project interventions at national and international scales. Project M&E will involve ongoing, day-to-day M&E by the Project Coordinator as well as independent Mid-Term and Terminal Evaluations — M&E details are outlined in Section VI. Monitoring and Evaluation (M&E) Plan. Activities implemented under Component 3 involve: i) providing training and awareness raising to communities in the Xe Bang Hieng River Basin; ii) establishing a knowledge management hub for project lessons; iii) conducting awareness raising campaigns in Luang Prabang city; iv) developing and implementing community-based monitoring systems, as well as training communities on their operations and maintenance.

The establishment of an online portal that will function as a knowledge management hub, under Output 3.1, will enable the Project Management Unit to actively collect and collate project lessons. The knowledge management hub will provide a platform for community monitoring and reporting and for the PMU to provide feedback on the results of community monitoring and reporting. Furthermore, the knowledge management hub will enable the PMU to compare results from the various target communities to assess and respond to differences. The continual collection and management of project lessons will enable the project team to receive feedback from project activities, such as training and awareness raising, and respond to it to ensure the effectiveness of project activities and interventions. The sharing of lessons with similar projects will strengthen and expand the knowledge base that the PMU has for the implementation and monitoring of project activities.

The implementation of community-based monitoring systems, and the training of community members on their use, will enable relevant government officials, and the communities themselves, to actively monitor the effectiveness of project interventions. By establishing communication channels whereby communities regularly report on their monitoring activities to the knowledge management hub, the project will strengthen the knowledge base that DWR, and other government officials, are able to draw on to develop local level land and integrated water resource management plans. Furthermore, this integration with the knowledge management hub will enable the lessons learned from the implementation of community-based monitoring systems to promoted to other communities in both Savannakhet Province and the rest of Lao PDR.

Outcome 3: Effective knowledge management and M&E through awareness/advocacy and monitoring of climate change impacts and adaptation opportunities in target rural and urban communities.

[112] Further details on the SAMIS project available online at: http://www.fao.org/in-action/samis/en/

Output 3.1: Training and awareness/advocacy campaigns conducted to enhance knowledge management, M&E and information exchange on climate change impacts on agricultural production and socioeconomic conditions and lessons disseminated on community-based adaptive solutions.

Communities in the Xe Bange Hieng River Basin will undergo awareness raising and training on the impacts that climate change has on their livelihoods and socioeconomic conditions, as well as on how they can adapt to these impacts as communities through the implementation of IWRM. These trainings and the raising of awareness will strengthen local communities' appreciation of the unseen and indirect benefits provided by in-tact and robust ecosystems, while also training them on how to manage these ecosystems sustainably while still providing direct economic benefits. These trainings will seek to establish community groups who the PMU and government officials, such as from DWR or PONRE, are able to coordinate with at the community level. Additionally, the training provided will include gender mainstreaming for application at the community and village level, in accordance with the Gender Action Plan (GAP). Awareness raising campaigns will also be conducted in Luang Prabang to inform communities and the private sector on the urban EbA and flood management. Awareness raising campaigns, both rural and urban, will help strengthen the sense of ownership that communities have of project interventions, by instilling in them an understanding of how the impacts of climate change affect them, as well as informing them on the role ICM and IWRM play in strengthening their climate-resilience. In addition to engaging with communities, these awareness raising campaigns will engage with the private sector to educate them on the risks and impacts of climate change.

Project sustainability and scalability will be promoted under this Output by capturing and disseminating lessons learned from project implementation, as well as creating a knowledge base which can be used to strengthen the capacity of government decision-makers, local communities and private sector stakeholders to implement similar projects. The collection and sharing of project lessons across Lao PDR, as well as internationally through South-South exchanges[113], will support the upscaling and replication of project interventions in baseline projects both nationally and regionally. The regular sharing of project lessons will also enable project staff to engage with similar projects to identify solutions to problems that may arise. Furthermore, the establishment of an online portal to function as a knowledge management hub will enable the PMU to collect and collate project lessons, as well as facilitate coordination and engagement with similar and relevant projects, both in Lao PDR and regionally. These lessons will record any unforeseen barriers or delays to implementation and how they are overcome to ensure they can be avoided when replicated or upscaled. In addition, lessons learned will also include the identification and recording of the limitations of the interventions implemented by the project. This will be followed by recommendations on how to address limitations and barriers encountered by the project, which will also be disseminated nationally and internationally. The design of project interventions will be accomplished in coordination with the knowledge management hub, to ensure all designs are collected in a centralised system and to ensure that project interventions are designed in consideration of each other, as appropriate. The knowledge management hub will also provide a centralised system through which the project will be able to coordinate with relevant stakeholders at different levels, such as Village Development Committees or PONRE representatives, and record feedback and monitoring reports from these stakeholders. Furthermore, the establishment of this knowledge hub will enable project staff to engage with the private sector and provide them with an evidence base that will support and contribute to adjusting construction and design standards, and analytics, in a manner that takes climate change and the impacts of climate change into consideration. The knowledge hub will also provide a platform for DWR to monitor the progress of projects and engage with local communities, post project completion.

Activities under this Output will include:

- Activity 3.1.1: Provide training and awareness raising to Xe Bang Hieng River Basin communities on: i) climate change impacts on agricultural production and socioeconomic conditions; and ii) community-based adaptation opportunities and strategies (including water resources management, agroforestry, conservation agriculture, alternatives to swidden agriculture) and their benefits.

[113] South-South cooperation is a broad framework of collaboration among countries of the South in the political, economic, social, cultural, environmental and technical domains (https://www.unsouthsouth.org/about/about-sstc/)

- Activity 3.1.2: Establish a knowledge management hub to collect, and from which to share, project lessons, within Lao PDR and through South-South exchanges, on strengthening climate resilience with regards to: i) catchment management; ii) flash flood management; and iii) EbA.
- Activity 3.1.3: Conduct awareness-raising campaigns on urban EbA and flood management for communities and the private sector in Luang Prabang.

Output 3.2: Community-based water resources and ecological monitoring systems established, and community members trained in their operations and maintenance.

To promote local ownership of the project, further contribute to changing community behaviour towards restoration and conservation and upskill communities on implementing IWRM, a community-based water resources and ecological monitoring system will be developed. This system will contribute to understanding the baseline conditions and impacts of project outcomes for these valuable ecosystems. The ecological monitoring system will be integrated with the communication and knowledge management tools developed under Output 2.1 to provide up-to-date indicators and measures of the health and resilience of the Xe Bang Hieng River Basin, which can be used by community members and policymakers to make informed decisions on planning, land-use management and the provision of government services. This will improve communities' response to climate change, while also reducing their exposure to extreme climate events. Additionally, the ecological monitoring of the Xe Bang Hieng River Basin will enable the sustainable offtake of timber, wood fuel and NTFPs that can further promote the development and enhancement of the alternative livelihoods introduced under Output 2.2.

The community-based water resource and ecological monitoring systems will support the training and awareness raising conducted under Activity 3.1.1 by ensuring that communities have an active role in the monitoring of the local impacts of climate change. The monitoring systems will be designed to be easily operated and maintained by communities without the need for costly inputs, while the training in their use will ensure that communities understand how the data the systems collect, and which the communities will feedback to the project staff and DWR, will benefit them. Consideration for the implementation and support of this monitoring will be included in the CCAs developed and implemented under Output 2.2. Additionally, these systems will be integrated with the knowledge management hub, to ensure that the observations recorded add to the local knowledge and context available to the project. This will also enable local level changes to be acted upon more effectively. Potential aspects of these monitoring systems include the regular measuring/reporting of rainfall, river speed, water quality or local vegetation conditions. Furthermore, by ensuring that the systems involve accurate GPS positioning the project will enable government officials and decision makers to monitor how the different communities are affected by the impacts of climate change, as well as potentially integrating the monitoring systems into the early warning systems developed under Activity 1.2.3. Local government officials and community leaders will be involved in recording the GPS positioning of these systems during implementation and during regular calibration checks — such as quarterly, annually or after flooding events — as appropriate per site.

Local ownership of the project will be further promoted by the training these communities receive on the operations and maintenance of the monitoring systems. This will ensure that communities are able to perform basic assessments of the conditions the monitoring systems, as well as perform basic repairs when aspects of the monitoring systems suffer minor damages. Furthermore, the monitoring systems will be designed to be operational and maintainable by the target communities and to require minimal external input, to ensure ease of use and sustainability post project completion. Communication channels established for the transfer of data from communities to project staff and DWR will also serve to communicate the operational status of monitoring systems, enabling communities to alert DWR to maintenance needs that they are unable to perform themselves.

Activities under this Output will include:

- Activity 3.2.1: Develop and implement community-based monitoring systems to measure changes in key ecological determinants of ecosystem health and resilience in the Xe Bang Hieng River Basin.

- Activity 3.2.2: Community members trained on the operations and maintenance of systems developed under Activity 3.2.1

Partnerships

As a result of the scope and nature of project interventions, the successful implementation of the proposed project will require collaboration between several GoL institutions and project partners. Table 4 below provides a list of potential stakeholders and their possible contributions and roles in the proposed project. The project interventions will be implemented across multiple districts within the Savannakhet Province, as well as in Luang Prabang city (see Annex 9: Stakeholder Engagement Plan).

In addition to partnerships with stakeholders, the proposed project will build on baseline initiatives that address underlying causes of vulnerability to climate change in Lao PDR, such as deforestation and water resource management. Table 5 below provides a list of baseline projects, which will inform the project design to ensure that the intended results of the GEF-financed, UNDP-supported project are achieved through output-level contributions. More details on the baseline projects alignment with the proposed project can be found in Section II: Development Challenge.

Table 4. List of potential stakeholders and their possible contributions and roles in the proposed project.

Stakeholder type	Stakeholder list	Possible contributions and roles in the project
Government ministries (at central and provincial levels)	• Ministry of Natural Resources and Environment (MoNRE) • Ministry of Finance (MOF) • Ministry of Agriculture and Forestry (MAF) • Ministry of Planning and Investment (MPI) • Ministry of Public Works and Transportation • Ministry of Information, Culture and Tourism (MICT) • Ministry of Labour and Social Welfare	• Beneficiaries of capacity-building; development of relevant plans • Delivery of technical components of programmes according to sectoral expertise • Coordination with local authorities • Mobilisation of human and financial resources

National organisations	• Department of Water Resources (DWR) in MoNRE • Department of Meteorology and Hydrology (DMH) in MoNRE • Department of Environmental Quality Promotion (DEQP) in MoNRE • Department of Climate Change (DCC) in MoNRE • Department of Environmental and Social Impact Assessment (DoESIA) in MoNRE • Department of Forestry (DOF) in MAF • Department of Planning and Finance in MAF • Department of Agriculture Land Management (DALAM) in DAF • Department of Planning (DOP) in MPI • Department of International Coordination (DIC) in MPI • Department of Technical Extension and Agro-processing), (MAF) • Department of Social Welfare, (MLSW) • Lao Women's Union (LWU) • Mekong River Commission (MRC)	• Provision of technical advice • Provision of specialist services
Regional and local administrations	• Savannakhet Department of Planning and Investment • Provincial Office of Natural Resources and Environment (PONRE) • District Offices of Natural Resources and Environment (DONREs) • Provincial Agriculture and Forest Office (PAFO) • District Agriculture and Forest Offices (DAFOs) • Provincial Labour and Social Welfare Department • Provincial Department of Planning and Investment	• Beneficiaries of capacity building • Local coordination of activities • Issuance of any relevant authorisations and permits
Community-level stakeholders	• Village Development Committees • Village leaders • Natural resource user groups • Women's groups • Other vulnerable or marginalised groups • CBOs	• Community mobilisation • Selection of appropriate interventions • Delivery of programme components • Beneficiaries of capacity building and on-the-ground interventions
Development Partners	• UNEP • IFAD • FAO • World Bank • JICA • BMZ	• Provision of technical advice • Sharing of lessons learned from baseline and related projects

	• ADB • KOICA	
Non-Governmental Organisations (NGOs) and/or Civil Society Organisations (CSOs)	• Wildlife Conservation Society (WCS) • International Union for the Conservation of Nature (IUCN) • Lao Wildlife Conservation Association (LWCA) • World Wide Fund for Nature (WWF)	• Provision of technical advice • Delivery of training and assets • Social mobilisation • Monitoring of ecological conditions
Research institutions	• National University of Lao PDR (NUoL) • National Agriculture and Forestry Research Institute (NAFRI) • National Economic Research Institute • Center for Statistics and Information in MAF • Lao Statistics Bureau (MPI)	• Provision of scientific support • The undertaking of research activities
Private sector	• Land concession owners related to agriculture and tree plantations • Construction companies, especially those involved in agriculture	• Consultation for market information • Engagement with for the development of design standards and analytics considerate of the impacts of climate change

Table 5. Baseline projects and initiatives

Project title	Relevance to proposed project	Project Budget (USD)	Development Partner	Project Duration
Sustainable Forest and Land Management in the Dry Dipterocarp Forest Ecosystems of Southern Lao PDR	• Increased capacity for sustainable land and forest management • Sustainable forest management and protected area expansion in five priority districts in the Savannakhet Province • Developing and promoting incentives and sustainable financing for biodiversity conservation and forest protection	10,879,174	UNDP	2016–2022
Greater Mekong Subregion – Forests and Biodiversity Program: Strengthening Protection and Management Effectiveness for Wildlife and Protected Areas	• Supporting protected area management, wildlife conservation, REDD+ and sustainable forest management • Addressing the illegal national and regional wildlife trade • Awareness raising and communication	34,275,688	World Bank	2014–2021
Community-led initiative critical wetland biodiversity in four districts of	• Wetland conservation • Livelihood improvement • Policy engagement	1,200,000	Wildlife Conservation Society	2020–2024

Savannakhet project				

Risks

Risks that may impact the project, and the measures proposed to mitigate these risks, are outlined in Annex 7: UNDP Risk Register. As per UNDP requirements, the Project Coordinator, with the support of the Technical Specialist and the M&E Reporting Specialist, will monitor risks on a quarterly basis, and report on the status of these risks to the UNDP Country Office (CO). The UNDP CO will then record progress in the UNDP ATLAS risk log on a scale of 1–5 — where 1 is the lowest risk and 5 is the highest risk. These risks will be reported as critical when the impact and probability are high (for example, when the impact rating is 5, as well as when the impact rating is 4 alongside a probability rating of 3 or higher). Management responses to critical risks will also be reported to the GEF in the annual PIR.

Table 6 and Table 7, below, outline the general project risks SES project risks, respectively, as well as mitigation measures. Detailed information is provided for the general risks in Annex 7: UNDP Risk Register, and for the SES risks in Annex 6: UNDP Social and Environmental Screening Procedure (SESP).

Table 6. General project risks assessment and mitigation measures

Description	Risk Category	Impact & Probability (1–5)	Management Measures	Risk Owner
Risk 1: NIM modality not functioning as planned and or as per agreement with government	Financial Operational	L = 1 I = 5 (Moderate)	Measure in place through PB, Audits and sport checks – and the provision of technical specialists to monitor and ensure compliance with agreed standards. UNDP POPP NIM Training will be provided prior commencing project implementation to ensure that all procedures will be followed strictly.	UNDP & GoL
Risk 2: Lower than anticipated institution capacity of the initial implementing partner. Based on HACT assessment	Operational Capacity development of national partners	L= 2 I= 2 (Low)	Additional support to the institutions of the GoL (M/PONRE) that will lead project implementation. In addition, the project will employ a full-time UNDP Technical Specialist. and a full-time Project Coordination, Monitoring & Evaluation (and reporting) Expert who will be responsible for assisting DWR in coordinating its activities as Executing Agency with the UNDP. The recommendations on the HACT report should be implemented and updated as quarterly basis. UNDP will	DWR

			work closely with IP to strengthen their capacity as needed.	
Risk 3: Potential negative impacts from project activities involving reforestation. Caused from tree seedling being planted.	Environmental – biodiversity and use of natural resource	L=1 I= 2 (Low)	Village forestry will only be carried out in the context of approved sustainable forestry management plans; reforestation will be carried out using clear criteria regarding use of native species, avoidance of land degradation, etc.	Target communities/ villages, IP and DOF
Risk 4: Slow implementation/ progress because of required institutional arrangements.	Organisational – institutional arrangements	L=2 I = 2 (Low)	MOUs/Letter of Agreements issued with RPs – MOUs closely monitored.	DWR
Risk 5: Complex organizational arrangement between DWR, national, provincial and district level (and between Ministries).	Organisational – institutions arrangements	I = 2 L = 2 (Low)	Special attention by board, MoUs with relevant parties, Operational Guide by project team Clear and regular coordination mechanisms will be established	DWR MONRE
Risk 6: Changes in staff results in weak delivery by extension staff, other implementers	Operational – leadership & management	I = 4 L = 2 (Moderate)	Strict field monitoring; Support & encouragement by senior officers	DWR
Risk 7: Natural disasters within the project area – including flooding Ecosystems are not sufficiently resilient and their biological and physical integrity are incrementally compromised by the effects of global and regional climate change.	Environmental – climate change and disaster	I = 3 L = 2 (Moderate)	Clear planning and monitoring to avoid rainy season and provision of support when needed. EWS established and capacity of preparedness enhanced	Target communities, IP
Risk 8: Changes in priorities and livelihood needs – between conservation and livelihoods	Strategic – Theory of Change	I= 4 L = 1 (Low)	Careful and cautious design of conservation programme in close consultation with local authorities and communities	DWR

Risk 9: Alignment with National priorities - Conflicts and misunderstanding among public institutions, private sector partners, NGOs and resource users undermine partnership approaches and implementation of cooperative governance arrangements	Political – Operational – alignment with national priorities	I = 2 L = 1 (Low)	During project preparation, numerous non-governmental organizations, private sector partners, and development institutions were consulted on the project goals and strategies.	IP, UNDP
Risk 10: Findings and recommendations of Social Environment Screen (risks) not followed-up on and addressed. Note overall finding is considered substantial in screening	Operational	I = 3 L= 2 (Moderate)	SES screen and plan updated after first 12 months and then on an ongoing basis by the project team and the SES Focal point in the UNDP CO.	UNDP, IP
Risk 11: Ethnic groups (including Katang and Bru people) inhabit the project implementation area of Savannkhet Province. Project activities will be implemented on lands where they live and will have some effect upon natural resources and livelihoods.	Operational	I = 2 L = 4 (Moderate)	An Ethnic Groups Plan was prepared for the Project.	MONRE / GoL

Table 7. Project SES risks assessment and mitigation measures.

Description	Risk Category	Impact & Likelihood (1–5)	Significance (Low, Moderate, Substantial, High)	Management Measures
Risk 1: Marginalized members of participating communities may not be able to engage with Community Conservation Agreements, project activities or have equal opportunities to participate in decision making processes during project implementation. Principle 1: Question P.5 Principle 3: Question P.13 & P.14 Standard 6: Question 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7,	Social	I = 3 L = 4	Moderate	The project will provide stakeholder consultations and involve all targeted groups, through identifying individuals, Government agencies, NGOs, private sectors, local communities, and other stakeholders that may be directly or indirectly affected by the project. These consultations will apply the best recognised principles for stakeholder engagement.
Risk 2: Proposed land tenure arrangements for the conservation of Xe Bang Hieng Protected forests may restrict access to resources,	Social	I = 4 L = 3	Substantial	The SEP, GA/GAP, ESMF, IPP, FPIC and GRM prepared during the PPG will be implemented as required

affect customary land rights, and create some level of economic displacement (particularly for marginalized people and ethnic groups). Principle 1: Question P.6 Principle 3: Question P.14 Standard 5: Questions 5.1,5.2, 5.3 & 5.4 Standard 6: Question 6.1, 6.2, 6.3, 6.5 6.6 6.7				with communities prior to the implementation of any activities involving land management. For the activities not falling under CCAs , Process Framework(s) will be developed this will include the cases of permanent or temporarily resettlement, economic displacement, forced evictions and impacts on community based property rights, land tenure arrangements, customary rights to land, territories and resources. As noted under Risk 6, project activities will be implemented within 4 National Protected Areas. Proposed conservation zone management and forest boundary management in such areas would be based upon pre-existing boundaries, rules, regulations, protected area management plans and laws which may not be known or well understood by local communities or other stakeholders. The ESMF will contain procedures for the assessment and management of the activities implemented in the National Protected Areas. The core component of FPIC is consent – local resource users are entitled to determine whether or not they wish to participate in an intervention, and whether or not that intervention should proceed. Proposed land tenure arrangements through conservation zone management and forest boundary management depends entirely on this kind of consent from resource owners and users.

				The exception to these management measures will be those communities that are part of the Community Conservation Agreements (CCAs) where communities will be voluntarily restricting access to natural resources based on appropriate community-based decision-making processes.
Risk 3: Government staff at Provincial and District levels have limited capacity to implement some project activities, including ICM, EbA and Community Conservation Agreements effectively to ensure the intended benefits to participating communities. Principle 1: Question P.2 Principle 3: Question P.14	Operational	I = 3 L = 4	Moderate	**Management – Government Staff Capacity with ICM and EbA** To address this government staff capacity, Component 1 of the proposed project will focus on developing national and provincial officials and decision-makers' capacity to design and implement ICM and integrated urban EbA to enhance the climate resilience of rural and urban communities and ecosystems in Lao PDR. This integrated approach will be underpinned by enhanced climate-resilient planning at the national and provincial levels and include the use of innovative tools, such as EbA and hydrological modelling, to ensure that it is comprehensive and effective. A SESA will be applied to the development and implementation of ICM and integrated urban EbA such that potential social and environmental downstream impacts arising from the development of guidelines, ICM, policy directions will be identified. **Management – Government Staff Capacity with CCAs** In order to ensure effective application of CCAs being developed under Component 2, the project provide training to staff and Government Officials in order for them to understand and embrace CCAs as a co-management

				framework for working with participating communities in the project area - this relates to relevant DWRM as well as PONRE and DONRE personnel. CCAs should be integrated into the process of developing risk mapping and flood management plans for watershed management being developed under Component 1.
Risk 4: Women may not be able to equally engage with Community Conservation Agreements or benefit from project introduced livelihood activities. Principle 2: Question P.8, P.9 & P.10 Principle 3: Question P.14	Social	I = 3 L = 3	Moderate	Strategic areas for addressing gender issues in the three project components are as follows: • Assurance of gender disaggregated data in planning, implementing, monitoring and reporting. • Increase Women Access to and Control over Productive resources. • Operationalize Gender Action Plan at Village, district and provincial levels.
Risk 5: The project will construct protective infrastructure within and adjacent to waterways such as weirs, canals and small-scale irrigation schemes. Such developments have the potential to create hydrological changes and adverse social and environmental effects. These also have the potential to pose safety risks to local communities during the construction phase through actual construction activities, the transportation of materials, potential release of pollutants and generation of waste. Principle 3: Question P.14 Standard 1: Questions 1.1 1.7 & 1.11 Standard 3: Questions 3,1 3.2 3.3 3.4 3.5 3.6 & 3.7 Standard 8: Question 8.1 & 8.2	Environmental	I = 3 L = 3	Moderate	The SEP, GA/GAP, ESMF, IPP, FPIC and GRM prepared during the PPG will be applied as required with communities prior to the construction of any civil works. The risk will be identified prior any physical work starts. The ESMF contains a procedure for the preparation of the Social Environmental Impact Assessment procedure to international standards and the Decree on Environment Impact Assessments 2019 (No. 21/GOL) of the Lao People's Democratic Republic. The SEIA procedure helps to identify the environmental risks, identify project alternatives, and develop mitigation measures through the life cycle of the project.

				The SEIA will be implemented for the activities implemented under Activity 1.1.2 as the risk identified based on the hydrogeological models will influence the protective infrastructure optioneering
Risk 6: The implementation of project activities within 4 Protected Areas, 1 Ramsar Site and 1 World Heritage Site could involve or lead to temporary or permanent damages to those sites, and the biodiversity/ecosystems and cultural heritage they contain. Principle 3: Question P.14 Standard 1: Question 1.2 Standard 4: Question 4.1	Environmental	I = 2 L = 4	Moderate	As noted under Risk 2, any proposed conservation zone management and forest boundary management within National Protected Areas would be based upon pre-existing boundaries, rules, regulations, protected area management plans and laws which may not be known or well understood by local communities or other stakeholders. Management and Implementation of any project activities within National Protected Areas will be completed as required in accordance with the following: • Forestry Law of Lao PDR 2019 (Amended / No. 255/NA) of the Lao People's Democratic Republic The project, through detailed studies in ESIAs, will aim to avoid any damages to the ecosystem in the naturally protected areas and when avoidance is not possible, the impact will be monitored and mitigated with the definition of monitoring plans (Environmental and Social Management Plan ESMP) and Action Plans. Appropriate environmental and social indicators for Conservation of Biological Diversity and Protection of Natural Habitats will be developed and regular monitoring and evaluation will take place for each of the activities implemented

				within Protected Areas undertaken by extension officers and local government officials.
Risk 7: Through introducing climate-resilient agriculture and aquaculture, as well as EbA which involves reforestation activities, there is the potential of non-indigenous species being utilized. Principle 3: Question P.14 Standard 1: Question 1.6, 1.8 & 1.10	Environmental	I = 4 L = 2	Moderate	The SEP, GA/GAP, ESMF, IPP, FPIC and GRM prepared during the PPG will be implemented as required with communities prior to the implementation of any activities involving the potential use of non-indigenous species. The above noted activities will be informed by, inter alia: i) the predicted impacts of climate change on the target areas; ii) the capacity of introduced species to maintain the provision of ecosystem goods and services under projected climate change conditions, specifically focusing on indigenous species that are drought- or flood-resilient; and iii) community needs and preferences. Specific studies and targeted assessment on ecologically appropriate species and methodologies for introduction will be developed by experts.
Risk 8: Protective infrastructure such as weirs, canals and small-scale irrigation schemes constructed during this project could be vulnerable to the impacts of climate change. Principle 3: Question P.14 Standard 2: Question 2.1 & 2.2	Operational	I = 3 L = 3	Moderate	The SEP, GA/GAP, ESMF, IPP, FPIC and GRM prepared during the PPG will be applied as required with communities prior to the construction of any civil works. Current climatic variability and flood risks will also be taken into account when selecting intervention sites, periods for construction as well as the design and implementation of all interventions. Disaster risk and response plans will be put in place in collaboration with selected communities. The design of the infrastructures proposed will be developed according

				to climate forecast flood risks models to ensure that the infrastructure will resist to climate change effects. At the same time a maintenance plan will be developed and made available to the local communities and authorities to ensure that the infrastructures will function properly.
Risk 9: During the current global COVID-19 Pandemic, there is a risk of community transmission (potentially resulting in death) between government officers, project staff, service provider contractors, and local communities through site visits and project implementation activities. Principle 3: Question P.14 Standard 3: Question 3.4	Social	I = 3 L = 3	Moderate	The COVID-19 pandemic is a "once in a lifetime" crisis which is causing untold health and economic disparities across the globe. The pandemic has proven to be dynamic, particularly with the emergence new contagious variants. At the time of writing, Lao PDR is currently under a "flexible" lockdown order as per the Prime Minister Order (No. 532 /OPM) on Guidelines for Implementing Policies and Measures for Economic and Social Impacts of the COVID-19 Outbreak. The UN implements a global health and safety policy with regards to COVID-19 which it implements within all agency offices. As part of this policy, all UN Agencies are to follow National Guidance; in Lao PDR, this is the guidelines of the Prime Minister's Order. All project implementation and risk management will be subject to this and will be dynamic based upon monitoring updates provided by the Lao National COVID-19 Task Force of the Ministry of Health. When able to implement project activities, standard health and safety precautions required for protection against COVID-19

				will be implemented, including, but not limited to: (i) wearing a face mask, (ii) handwashing regularly, (iii) social distancing, and (iv) enabling as possible for local communities, project staff, government staff and other stakeholders to voluntarily get vaccinated.
Risk 10: Service Provider Contractors may not follow or be in violation of National Labour Laws during construction of protective infrastructure. This may pose potential physical safety risks to workers. Principle 3: Question P.14 Standard 7: 7.1 7.3 & 7.6	Operational	I = 3 L = 4	Moderate	All civil works related to protective infrastructure within and adjacent to waterways such as weirs, canals and small-scale irrigation schemes valued over 100,000,000 LAK will be procured by UNDP through the organization's Procurement Policy. Civil works less than this value will be procured by the Implementation Partner utilizing the guidance notes for National Implementation Modality agreed upon by the Government of Lao PDR and UNDP. To monitor the construction of any civil works, the project will separately contract an Engineer (or Engineer Team) to monitor work being completed is structurally sound and follows all technical plans and "bill of quantities". Additionally, both the Project Team and assigned UNDP staff will perform regular, unannounced site visits and audits to observe the respect of the National labor law and UNDP Health, Safety and Working Conditions standards are being met. Management and Implementation of any civil works with regards to labor and worker's safety will be completed as required in accordance with the following:

				• Labor Law, 2013 (No. 43/NA) of the Lao People's Democratic Republic. •Ministerial Decision on Occupational Safety and Health on Construction Sites (No. 3006 of 2013). • Decree on the Labor Safety and Health 2019 (No. 22/GO), Ministry of Labor and Social Welfare. • United Nations Supplier "Code of Conduct" which provides the minimum standards expected of suppliers to the UN. The Code of Conduct, which includes principles on labor, human rights, environment, and ethical conduct. • UNDP Programme and Operations Policies and Procedures (POPP): Construction Works Policy
Risk 11: During project implementation, objects (or infrastructure) with historical, cultural, artistic traditional or religious value may be affected in Savannakhet through project staff and Service Provider workers visiting and possibly inhabiting villages during project implementation. Principle 3: Question P.14 Standard 4: Question 4.1 4.2 4.3 4.5	Social	I = 3 L = 3	Moderate	Project activities will be designed and implemented in a way that avoids the alteration, damage or removal of any physical cultural resources and sites, as well as any sites recognised as having unique value at the community, national or international level. Regional experts will be consulted (as necessary) to ensure compliance with national heritage legislation and that project design adheres to best practice guidelines. Impacts on cultural heritage (tangible and intangible) will be mitigated and monitored with the preparation of a Cultural Heritage Action Plan.
Risk 12: Ethnic Groups (including Katang and Bru Ethnic Groups) inhabit the project implementation area of Savannkhet Province. Project activities will be implemented on lands where they live; proposed land tenure arrangements may restrict access to resources. Principle 3: Question P.14	Social	I = 4 L = 4	Substantial	EGP (Ethnic Groups Plan) (IPP equivalent): will be prepared during implementation, building on the EGPF (Ethnic Groups Planning Framework). Free Prior Informed Consent (FPIC): serves as a safeguard in ensuring potential negative social and

Standard 6: Question 6.1 6.2 6.3 6.4 6.5 6.6 & 6.7				environmental impacts of any project from the perspectives of Ethnic Groups and Local Communities are considered and addressed. The FPIC process also allows all Ethnic Groups and Local Communities to voice out their concerns on potential adverse impacts of projects, which should be taken into account. In this process, they can demand for clear information disclosure from the project proponents that shall include results of feasibility study as well as comparative studies relating to the project. Consultation Across the Project Cycle: Meaningful consultation with EGs will be ensured through harnessing of culturally appropriate communication strategies and use of local language if possible. These consultations will only be conducted with full consideration of the current Covid-19 risk factors, local guidelines and restrictions to ensure no increased risk of infection to the participants. Where necessary, physical distancing and tools such as online meetings or correspondence will be implemented. Participation of Ethnic Groups: Participation under Project will involve the transferring of power to EGs at the community level enabling them to negotiate with development delivery systems and deciding and acting on what is essential to their development. Documentation of the Consultation Process: a process-oriented data-

				gathering tool that aims to enhance understanding of the relationship between process and structure. It is used to capture group dynamics, issues and concerns affecting decisions in support or against the project/subproject.

The Social and Environmental Screening Procedure (SESP), attached to the project as Annex 6, provides a detailed analysis of the project's social and environmental risks. This analysis examines the risks presented in Table 7 and provides detailed assessments of these risks, as well as identifying how the project will manage these risks to ensure that they do not occur. Moreover, the SESP addresses a set of six questions relating to the identification and management of project risks, namely: i) How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability; ii) What are the Potential Social and Environmental Risks; iii) What is the level of significance of the potential social and environmental risks; iv) What is the overall Project risk categorization; v) Based on the identified risks and risk categorization, what requirements of the SES are relevant; and vi) What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance). The SESP identified 12 risks, of which 10 were scored as Moderate, and 2 were scored as Substantial, resulting in an overall categorisation of Substantial Risk.

A full Environmental and Social Impact Assessment (ESIA) or Environmental and Social Management Plan (ESMP) is anticipated to be necessary, given the project's overall Substantial risk profile. An Environmental and Social Management Framework (ESMF) has been prepared to ensure that the additional required targeted assessments and stand-alone management plans will be prepared during the first year of project implementation (https://pims.undp.org/attachments/6547/217292/1749818/1797096/Annex%209.%20Stakeholder%20Engagement%20Plan_7%20February%202022.docx

Annex 10: Environmental Social Management Framework). Project activities will only commence once these assessments have been completed, the required management plans have been prepared and the plans have been disclosed and approved by the Project Board.

The ESMF includes an Ethnic Groups Planning Framework, for which the corresponding FPIC process has been initiated and will continue throughout project implementation. In addition, a Gender Assessment (GA) and Gender Action Plan (GAP) were noted as priorities in the SESP, as the implementation of the project could potentially reproduce discrimination against women based on gender — particularly regarding women's participation in design and implementation or access to opportunities and benefits. The implementation of the project could also potentially limit women's ability to use, develop and protect natural resources — considering the different roles and positions of women and men in accessing environmental goods and services in Lao PDR. The GA and GAP provide details about gender-related risks, gender-responsive approaches and mitigation pathways for the project. Finally, a project-level Grievance Redress Mechanism (GRM) is included in the Stakeholder Engagement Plan. This will detail how grievances can be submitted to the PMU, as well as how they will be collected, addressed and resolved.

Besides the ESMF, a Covid-19 Framework has been developed — detailed in Annex 13c: Covid-19 Analysis and Action Framework — to identify how Lao PDR has been affected by the pandemic, using the impact of Covid-19 on the Sustainable Development Goals as an indicator. The framework discusses how the proposed project is likely to be impacted by Covid-19, and the project strategy for dealing with these impacts and potential COVID-19-related risks.

The Covid-19 pandemic has had considerable economic and social impacts, both globally and nationally within Lao PDR. The specific impacts of Covid-19 in Lao PDR were documented, through the lens of the SDGs, in a report by the country's UN Resident Coordinator[114]. The report identified that Covid-19 has had an impact on SDGs 1 — No Poverty, 2 — Zero Hunger, 3 — Good Health and Wellbeing, 4 — Quality Education, 5 — Gender Equality, 8 — Decent Work and Economic Growth, 10 — Reduced Inequalities and 17 — Partnerships for the Goals. The specific impacts of Covid-19 on the identified goals include, respectively: i) an 8.3% increase in food prices between January and May, as well as a significant proportion of the population being forced back into poverty; ii) increased pressures on many villages who experienced poor rains in 2018/19 and, as result, did not have sufficient rice for seven months prior to harvest, while a decrease in demand for food in urban markets — 30% decrease in the demand for meat and 40% decrease in the demand for vegetables — could lead to decreased access to food in rural communities and, therefore, increased malnutrition; iii) a decrease in the use of essential health and nutrition services — particularly among mothers, new-borns, children and adolescents — which is projected to result in a spike in maternal mortality; iv) an estimated 1.7 million students having their education disrupted as a result of school closures; v) women facing greater exposure to the virus than men — 64% of health workers are women — as well as being severely affected by the economic impacts of Covid-19, as ~61% of women work as unpaid family workers; vi) an increase in unemployment from 9.4% in 2017 to 23.4% in June 2020 — with more than 320,000 people becoming unemployed — and a quarter of businesses reporting a 60% decrease in sales; vii) households in rural areas experiencing a decrease in income while urban areas experienced an increase in unemployment; and viii) disruptions to exports as Lao PDR's main export destinations were all severely affected by the pandemic while Foreign Direct Investment flows to developing countries in Asia — such as Lao PDR — were projected to decrease by up to 45% by the end of 2020.

Stakeholder engagement and South-South cooperation

Following close collaboration with stakeholders during project development, the implementation strategy for the proposed project includes extensive stakeholder participation. At a broad level, stakeholder participation and representation will be conducted through the governance structures established by the project as outlined and depicted in the organogram in the Governance and Management Arrangements (Section VIII), and through the existing structures at national and local/village levels (such as women's associations). A Stakeholder Engagement Plan for the implementation phase will be validated during the project inception workshop and is attached as Annex 9. In the Stakeholder Engagement Plan, stakeholders are grouped into four main categories: i) central government level; ii) provincial governments; iii) local communities; and iv) related NGOs or CSOs. Within these four categories, the Stakeholder Engagement Plan identifies 17 stakeholder groups. The Plan details the interests each group holds in the proposed project, as well as preferred methods of engagement and allocated time and cost budgets for engagement. Based on stakeholder engagements done during the PPG phase, the Plan also includes detailed strategies for engaging with the communities in the proposed project's target villages, including preferred methods of communication, local language and specific needs to make engagement accessible. These details are disaggregated by gender and age categories. In addition, the Stakeholder Engagement Plan also includes the Grievance Redress Mechanisms (GRM) for the project, in accordance with UNDP standard procedures.

The Stakeholder Engagement Plan will be presented and discussed at the Inception Workshop. Stakeholders will be consulted throughout the project implementation phase to: i) promote community understanding of the project's outcomes; ii) promote local community ownership of the project by engaging in planning, implementing and monitoring of the CCA interventions — which will contribute to the sustainability of the project; iii) communicate to the public in a consistent, supportive and effective manner; and iv) maximise synergies with other ongoing projects.

As a result of the Covid-19 pandemic, stakeholder engagements and consultations during the implementation phase will need to include considerations for the ability of stakeholders and vulnerable groups, such as women and local communities, to access meetings — particularly in the case of future national lockdown measures. The accessibility of stakeholder engagements includes factors such as, *inter alia*: i) the availability and ease of transport to consultations; ii) the safety of stakeholders, both in regard to their health through potential Covid-19 exposure while

[114] United Nations Country Team: Lao PDR. (2020). *UN Lao PDR Socio-Economic Response Framework to COVID-19*

travelling or at the consultation and their physical safety, especially that of women, while travelling; and iii) whether stakeholders located in remote areas are able to access the consultations remotely if travel to consultations were not possible.

The project will be executed by the Department of Water Resources (DWR), under the Ministry of Natural Resources and the Environment (MoNRE), as the primary government stakeholder. DWR will function as the national entity designated by UNDP to assume responsibility for delivering on the project objective and outcomes, as well as the entity accountable to UNDP for the use of funds. During implementation, several other stakeholders will be involved in the project including NGOs, CSOs and local communities — as detailed in the table below. Primary stakeholders have been informed about the project and its objectives and have subsequently participated in baseline surveys and workshops to: i) identify priorities for interventions; ii) determine the project baseline; and iii) determine selected impact and outcome indicators. Furthermore, these stakeholders were also involved in the Project Document validation workshop.

To bring the voice of Lao PDR to global and regional fora, the project will also explore opportunities for meaningful participation in specific events where UNDP could support engagement with the global development discourse on EbA and ICM. The project will furthermore provide opportunities for regional cooperation with countries that are implementing initiatives on EbA and ICM in geopolitical, social and environmental contexts relevant to the proposed project in Lao PDR.

Gender equality and Women's Empowerment

The project team conducted a Gender Analysis (GA) and developed a Gender Action Plan (GAP) for mainstreaming gender considerations into the project design, to ensure that the proposed project activities are both gender-responsive and designed in a gender-sensitive manner (Table 8). Furthermore, training conducted under Activities 1.1.1 and 3.1.1 will include gender mainstreaming for government officials, to ensure gender is mainstreamed at the district level, and community leaders, to ensure gender is mainstreamed at the village level, respectively. The GEF policies, standards and guidelines on gender equality have been applied throughout project development and will continue to be applied during the implementation of the proposed project. Complete details of the GA can be found in Annex 11.

Responding to the key findings from the consultations, the project will contribute to gender equality in the following results areas:

- Closing gender gaps in access to and control over natural resources
- Improving women's participation and decision-making
- Generating socioeconomic benefits or services for women

The proposed project activities have been designed considering that in Lao PDR: i) women's household roles should be considered in any interventions concerning natural resource management, land-use planning and decision-making; ii) conservation incentives differ for men and women; iii) gendered division of labour needs to be understood prior to the introduction of any livelihood interventions; and iv) women need to have access to, and control over ecosystem goods and services. An understanding of gender mainstreaming in relevant sectors and associated ministries has been developed and gaps in gender equality were identified and addressed in all aspects of the project design. Women — and other vulnerable groups — have been actively involved in identifying environmentally sustainable activities and interventions that will support them in safeguarding natural resources and promoting their economic development, with specific strategies being developed to target and include female-headed households.

Table 8. Gender Action Plan.

Project components	Project outcomes	Project outputs	Project activities	Gender Balanced Target	Actions	Responsible agency
Component 1: Developing national and provincial capacities for Integrated Catchment Management (ICM) and integrated urban Ecosystem-based Adaptation (EbA) for climate risk reduction.	Outcome 1: Enhanced national and provincial capacities for integrated catchment and flood management in target rural and urban communities	Output 1.1: Flood- and drought-risk maps of and an economic evaluation of urban ecosystem services and protective options produced for the Xe Bang Hieng River Basin and Luang Prabang city, respectively.	Activity 1.1.1: Design and implement central and provincial training program to enable climate risk-informed water management practices in target urban and rural areas	At least 30% of Women participation in the training programme by the end of the project with the target of 15% by the mid-term end	Relevant female staff of MONRE and PONRE to have access to the training program	PIP, Project management Unit (PMU), DoNRE
			Activity 1.1.2: Map current and future zones of the Xe Bang Hieng River Basin at risk of climate change-induced flooding and drought based on existing hydrological models and conduct protective infrastructure optioneering based on the identified at risk zones.	At least 25% of the participants in the consultation during the mapping exercise must be the women	The consultations for mapping zones at risk of climate change must take into account the concerns and the opinion of the women	PIP, PMU, DoNRE
			Activity 1.1.3: Conduct an economic valuation of urban ecosystem services and protective options in Luang Prabang.	At least 25% of the informants for Economic valuation must be the women	The economic valuation of urban ecosystem services and protective options	PIP, PMU, DoNRE

Project components	Project outcomes	Project outputs	Project activities	Gender Balanced Target	Actions	Responsible agency
		Output 1.2: Integrated Climate-Resilient Flood Management Strategies developed for Luang Prabang and the Xe Bang Hieng River Basin, supported by an updated hydrometeorological monitoring network, EWS and revised emergency procedures for the Xe Bang Hieng River Basin.	Activity 1.2.1: Draft and validate fine-scale climate-resilient development and land-use plans for Luang Prabang and in the headwater and lowland areas of the Xe Bang Hieng River Basin	Women participation in land use planning must be at least 25% and land-use plans must be gender responsive	Women in the project areas accessing land as a result of the land use planning	PIP, PMU, DoNRE
			Activity 1.2.2: Assess and update current Xe Bang Hieng River Basin hydrological monitoring network — including village weather stations — to improve efficiency.	At least 25% of the participants in the consultation on the assessment of the hydrological network must be the women		PIP, PMU, DoNRE
			Activity 1.2.3: Review and revise early-warning systems and emergency procedures of vulnerable Xe Bang Hieng River Basin communities	Early-warning systems and emergency procedures must be gender responsive	Consultation with women and women's groups on their needs and requirements for revision of the early-warning system and emergency procedures	PIP, PMU, DoNRE

Project components	Project outcomes	Project outputs	Project activities	Gender Balanced Target	Actions	Responsible agency
Component 2: Ecosystem-based Adaptation (EbA) interventions, with supporting protective infrastructure[115], and livelihood enhancement.	Outcome 2: Reduced flood risk through headwater conservation, restoration and protective infrastructure, supported by climate-resilient and alternative livelihoods.	Output 2.1: Ecosystems conserved and restored through conservation zone management, Ecosystem-based Adaptation, and protective infrastructure, supported by innovative communication and knowledge management tools/technology.	Activity 2.1.1: Conserve Xe Bang Hieng protected forests through enhanced conservation zone management and enhanced natural regeneration and restore Xe Bang Hieng degraded headwater conservation zones and implement EbA interventions to improve ecological integrity for the delivery of ecosystem services.	At least 25% women participation in the consultations on the EbA interventions for improvement of ecological integrity	Consultation with women and women's groups on needs and requirements associated with restoration of Xe Bang Hieng headwater conservation zones	PMU, PIP & DWR
			Activity 2.1.2: Construct site specific protective infrastructure to reduce flood risk (such as cascading weirs and drainage channels) and drought risk (such as reservoir networks and rainwater harvesting) based on protective infrastructure optioneering conducted under Output 1.1.	Women participation in the trainings must be at least 45% by the end of the project with the 25% target by mid-term end	Women access to the training in the use of improved practices, tools and technologies to support head water conservation zone management	PMU, PIP & DWR

[115] Such as cascading weirs, drainage channels, reservoir networks and rainwater harvesting structures

Project components	Project outcomes	Project outputs	Project activities	Gender Balanced Target	Actions	Responsible agency
			Activity 2.1.3: Develop and distribute communication and knowledge management tools and technologies (such as mobile phone apps and community radio) and train communities on their use to support headwater conservation zone management and increase their resilience to floods and droughts.	Women participation in the consultations on the development of protective infrastructure must be at least 25%	Consultation with women and women's groups on needs and requirements associated with the construction of protective infrastructure to reduce flood and drought risks	PMU, PIP & DWR
		Output 2.2: Climate-resilient and alternative livelihoods promoted in headwater and lowland communities through Community Conservation Agreements (CCAs) and diversified livelihood opportunities.	Activity 2.2.1: Conduct market analyses, including: i) analyzing supply chains for climate-resilient crops, livestock, and farming inputs; ii) assessing economic impacts and market barriers; and iii) recommending mitigating strategies to address these barriers.	Women participation in consultation of market analysis must be at least 25%	Consultation with women and women's groups in analyzing supply chains for climate-resilient crops, livestock and farming inputs, in assessing economic impacts and market barriers; and the concerns of women are taken into consideration in recommending mitigating st strategies	PMU, PIP & DOF

Project components	Project outcomes	Project outputs	Project activities	Gender Balanced Target	Actions	Responsible agency
			Activity 2.2.2: Undertake Community Conservation Agreement process to encourage climate-resilient agriculture, fisheries, and forestry/forest-driven livelihoods and practices	Women participation in the consultations on the community conservation agreement must be at least 25%	Consultation with women and women's groups on needs and requirements in community conservation agreement in climate-resilient agriculture, fisheries and forest drive livelihoods and practices	PMU, PIP & DOAE (MAF)
			Activity 2.2.3: Introduce diversified activities and opportunities through community Conservation Agreements (developed under Activity 2.2.1) in agriculture (livestock and crops, including vegetable farming) as well as fisheries, non-timber forest products (NTFP), and other off-farm livelihoods	At least 25% of the participants benefiting in the diversified activities must be the women	Equal access to diversified livelihood activities and opportunities between men and women	PMU, PIP & DOAE (MAF)

Project components	Project outcomes	Project outputs	Project activities	Gender Balanced Target	Actions	Responsible agency
Component 3: Knowledge management and Monitoring and Evaluation (M&E).	Outcome 3: Effective knowledge management and M&E through awareness/advocacy and monitoring of climate change impacts and adaptation opportunities in target rural and urban communities.	Output 3.1: Training and awareness/advocacy campaigns conducted to enhance knowledge management, M&E and information exchange on climate change impacts on agricultural production and socioeconomic conditions and lessons disseminated on community-based adaptive solutions.	Activity 3.1.1: Provide training and awareness raising to Xe Bang Hieng River Basin communities on: i) climate change impacts on agricultural production and socio-economic conditions; and ii) community-based adaptation opportunities and strategies (e.g., water resources management, agroforestry, conservation agriculture, alternatives to shifting cultivation) and their benefits	At least 40% of the training participants in the training must be the women with the target of 30% by mid-term end	Women in project areas accessing training in climate change impacts on agricultural production and socio-economic conditions and community-based adaptation opportunities and strategies and their benefits	PMU, PIP & DoDMCC
			Activity 3.1.2: Establish a knowledge management hub to collect, and from which to share, project lessons, within Lao PDR and through South-South exchanges, on strengthening climate resilience with regards to: i) catchment management; ii) flash flood management and iii) EbA.	At least 25% of the participants in the exchange sharing must be the women	Women access to the exchange visits on catchment management, flash flood management and Eba.	PMU, PIP & DoDMCC

Project components	Project outcomes	Project outputs	Project activities	Gender Balanced Target	Actions	Responsible agency
			Activity 3.1.3: Conduct awareness-raising campaigns on urban EbA and flood management for communities and the private sector in Luang Prabang.	At least 25% of the participants in the awareness raising campaign must be the women	Women access to the campaign in Luang Prabang on urban EbA and flood management	PMU, PIP & DoDMCC
		Output 3.2: Community-based water resources and ecological monitoring systems established, and community members trained in their operations and maintenance	Activity 3.2.1: Develop and implement community-based monitoring systems to measure changes in key ecological determinants of ecosystem health and resilience in the Xe Bang Hieng River Basin.	At least 10% of the committee members for community-based monitoring mechanism must be the women	Consultation with women and women's groups in the development	PMU, PIP & DoDMCC
			Activity 3.2.2: Community members trained on the operations and maintenance of systems developed under Activity 3.2.1	All female members of the committee members for community-based monitoring system must participate in the training.	Women access to training on the operation and maintenance of the monitoring systems.	PMU, PIP & DoDMCC
Project Management Unit	Effective project implementation and monitoring	GAP is operationalized at all levels of project implementation and monitoring	Monitoring the implementation of the GAP	Gender balance targets of all outputs are achieved by the mid-term of the project	Promotion of active involvement of women and monitoring and evaluation of GAP implementation	Project Gender Office, PMU

Project components	Project outcomes	Project outputs	Project activities	Gender Balanced Target	Actions	Responsible agency
			Awareness raising on gender mainstreaming and the GAP for the district level project officers and coordinators included in training under Activity 1.1.1.	15 participants from each of the 5 target districts and Luang Prabang City		
			Awareness raising on gender mainstreaming and the GAP at the village level included under in training under Activity 3.1.1.	15 participants from each of the 18 target villages		

Innovativeness, Sustainability and Potential for Scaling Up

Innovativeness

The proposed project will introduce several interventions that are innovative to the Lao PDR climate change adaptation context. Firstly, the project will build the capacity of relevant GoL officials to develop hazard risk models and maps, which will enable the effective implementation of Integrated Catchment Management and which will inform land use decision making. Furthermore, the spatial risk information produced as a result of this capacity building will help inform the implementation of protective infrastructure investments.

Secondly, the project will introduce CCAs to target communities, thereby adapting a good practice from the conservation and biodiversity community and adopting it for the engagement of vulnerable communities and to support their shift towards sustainable and climate resilient livelihood opportunities. The implementation of CCAs in target communities will also help foster stronger connections between communities and government agencies, enabling more direct interaction between these groups. Additionally, the project will develop and introduce community-based monitoring systems which will strengthen community level IWRM.

Finally, the project will implement complementary EbA and protective infrastructure interventions at the community level. These interventions will be tailored to match communities' needs and will support the design and implementation of ICM strategies that encompass these communities. EbA and protective infrastructure interventions will mitigate the impact of climate change related events on these communities. Additionally, these interventions will be supported with technologies and information systems such as early warning systems and climate information awareness raising and trainings. The implementation of targeted interventions in headwater and lowland communities will help reduce vulnerability to floods and droughts at both the local and provincial scale, as interventions will be designed to also benefit communities downstream of the implementation site. This approach will be conducted in a manner that promotes sustainability and that is scalable within Lao PDR — as well as neighbouring countries. Further details on the scalability of project interventions are described below under the section entitled 'Potential for scaling up'.

Sustainability

The project has been designed to align strongly with Lao PDR's national, provincial and district development and climate change adaptation priorities. This has been done to promote long-term investment into the project interventions by the relevant decision-makers in the country, which, in turn, will enhance the adaptation impact of the interventions. Additionally, extensive engagements with national-level stakeholders and target communities have been convened during the project development phase to secure ownership of the interventions. The project will also build on previous and ongoing projects in the area or sector, collaborating with stakeholders and partners to address gaps, avoid redundancy and promote complementarity.

During project implementation, regular engagements will continue to be held to increase the role of community members — particularly women — as active participants in the interventions taking place in their communities. Moreover, community ownership will be promoted through the introduction of diversified and alternative livelihood opportunities, coupled with awareness-raising campaigns, by engaging with communities to expand their knowledge and understanding of the roles of their local ecosystems in reducing flood and drought risks. This will contribute to promoting the sustainable use of local ecosystem goods and services. By promoting community ownership, the project will ensure long-term community buy-in, and integration into livelihood practices will ensure the sustainability of the interventions.

The sustainability of protective infrastructure interventions will be ensured by designing interventions which require minimal upkeep once implemented, as well as the implementation of O&M activities by DWR and the Savannakhet PoNRE post intervention completion. Awareness raising in target communities will also ensure that the communities are aware of how they can contribute to the long-term sustainability of protective infrastructure. In addition, project sustainability will be enhanced through the activities in Component 1, which will: i) build institutional and technical capacity; ii) facilitate development and land-use planning; iii) facilitate the creation of flood management strategies; iv) update the existing flood management knowledge base; and v) revise or update current hydrological networks

and early warning systems (EWS) to improve resilience beyond project completion. The sustainability of financial investments into EbA and protective infrastructure in Component 2 will also be supported by: i) 'soft'[116] technical assistance in strengthening headwater conservation zone management; ii) providing communication and knowledge management tools and technologies; and iii) developing Community Conservation Agreements (CCAs). The annual monitoring of CCA implementation and the establishment of links between successful ones and financial mechanisms will ensure the sustainability of these agreements beyond project completion. These supportive elements will ensure the continued implementation of interventions without GEF grant financing once the project is completed. Finally, Component 3 will contribute to the long-term sustainability of the project through knowledge management and M&E interventions to capture and distribute the lessons and outputs of the project for future use by stakeholders/beneficiaries.

The proposed project will be implemented in accordance with international rights and is designed to avoid any adverse impacts on human rights (civil, political, economic, environmental, social or cultural) of any stakeholders involved, or the broader population. This approach will be supported by the risk assessments and safeguards mentioned above — including the ESMF, GA, GAP, and GRM — which will help ensure the implementation of project interventions do not result in adverse human rights impacts.

Potential for scaling up

The Integrated Catchment Management (ICM) and Integrated Climate-Resilient Flood Management Solutions (ICFMS) approaches are designed to be readily upscaled and replicated across other river basins and cities in Lao PDR, as well as in neighbouring countries. Widespread interest in ICM and EbA beyond the target sites will be generated as stakeholders — including rural households, farmers, the private sector, training organisations and national stakeholders — connect throughout the project. This will enable the interventions introduced by the project to be scaled up and replicated, initially in non-target villages throughout Savannakhet Province and eventually in other Lao PDR provinces.

The restoration and protective infrastructure interventions implemented in Savannakhet Province — and resultant lessons learned — will serve as an evidence base for upscaling EbA interventions across different provinces and other countries in the region. By implementing effective CCAs at the target sites, the project will create a strong case for presenting other CCAs to communities. Further to this, the ecological principles applied for successful restoration at the project sites can be used for up-scaling restoration efforts in other parts of the province and the country where similar ecosystems are found.

National capacity building for hydrological modelling will also contribute to the scalability of evidence-based adaptation planning to other provinces in Lao PDR, by improving the tools and capacity that government officials and decisions-makers have for catchment management and planning. In addition, the participatory processes with stakeholders will contribute to producing replicable models for addressing climate vulnerability to floods and droughts in similar urban, agricultural or forest contexts. The knowledge management and M&E activities will further contribute to this upscaling potential by capturing, packaging, and sharing the project's lessons to support the replication of ICM, ICFMS and contextually appropriate adaptation activities (including EbA) across Lao PDR and neighbouring countries.

[116] 'Soft' refers to the provision of assistance that does not involve the construction of physical infrastructure.

V. PROJECT RESULTS FRAMEWORK

This project will contribute to the following Sustainable Development Goal (s): SDG 2: Zero Hunger; SDG 5: Gender Equality; SDG 8 Decent Work and Economic Growth; SDG 11: Sustainable Cities and Communities; SDG 13 Climate Action; SDG 15 Life on Land				
This project will contribute to the following country outcome (UNDAF/CPD, RPD, GPD): Lao PDR – United Nations Sustainable Development Cooperation Framework (UNSDCF)-Outcome 4: By 2026, people, especially the most vulnerable and marginalized, and institutions will be better able to sustainably access, manage, preserve, and benefit from natural resources and promote green growth that is risk-informed, disaster and climate-resilient. UNDP Lao PDR CPD – Outcome 2: By 2026, people, especially the most vulnerable and marginalized, and institutions will be better able to sustainably access, manage, preserve and benefit from natural resources and promote green growth that is risk informed and disaster and climate-resilient				
	Objective and Outcome Indicators (no more than a total of 20 indicators)	**Baseline**	**Mid-term Target**	**End of Project Target**
Project Objective: Promote integrated management of sites in the Mekong River Basin for increased climate resilience of Savannakhet Province and Luang Prabang communities vulnerable to floods and droughts, which are expected to worsen under future scenarios.	**Mandatory** GEF Core Indicator 1: # direct project beneficiaries disaggregated by gender (individual people)	0	164,152 people (~1/3 of the total target beneficiaries)	492,462 people (75% of the total population of the target districts in Savannakhet province plus the population of the target communities in Luang Prabang city)
	Mandatory GEF Core Indicator 2: Area of landscapes under climate-resilient management (ha)	0 ha under sustainable land management in production systems	~65,000 ha (~1/3 of the land area of the five target districts) under sustainable land management in production systems	~200,000 ha (based on the area of Protected Areas and irrigated agricultural land in the target districts) under sustainable land management in production systems
Project component 1	*Developing national and provincial capacities for Integrated Catchment Management (ICM) and integrated urban Ecosystem-based Adaptation (EbA) for climate risk reduction.*			
Project Outcome 1 Enhanced national and provincial capacities for integrated catchment management and integrated water resource management in target rural and urban communities.	Indicator 3: Increased score on UNDP-GEF Capacity Development Scorecard for government officials who attended trainings	0	At least 50% of officials score better on UNDP-GEF Capacity Development Scorecard	80% of government officials score better on UNDP-GEF Capacity Development Scorecard
	Indicator 4: Level of use of fine-scale climate-resilient development and land use plans in target intervention sites	0	At least 1 target district and Luang Prabang city integrating fine-scale climate-resilience development and land use plans	All 5 target districts and Luang Prabang city integrating fine-scale climate-resilience development and land use plans
Outputs to achieve Outcome 1	Output 1.1: Flood- and drought-risk maps of and an economic evaluation of urban ecosystem services and protective options produced for the Xe Bang Hieng River Basin and Luang Prabang city, respectively. Output 1.2: Integrated Climate-Resilient Flood Management Strategies developed for Luang Prabang and the Xe Bang Hieng River Basin, supported by an updated hydrometeorological monitoring network, EWS and revised emergency procedures for the Xe Bang Hieng River Basin.			
Project component 2	*Ecosystem-based Adaptation (EbA) interventions under an Integrated Water Resource Management (IWRM) framework, with supporting protective infrastructure and livelihood enhancement.*			

Outcome 2 Reduced flood risk through headwater conservation, restoration and protective infrastructure, supported by climate-resilient and alternative livelihoods.	Indicator 5: Area (ha) of land restored and conserved through Ecosystem-based Adaptation interventions	0 ha restored/conserved	~3,000 ha conserved in protected areas and ~200 ha of degraded ecosystems restored	~10,000 ha conserved in protected areas and ~500 ha of degraded ecosystems restored
	Indicator 6: Number of CCAs under implementation supporting alternative climate-resilient livelihoods	0 CCAs implemented in target communities	At least 2 CCAs under implementation in target communities	5 CCAs under implementation in target communities
Outputs to achieve Outcome 2	Output 2.1: Ecosystems conserved and restored through conservation zone management, Ecosystem-based Adaptation, and protective infrastructure, supported by innovative communication and knowledge management tools/technology. Output 2.2: Climate-resilient and alternative livelihoods promoted in headwater and lowland communities through Community Conservation Agreements (CCAs) and diversified livelihood opportunities.			
Project component 3	*Knowledge management and Monitoring and Evaluation (M&E).*			
Outcome 3 Effective knowledge management and M&E through awareness/advocacy and monitoring of climate change impacts and adaptation opportunities in target rural and urban communities.	Indicator 7: Level of knowledge and awareness on integrated catchment management and extreme climate events of men and women living in the project intervention sites	A baseline survey will be conducted shortly after project inception. This survey will use a scorecard to assess the current level of knowledge amongst local communities in the Xe Bang Hieng River Basin and Luang Prabang city	At least a 25% improvement in knowledge score of men and women living in the project intervention sites	At least a 50% improvement in knowledge score of men and women living in the project intervention sites
	Indicator 8: Number of communities operating and maintaining water resource and ecological monitoring systems	0 communities trained	8 communities from target villages in Savannakhet Province trained	15 communities from target villages in Savannakhet Province trained
Outputs to achieve Outcome 3	Output 3.1: Training and awareness/advocacy campaigns conducted to enhance knowledge management, M&E and information exchange on climate change impacts on agricultural production and socioeconomic conditions and lessons disseminated on community-based adaptive solutions. Output 3.2: Community-based water resources and ecological monitoring systems established, and community members trained in their operations and maintenance.			

VI. MONITORING AND EVALUATION (M&E) PLAN

The project results, corresponding indicators and mid-term and end-of-project targets in the project results framework will be monitored annually and evaluated periodically during project implementation. Where baseline data for some of the results indicators is not yet available, it will be collected during the first year of project implementation. The Monitoring Plan included in Annex 5 details the roles, responsibilities, and frequency of monitoring project results.

Project-level monitoring and evaluation will be undertaken in compliance with United Nations Development Programme (UNDP) requirements as outlined in the UNDP Programme and Operations Policies and Procedures (POPP) and UNDP Evaluation Policy. The UNDP Country Office is responsible for ensuring full compliance with all UNDP project monitoring, quality assurance, risk management, and evaluation requirements.

Additional mandatory GEF-specific M&E requirements will be undertaken in accordance with the GEF Monitoring Policy and the GEF Evaluation Policy and other relevant GEF policies[117]. The costed M&E plan included below, and the Monitoring plan in Annex, will guide the GEF-specific M&E activities to be undertaken by this project.

In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report.

M&E Oversight and monitoring responsibilities:

Project Coordinator: The Project Coordinator is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Coordinator will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The Project Coordinator will inform the Project Board, the UNDP Country Office and the UNDP-NCE RTA of any delays or difficulties as they arise during implementation to ensure the subsequent adoption of appropriate support and corrective measures.

The Project Coordinator will develop annual work plans based on the multi-year work plan included in Annex 4, including annual output targets to support the efficient implementation of the project. The Project Coordinator will ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the GEF PIR, and that the monitoring of risks and the several plans/strategies developed to support project implementation (e.g., ESMP, gender action plan and stakeholder engagement plan) occur on a regular basis.

Project Board: The Project Board will take corrective action as necessary to ensure the project achieves the desired results. The Project Board will conduct project reviews to assess the performance of the project and appraise the Annual Work Plan for the following year. In the project's final year, the Project Board will conduct an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project Terminal Evaluation (TE) report and the management response.

Project Implementing Partner: The Implementing Partner is responsible for providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.

UNDP Country Office: The UNDP Country Office will support the Project Coordinator as necessary, including through annual supervision missions. The annual supervision missions will take place according to the schedule outlined in

[117] See https://www.thegef.org/gef/policies_guidelines

the annual work plan. Supervision mission reports will be circulated to the project team and Project Board within one month of the mission. The UNDP Country Office will initiate and organise key GEF M&E activities including the annual GEF PIR, the independent mid-term review and the independent terminal evaluation. The UNDP Country Office will also ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality.

The UNDP Country Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the UNDP POPP. This includes ensuring the UNDP Quality Assurance Assessment during implementation is undertaken annually; that annual targets at the output level are developed, monitored and reported using UNDP corporate systems; the regular updating of the ATLAS risk log; and the updating of the UNDP gender marker on an annual basis based on gender mainstreaming progress reported in the GEF PIR and the UNDP ROAR. Any quality concerns flagged during these M&E activities (such as the annual GEF PIR quality assessment ratings) should be addressed by the UNDP Country Office and the Project Coordinator.

The UNDP Country Office will retain all M&E records for this project for up to seven years after project financial closure to support ex-post evaluations undertaken by the UNDP Independent Evaluation Office (IEO) and/or the GEF Independent Evaluation Office (IEO).

NCE (previously GEF) Unit: Additional M&E and implementation quality assurance and troubleshooting support will be provided by the UNDP-NCE Regional Technical Advisor and the UNDP-NCE Directorate as needed.

Additional GEF monitoring and reporting requirements:

Inception Workshop and Report: A project inception workshop will be convened within 60 days of the project CEO endorsement, with the aim to:

a. Familiarise key stakeholders with the detailed project strategy and discuss any changes that may have occurred in the overall context since the project idea was initially conceptualised that may influence its strategy and implementation.
b. Discuss the roles and responsibilities of the project team, including reporting lines, stakeholder engagement strategies and conflict resolution mechanisms.
c. Review the results framework and monitoring plan.
d. Discuss reporting, M&E roles and responsibilities and finalise the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP and other stakeholders in project-level M&E.
e. Update and review responsibilities for monitoring project strategies, including the risk log; SESP report, Environmental and Social Management Framework (ESMF) and other safeguard requirements; project grievance mechanisms (GRMs); gender strategy; knowledge management strategy, and other relevant management strategies.
f. Review financial reporting procedures and budget monitoring and other mandatory requirements and agree on the arrangements for the annual audit.
g. Plan and schedule Project Board meetings and finalise the first-year annual work plan.
h. Formally launch the Project.

GEF Project Implementation Report (PIR):
The annual GEF PIR covering the reporting period July (previous year) to June (current year) will be completed for each year of project implementation. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR, including co-financing tracking

The PIR submitted to the GEF will be shared with the Project Board. The UNDP Country Office will coordinate the input of the GEF Operational Focal Point, IP and other stakeholders to the PIR as appropriate. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

Lessons learned and knowledge generation: Results from the project will be disseminated within and beyond the project intervention area through existing information-sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be beneficial to the project. In addition, the project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous information exchange between this project and other projects of similar focus in the same country, region and globally.

LDCF Core Indicators:
The LDCF Core Indicators included as Annex 15 will be used to monitor global environmental benefits and will be updated for reporting to the GEF prior to the MTR and TE. Note that the project team is responsible for updating the indicator status. The updated monitoring data should be shared with MTR/TE consultants prior to required evaluation missions, so these can be used for subsequent ground truthing. The methodologies for data collection have been defined by the GEF and are available on the GEF website.

Independent Mid-term Review (MTR):
The terms of reference (TOR), the review process and the final MTR report will follow the standard templates and guidance for GEF-financed projects available on the UNDP Evaluation Resource Center (ERC).

The evaluation will be independent, impartial and rigorous. As such, the evaluators that will be hired to undertake the assignment will be independent from organisations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project under review.

The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate.

The final MTR report and MTR TOR will be publicly available in English and will be posted on the UNDP ERC by 24 June 2024. A management response to MTR recommendations will be posted in the ERC within six weeks of the MTR report's completion.

Terminal Evaluation (TE):
An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The TOR, the evaluation process and the final TE report will follow the standard templates and guidance for GEF-financed projects available on the UNDP Evaluation Resource Center.

The evaluation will be 'independent, impartial and rigorous'. Accordingly, the evaluators that will be hired to undertake the assignment will be independent from organisations that were involved in the design, execution or advising of the project to be evaluated. Similarly, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project being evaluated.

The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the TE process. Additional quality assurance support is available from the BPPS/GEF Directorate.

The final TE report and TE TOR will be publicly available in English and posted on the UNDP ERC by 31 June 2026. A management response to the TE recommendations will be posted to the ERC within six weeks of the TE report's completion.

Final Report:
The project's terminal GEF PIR along with the TE report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lessons learned and opportunities for scaling up.

Agreement on intellectual property rights and use of logo on the project's deliverables and disclosure of information: To accord adequate acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials such as publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord sufficient acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies, notably the UNDP Disclosure Policy[118] and the GEF policy on public involvement[119].

Table 9. GEF M&E requirements and M&E budget.

Monitoring and Evaluation Plan and Budget: This M&E plan and budget provides a breakdown of costs for M&E activities to be led by the Project Management Unit during project implementation. These costs are included in Component 3 of the Results Framework and TBWP. The oversight and participation of the UNDP Country Office/Regional technical advisors/HQ Units are not included as these are covered by the GEF Fee.			
GEF M&E requirements	**Primary Responsibility**	**Indicative costs (USD)**	**Time frame**
Inception Workshop	UNDP Country Office	6,000	Within 60 days of CEO endorsement of this project.
Inception Report	Project Coordinator	None	Within 90 days of CEO endorsement of this project.
M&E of GEF core indicators and project results framework	M&E specialist	2,500 per annum — implementation of this activity is part of the responsibilities of the M&E Specialist	Annually and at mid-point and closure.
GEF Project Implementation Report (PIR)	Project Coordinator, M&E specialist, and UNDP Country Office and UNDP-NCE team	2,000 per annum — implementation of this activity is part of the responsibilities of the Project Coordinator, M&E specialist and UNDP team	Annually typically between June-August
Monitoring of social and environmental safeguard screening	Safeguards Officer, M&E specialist, Technical Specialist	3,000 per annum — implementation of this activity is part of the responsibilities of the Safeguards Officer, M&E Specialist and Technical Specialist	On-going.
Monitoring of stakeholder engagement plan	Project Coordinator, M&E specialist	1,500 per annum— implementation of this activity is part of the responsibilities of the Project Coordinator	On-going.
Monitoring of gender action plan	Project Gender Officer	1,000 per annum — implementation of this activity is part of the responsibilities of the Project Gender Officer	On-going.
Supervision missions	UNDP Country Office and UNDP-NCE team	None	Annually

[118] See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/
[119] See https://www.thegef.org/gef/policies_guidelines

Monitoring and Evaluation Plan and Budget: This M&E plan and budget provides a breakdown of costs for M&E activities to be led by the Project Management Unit during project implementation. These costs are included in Component 3 of the Results Framework and TBWP. The oversight and participation of the UNDP Country Office/Regional technical advisors/HQ Units are not included as these are covered by the GEF Fee.			
GEF M&E requirements	**Primary Responsibility**	**Indicative costs (USD)**	**Time frame**
Independent Mid-term Review (MTR)	UNDP Country Office and Project team and UNDP-NCE team	40,000 — International Consultant 12,000 — National Consultant	30 June 2024
Independent Terminal Evaluation (TE)	UNDP Country Office and Project team and UNDP-NCE team	40,000 — International Consultant 12,000 — National Consultant	31 March 2026
TOTAL indicative COST		*150,000* *(~3%)*	

VII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

To determine governance and management arrangements both a Macro and Micro assessments have been undertaken. A Macro Assessment of the Public Financial Management (PFM) System of Lao PDR was conducted in 2021, this aligns with the new CPD timeframe (2022 – 2026). *(Reference **Annex 17**).*

The objective of the Macro assessment is to ensure adequate awareness of the PFM environment in which agencies provide cash transfers to Implementing Partners and to outline risks related to the use of PFM for cash transfers.

The Macro assessment found against the 18 performance indicators: 6 high risks, 3 significant risks, 1 moderate risk, 6 low risks and 2 N/A.

The high-risk parameters mainly include the annual budget and its performance, transfer of cash resources, transparency of audit processes, staff qualifications and skills and environmental conditions. The annual budget lacks in-depth bifurcations of budgeted expenditure which in turn limits the credibility and reliability of the overall budget documents. Further, budget needs to be debated extensively at various levels. Timelines for cash transfers need to be streamlined.

A significant risk is assigned to budget execution, internal controls and exchange rate volatility. The GoL is recommended to undertake serious efforts to efficiently design a sound internal controls system to build reliance on the system. More attention is needed to the development of systematic in-year reporting on budget execution. This is important for effective budget execution by MoF. Exchange rates gap between the official exchange rate and the rate quoted by exchange bureaus remains large

A moderate risk is assigned to audit standards applied by SAI SAO is still in the process of fully aligning with the INTOSAI standards while conducting the audit.

A low risk is assigned to bank reconciliation, reporting of cash and asset position, national procurement framework, SAI independence, financial systems, and existence of black market. In our view, allocation of low risk to these parameters highlights the timelines within which bank reconciliations are prepared and transparency in reporting to government. Constant efforts to create strong PFM is reflected by creating a legal framework for national procurement. With on-going Covid-19 pandemic, BOL has implemented a number mitigating measures to assist business recovery. Further, though black market exists in the Country, long term efforts are being made to eliminate the same.

HACT Micro assessments were undertaken for the Implementing Partner as well as Responsible Parties. The findings of the assessments are provided in Annex 17. The summary of the findings is provided in the table below:

	Overall Rating/ HACT date	Area of concerns
MONRE		
Dept of Planning and Finance	moderate (2021)	• Lack of computerised financial system for donor funds • Programme Management division insufficiently resourced • Insufficient safeguards over fixed assets/weakness in management of fixed assets • Weakness relating to bank reconciliation • Underqualified inspection staff
Dept of Water Resource (IP)	low (2021) - adjusted up to moderate	• Delayed payments from government to the tune of 3-6 months and receipt of very limited budget or budget cut • Substantial expenditure paid in cash • Internal audit report does not cover donor fund • Only vehicles are insured, other assets are not insured
Dept of Climate Change	low (2021)	• No accounting software for donor fund • Internal audit report does not cover donor fund • Assets not covered by insurance policy • No computerised procurement system • Database of supplier does not contain the performance of vendor
Dept of Meteorology and hydrology	low (2021)	• No accounting software used by IP • Substantial expenditure paid in cash • Petty cash reconciliation not prepared • Internal audit report does not cover donor fund • No Follow up action plan on internal auditor's recommendation • Assets not covered by insurance policy • Financial management system of IP is not fully computerized • No proper back up of data • No computerized procurement system • No system of conflict of interest with potential suppliers • No track of past performance of supplier maintained
MAF		
Dept of Planning and Finance	moderate (2018)	• Weakness in bank reconciliations and management • Weakness in accounting procedures • Weakness in procurement system and controls
Dept of Technical Extension and Agro-processing	low (2021)	• Problem in receipt of fund from the government ministry • No documented control framework

		• No accounting software used by IP • Internal audit report does not cover donor fund • Assets not covered by insurance policy • No computerized procurement system
Dept of Forestry	moderate (2021)	• No Accounting software used by IP • No policy for program development and identification of potential risk • Internal Audit report does not cover donor fund • No computerised procurement system • Assets not covered by insurance policy • No system of preparing procurement report

The HACT Micro Assessment for the Implementing Partner – the Department of Water Resources (DWR), under the Ministry of Natural Resources and Environment (MoNRE) was conducted in 2021 (reference Annex 17 Partners Capacity Assessment Tool and HACT assessment). The overall risk rating identified for the IP was **Low**. The DWR Micro Assessment noted that although the overall rating was low, there are several areas of concerns (see table above) within the assessment which require special attention and should be taken into consideration. These included:

- As the IP has not managed UN funds yet, there may be requirement of some capacity building of the IP in managing UN funds
- The IP faces the problem of delayed release of funds from government to the tune of 3-6 months (MoNRE - MOF) and also budget cut based on the available funding with government
- The IP follows the procedure of Government of Lao PDR for background verification/checks. However, no documents are shared in this regard
- Funds from government budget are received in Cash. Payment in regard to expenditure is also done in cash. However, IP staff salary payment is done by MOF by Bank. Cash count is performed annually by Inspection department of MoNRE. However, surprise cash count is not done, also insurance policy for Cash has not been obtained
- Internal audit scope covers audit of government funds only and not the donor funds
- IP keeps track of past performance of supplier. The IP shared a list of vendors however that does not include performance assessment of suppliers.

Based on the concerns raised in the HACT assessments, as well as previous audits and spot checks with government departments and taking into consideration that DWR is yet to be fully tested with regards to implementation for UNDP, the UNDP Country Office *has adjusted the overall rating up to Moderate*. This is based on the country office experience with the government in the implementation of development projects. Financial Regulation 15.01 authorizes UNDP, when there is inadequate capacity, to provide a range of support services to Partners in support of the national implementation of UNDP programme activities, within parameters established by the Executive Board. As per UNDP policies and procedures, management of moderate risk rating entails additional oversight by UNDP and has implications on for example cash transfers.

Roles and responsibilities of the project's governance mechanism:

Implementing Partner: The Implementing Partner for this project is the Department of Water Resources (DWR), under the Ministry of Natural Resources and the Environment (MoNRE). Following Government protocols all reporting and requests to and from the DWR will be made via the Department of Planning and Finance, MoNRE.

The Implementing Partner is the entity to which the UNDP has entrusted the implementation of UNDP assistance specified in this signed project document along with the assumption of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in this document.

The Implementing Partner is responsible for executing this project. Specific tasks include:

- project planning, coordination, management, monitoring and evaluation (M&E) and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.
- risk management as outlined in this Project Document;
- procurement of goods and services, including human resources;
- Entering into an Agreement with RP for the implementation of specific activities
- financial management, including overseeing financial expenditures against project budgets;
- approving and signing the multiyear workplan;
- approving and signing the combined delivery report at the end of the year; and
- signing the financial report or the funding authorisation and certificate of expenditures.

Responsible Parties: The Responsible Parties are the entities entrusted to be responsible for implementing specific project focal areas.

The RPs for this project include Department of Meteorology and Hydrology, Department of Disaster Management and Climate Change, under Ministry of Natural Resources and Environment (MONRE) and Department of Forestry, Department of Technical Extension and Agro-processing under the Ministry of Agriculture and Forestry (MAF). See further detail below.

Under Component 1: i) the Department of Water Resources (DWR) will be responsible for activities developing national and provincial capacity for ICM; ii) DWR will coordinate and work with the Department of Meteorology and Hydrology who will be responsible for hydrological monitoring activities; and iii) DWR will coordinate and work with the Department of Disaster Management and Climate Change who will be responsible for activities for mainstreaming urban EbA.

Under Component 2: i) the DWR will be responsible for activities developing flood protection infrastructure; ii) DWR will coordinate and work with the Department of Forestry who will be responsible for the execution of EbA activities, primarily reforestation, in coordination with target communities; and iii) DWR will coordinate and work with the Department of Technical Extension and Agro-processing who will be responsible for activities enhancing climate-resilient livelihoods.

Under Component 3, the Department of Water Resources will coordinate and work with the Department of Disaster Management and Climate Change will be responsible for activities developing knowledge management, integrated catchment management, and community-based ecological monitoring systems.

Project stakeholders and target groups: The composition of the Project Board will include Representative Beneficiaries to ensure that all target groups are represented in the highest governance structure of the project. Capacity-building and training programmes will enable the Representative Beneficiaries of these groups to be informed on and engage in integrated catchment management (ICM) practices. This will enable the Representative Beneficiaries to provide the appropriate support to the Project Board, while ensuring that the needs and rights of target groups are considered throughout project implementation.

UNDP: UNDP is accountable to the GEF for the implementation of this project. This includes the oversight of project execution to ensure that the project is carried out in accordance with agreed standards and provisions. As such, UNDP is responsible for delivering GEF project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation. UNDP is also responsible for the Project Assurance role of the Project Board/Steering Committee.

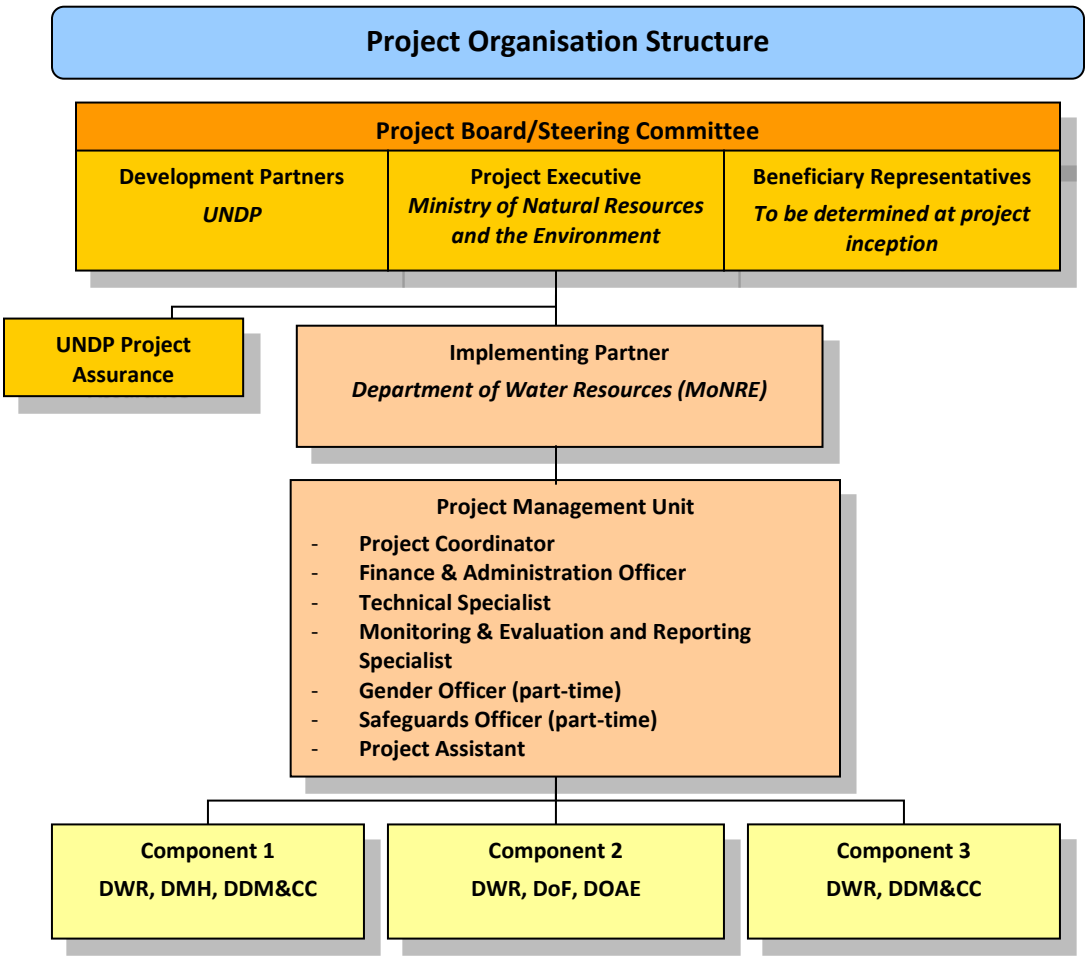


Figure 7. Project organisation structure.

The Project Board (also called Project Steering Committee) is responsible for taking corrective action as necessary to ensure the project achieves the desired results. To ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that will ensure management for development results, best value for money, fairness, integrity, transparency and effective international competition.

In case consensus cannot be reached within the Board, the UNDP Resident Representative (or their designate) will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

Specific responsibilities of the Project Board are to:

- provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- address project concerns as raised by the project coordinator;
- provide guidance on new project risks and agree on possible mitigation and management actions to address specific risks;
- agree on project coordinator's tolerances as required, within the parameters set by UNDP-GEF, and provide direction and advice for exceptional situations when the project coordinator's tolerances are exceeded;
- advise on major and minor amendments to the project within the parameters set by UNDP-GEF;

- ensure coordination between different donor and government-funded projects and programmes;
- ensure coordination with different government agencies and their participation in project activities;
- track and monitor co-financing for this project;
- review the project progress, assess performance, and appraise the Annual Work Plan for the following year;
- appraise the annual project Implementation Report, including the quality assessment rating report;
- ensure commitment of human resources to support project implementation, arbitrating any concerns within the project;
- review combined delivery reports prior to certification by the implementing partner;
- provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- address project-level grievances;
- approve the project's Inception Report, Mid-term Review and Terminal Evaluation reports and corresponding management responses;
- review the final project report package during an end-of-project review meeting to discuss lessons learned and opportunities for scaling up; and
- ensure the highest levels of transparency and incorporate all measures to avoid any real or perceived conflicts of interest.

The composition of the Project Board should include the following roles:

a. Project Executive: Is the individual who represents ownership of the project and chairs the Project Board. The Executive is normally the national counterpart for nationally implemented projects. The Project Executive is the Deputy Minister of the Ministry of Natural Resources and the Environment, who will report to the Project Board twice a year on the progress of the project and the emerging results.

The Executive is ultimately responsible for the project, supported by the Beneficiary Representatives and Development Partners. The role of the Executive is to ensure that the project is focussed throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The Executive should ensure that the project provides value for money, ensuring a cost-conscious approach to the project, balancing the demands of the beneficiary and supplier.

Specific Responsibilities will include:

- ensuring that there is a coherent project organisational structure and logical set of plans;
- briefing relevant stakeholders about project progress;
- organising and chairing Project Board meetings;
- providing project planning, coordination, management, monitoring and evaluation (M&E) and reporting — including providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, as well as results and financial data, as necessary;
- ensuring project-level M&E is undertaken by national institutes and is aligned with national systems to ensure that the data used and generated by the project supports national systems;
- carrying out risk management as outlined in this Project Document;
- procuring goods and services, including human resources;
- providing financial management, including overseeing financial expenditures against project budgets;
- approving and signing the multiyear workplan;
- approving and signing the combined delivery report at the end of the year; and
- signing the financial report or the funding authorisation and certificate of expenditures.

b. Beneficiary Representative(s): Individuals or groups representing the interests of those who will ultimately benefit from the project. Their primary function within the board is to ensure the realisation of project results from the perspective of project beneficiaries. Often civil society representative(s) can fulfil this role. The Beneficiary representative(s) will be identified at the project inception meeting (start of project).

The Beneficiary Representative is responsible for validating the needs and for monitoring that the solution will meet those needs within the constraints of the project. The Beneficiary Representative role monitors progress against targets and quality criteria. This role may require more than one person to cover all the beneficiary interests. However, for the sake of effectiveness, the role should not be split between too many people.

Specific Responsibilities will include:

- prioritising and contributing beneficiaries' opinions on Project Board decisions on whether to implement recommendations on proposed changes;
- specify the beneficiaries' needs in an accurate, complete and unambiguous way;
- implement activities at all stages and monitor to ensure that they will meet the beneficiaries' needs and are progressing towards that target;
- evaluate the impact of potential changes from the beneficiary point of view; and
- frequently monitor the risks to the beneficiaries.

c. Development Partner(s): Individuals or groups representing the interests of the parties concerned that provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring and implementing). The Development Partner(s) is: UNDP Lao PDR.
Specific Responsibilities will include:
   - ensuring that progress towards the outputs remains consistent from the supplier perspective;
   - promoting and maintaining focus on the expected project output(s) from the point of view of supplier management;
   - ensuring that the supplier resources required for the project are made available;
   - contributing supplier opinions on Project Board decisions on whether to implement recommendations on proposed changes; and
   - arbitrating on, and ensuring resolution of, any supplier priority or resource conflicts.

Project Assurance: UNDP performs the quality assurance role and supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures that appropriate project management milestones are managed and completed, and conflict of interest issues are monitored and addressed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Management Unit. UNDP provides a three-tier oversight service involving the UNDP Country Offices and UNDP at regional and headquarters levels. Project assurance is entirely independent of project execution.

Project Management Unit: The PMU will be responsible for running the project on a day-to-day basis on behalf of the Implementing Partner and within constraints laid down by the Project Board. The PMU will be hosted within DWR, MoNRE. The additional members of the PMU will provide project administration, management and technical support to the Project Coordinator as required. The Project Coordinator's function will end when the final project terminal evaluation report and corresponding management response, and other documentation required by the GEF and UNDP, have been completed and submitted to UNDP (including operational closure of the project). The PMU will work closely with the Project Board throughout the implementation of the project.

Specific responsibilities of the PMU will include:

- ensuring project activities are implemented according to the set objectives;
- facilitating communication and meetings of the Project Board to review activities achieved, and discuss activities planned for approval and implementation;
- ensuring periodic reporting on the implementation of project activities and that they are on schedule — regarding progress, performance and budget execution — as outlined in the M&E framework and project budget;
- supporting GoL departments responsible for the implementation of project activities;

- supporting collaboration between the proposed project and other ongoing climate change adaptation projects in Lao PDR and the target areas;
- holding regular meetings and other ad-hoc meetings with the Representative Beneficiaries to discuss plans and progress, and to follow up any concerns the beneficiary groups may have; and
- coordinating and liaising with other donor and government project managers to ensure that synergies are developed and that there is no overlap of tasks.

Project Coordinator:

The Project Coordinator (PC) will have full responsibility in ensuring delivery and quality of work programmes of components, annual component work plans and budget, and coordination of all components. He/she will provide overall guidance in implementing activities in the five-target district in Savannakhet Province and in Luang Prabang City and ensuring the smooth coordination with other project on day-to-day basis.

The PC will also provide overall coordination of day-to-day project planning, implementation, monitoring and overall management. He/she will provide technical guidance and technical advisory support to project implementing agencies and responsible parties to ensure realization of all outputs and outcomes as outlined in the approved project document and work plans developed by the project.

Project extensions: The UNDP Resident Representative and the UNDP-GEF Executive Coordinator must approve all project extension requests. Note that all extensions incur costs and the GEF project budget cannot be increased. A single extension may be granted on an exceptional basis and only if the following conditions are met: i) one extension only for a project for a maximum of six months; ii) the project management costs during the extension period must remain within the originally approved amount, and any increase in PMC costs will be covered by non-GEF resources; iii) the UNDP Country Office oversight costs in excess of the CO's Agency fee specified in the DOA during the extension period must be covered by non-GEF resources.

VIII. FINANCIAL PLANNING AND MANAGEMENT

The total cost of the project is US$32,792,037. This is financed through a GEF LDCF grant of US$5,329,452 and UNDP TRAC resource co-financing of US$250,000 to be administered by UNDP and US$27,212,585 in in-kind co-financing from the Government of Lao PDR and development partners.

UNDP, as the GEF Implementing Agency, is responsible for the oversight of the GEF resources and the cash co-financing transferred to the UNDP bank account only.

Confirmed Co-financing: The actual realisation of project co-financing will be monitored during the mid-term review and terminal evaluation process and will be reported to the GEF. Note that all project activities included in the project results framework that will be delivered by co-financing partners (even if the funds do not pass-through UNDP accounts) must comply with UNDP's social and environmental standards. Co-financing will be used for the following project activities/outputs:

Co-financing source	**Co-financing type**	**Co-financing amount (USD)**	**Planned Co-financing Activities/Outputs**	**Risks**	**Risk Mitigation Measures**
Wildlife Conservation Society — Community-led initiatives conservation	In-kind	1,213,862	• Wetland Conservation aimed at reducing wetland loss • Livelihood improvement, to link conservation	Low level engagement with the project. Risk – Low	Confirmation of co-finance support letter received

critical wetland biodiversity in four districts in Savannakhet			outcomes with community livelihood improvement • Policy Engagement to promote replication of successful scalable models of community led wetlands conservation		
United Nations Environment Programme — Building resilience of urban populations with ecosystem-based solutions in Lao PDR	In-kind	864,000	• Co-financing corresponds to on-going activities in Savannakhet Province including hydrological and hydraulic modelling, capacity building, flood management planning, and restoration of downstream riparian areas • These activities contribute to the promotion of integrated management of sites in the Mekong River Basin for increased climate resilience of Savannakhet province.	Low level engagement with the project. Risk – Low	Confirmation of co-finance support letter received
Republic of Korea — Enhancing Integrated Water Management and Climate Resilience in Vulnerable Urban Areas of the Mekong River Basin	In-kind	1,072,267	• Support provided to project through climate risk and water resource management • Support provided to enhance community preparedness and EWS systems.	Low level engagement with the project. Risk – Low	Confirmation of co-finance support letter
Department of Planning and Finance — Mekong Integrated Water Resources Management	Public investment	13,030,740	Support provided to activities in the Xe Bang Hieng River Basin and Luang Prabang city, namely: • Water quality and ecosystem health • Water resources modelling and assessment • Hydrological and meteorological (Hydro-Met) network upgrading • River Basin Management • Sustainable irrigation and drainage	Low level engagement with the project. Risk – Low	Confirmation of co-finance support letter received
Department of Irrigation — Partnership for Irrigation and Commercialisation of Small Stakeholder Agriculture (PICSA)	Public investment	5,258,716	Supportive provided to EbA implementation in Luang Prabang city, in particular programs and activities related to: • Intensified agricultural development. • Value chains developed. • Improved nutrition practices	Low level engagement with the project. Risk – Low	Confirmation of co-finance support letter received

Provincial Department of Agriculture and Forestry, Savannakhet Province — Climate-Friendly Agribusiness Value Chains Sector (CFAVC)	Public investment	5,773,000	• Support provided to activities in the Xe Bang Hieng River Basin and Luang Prabang city, particularly those relating to commercial crop production.	Low level engagement with the project. Risk – Low	Confirmation of co-finance support letter received
GEF Agency (UNDP TRAC Resources)	Grant	250,000	Support of USD250,000 grant will be used to support PMU costs including, Project Coordinator, Project Assistant, Production of Visibility materials, National Communication and Design Specialist and DPC for UNDP Execution Support Services. Details of co-finance allocation can be found in Budget Note 35–39	Low level engagement with the project. Risk – Low	

Implementing Partner (IP) request for UNDP to provide country support services:
Based on the capacity assessment findings (and adjusted rating of moderate), discussion, and agreement on the implementation of NIM and support services to be provided by UNDP, the GEF OFP has requested UNDP to provide country office execution support services at a cost of **USD$44,549** for the full duration of the project. UNDP will fully absorb this cost.

The GEF execution support letter (signed by the GEF OFP) detailing these support services is included in **Annex 2**. To ensure the strict independence required by the GEF and in accordance with the UNDP Internal Control Framework, these execution services will be delivered independently from the GEF-specific oversight and quality assurance services (i.e. not done by same person to avoid conflict of interest).

Budget Revision and Tolerance: As per UNDP requirements outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project coordinator to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board.

Should the following deviations occur, the Project Coordinator/CTA and UNDP Country Office will seek the approval of the BPPS/GEF team to ensure accurate reporting to the GEF:
a) Budget re-allocations among components in the project budget with amounts involving 10% of the total project grant or more;
b) Introduction of new budget items that exceed 5% of original GEF allocation.

Any over expenditure incurred beyond the available GEF grant amount will be absorbed by non-GEF resources (e.g. UNDP TRAC or cash co-financing).

Audit: The project will be audited as per UNDP Financial Regulations and Rules and applicable audit policies. The audit cycle and process must be discussed during the Inception workshop. If the Implementing Partner is a UN Agency, the project will be audited according to that agency's applicable audit policies.

Project Closure: Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP. All costs incurred to close the project must be included in the project closure budget and reported as final project

commitments presented to the Project Board during the final project review. The only costs a project may incur following the final project review are those included in the project closure budget.

Operational completion: The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting. **Operational closure must happen at the end date calculated by the approved duration after the Project Document signature or at the revised operational closure date as approved in the project extension. Any expected activity after the operational date requires project extension approval.** The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed. At this time, the relevant parties will have already agreed and confirmed in writing on the arrangements for the disposal of any equipment that is still the property of UNDP.

Transfer or disposal of assets: In consultation with the Implementing Partner and other parties of the project, UNDP is responsible for deciding on the transfer or other disposal of assets. Transfer or disposal of assets is recommended to be reviewed and endorsed by the project board following UNDP rules and regulations. Assets may be transferred to the government for project activities managed by a national institution at any time during the life of a project. In all cases of transfer, a transfer document must be prepared and kept on file[120]. The transfer should be done before Project Management Unit complete their assignments.

Financial completion (closure): The project will be financially closed when the following conditions have been met: a) the project is operationally completed or has been cancelled; b) the Implementing Partner has reported all financial transactions to UNDP; c) UNDP has closed the accounts for the project; d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).

The project will be financially completed **within 6 months of operational closure or after the date of cancellation**. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent balance to the BPPS/GEF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.

Refund to GEF: Should a refund of unspent funds to the GEF be necessary, this will be managed directly by the BPPS/GEF Directorate in New York. No action is required by the UNDP Country Office on the actual refund from UNDP project to the GEF Trustee.

[120] See https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PPM_Project%20Management_Closing.docx&action=default.

IX. TOTAL BUDGET AND WORK PLAN

NOTE: PLEASE SEE BUDGET TABLE WITH M&E BUDGET EXTRACTED FROM COMPONENT 3 AND WITH BUDGET NOTES INDICATING SOURCES OF M&E BUDGET IN ANNEX 1

Total Budget and Work Plan			
Atlas Award ID:	00098851	Atlas Output Project ID:	00102048
Atlas Proposal or Award Title:	Integrated Water Resource Management and Ecosystem-based Adaptation (EbA) in the Xe Bang Hieng River Basin and Luang Prabang city		
Atlas Business Unit	LAO10		
Atlas Primary Output Project Title	Integrated Water Resource Management and Ecosystem-based Adaptation (EbA) in the Xe Bang Hieng River Basin and Luang Prabang city		
UNDP-GEF PIMS No.	6547		
Implementing Partner	Department of Water Resources (DWR), MoNRE		

Atlas Activity (GEF Component)	**Atlas IA**	**Atlas Fund ID**	**Donor Name**	**Atlas Budgetary Account Code**	**ATLAS Budget Account Description**	**Amount Year 1 [2022]**	**Amount Year 2 [2023]**	**Amount Year 3 [2024]**	**Amount Year 4 [2025]**	**Total (USD)**	***See Budget Note:***
COMPONENT 1: Developing national and provincial capacities for Integrated Catchment Management (ICM) and integrated urban Ecosystem-based Adaptation (EbA) for climate risk reduction.	UNDP	62160	LDCF	71200	International Consultants	147,000	-	-	-	147,000	*1*
	UNDP			71300	Local Consultants	99,000	16,500	16,500	16,500	148,500	*2*
	DWR, MoNRE			71800	Contractual Services – Imp Partner	4,540	4,540	4,540	4,540	18,160	*3*
	UNDP			71400	Contractual Services — Individual	41,996	41,996	41,996	41,996	167,984	*4*
	UNDP			72100	Contractual Services — Companies	257,000	-	-	-	257,000	*5*
	DWR, MonRE			71600	Travel	21,454	4,750	4,750	4,750	35,704	*6*
	DWR, MonRE			75700	Training, Workshops and Confer	7,500	41,250	41,250	41,250	131,250	*7*
					sub-total Outcome 1	**578,490**	**109,036**	**109,036**	**109,036**	**905,598**	
COMPONENT 2: Ecosystem-	UNDP	62160	LDCF	71200	International Consultants	42,000	7,000	7,000	7,000	63,000	*8*

Atlas Activity (GEF Component)	Atlas IA	Atlas Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Account Description	Amount Year 1 [2022]	Amount Year 2 [2023]	Amount Year 3 [2024]	Amount Year 4 [2025]	Total (USD)	*See Budget Note:*
based Adaptation (EbA) interventions, with supporting protective infrastructure, and livelihood enhancement	UNDP			71300	Local Consultants	35,500	28,500	28,500	28,500	121,000	*9*
	UNDP			71400	Contractual Services — Individual	43,996	43,996	43,996	43,996	175,984	*10*
	DWR, MonRE			71800	Contractual Services – Imp Partner	6,580	6,580	6,580	6,580	26,320	*11*
	UNDP			72100	Contractual Services-Companies	100,000	688,727	688,726	688,726	2,166,179	*12*
	UNDP			72600	Grants	-	100,000	100,000	100,000	300,000	*13*
	DWR, MonRE			71600	Travel	10,375	9,030	9,030	9,030	37,465	*14*
	DWR, MonRE			75700	Training, Workshops and Confer	38,750	48,750	48,750	48,750	185,000	*15*
	UNDP			74200	Audio Visual & Print Prod Costs	4,000	-	-	-	4,000	*16*
					sub-total Outcome 2	**281,201**	**932,583**	**932,582**	**932,582**	**3,078,948**	
COMPONENT 3: Knowledge Management (excluding M&E)	UNDP	62160	LDCF	71200	International Consultants	21,000	-	-	-	21,000	*17*
	UNDP			71300	Local Consultants	-	15,000	15,000	15,000	45,000	*18*
	UNDP			72100	Contractual Services-Companies	120,000	40,000	40,000	40,000	240,000	*19*
	DWR, MonRE			71800	Contractual Services - Imp Partner	2,040	2,040	2,040	2,040	8,160	*20*
	UNDP			71400	Contractual Services — Individual	84,496	84,496	84,496	84,496	337,984	*21*

Atlas Activity (GEF Component)	Atlas IA	Atlas Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Account Description	Amount Year 1 [2022]	Amount Year 2 [2023]	Amount Year 3 [2024]	Amount Year 4 [2025]	Total (USD)	*See Budget Note:*
	UNDP			72200	Equipment and Furniture	125,000	-	-	-	125,000	*22*
	DWR, MonRE			71600	Travel	-	13,410	13,410	13,410	40,230	*23*
	DWR, MoNRE			75700	Training, Workshops and Confer	-	41,250	41,250	41,250	123,750	*24*
					sub-total Outcome 3 (exc. M&E)	**352,536**	**196,196**	**196,196**	**196,196**	**941,124**	
COMPONENT 3: M&E budget	UNDP	62160	LDCF	71200	International Consultants		40,000	-	40,000	80,000	*17*
				71300	Local Consultants		12,000		12,000	24,000	*18*
				71800	Contractual Services – Imp Partner	2,500	2,500	2,500	2,500	10,000	*20*
				71400	Contractual Services – Individual	7,500	7,500	7,500	7,500	30,000	*21*
				75700	Training, Workshops and Confer	6,000				6,000	*24*
					sub-total M&E	**16,000**	**62,000**	**10,000**	**62,000**	**150,000**	
					sub-total Outcome 3	**368,536**	**258,196**	**206,196**	**258,196**	**1,091,124**	
Sub-total LDCF Component 1-3						**1,228,227**	**1,299,815**	**1,247,814**	**1,299,814**	**5,075,670**	
Project Management	UNDP	62160	LDCF	71400	Contractual Services - Individual	33,600	33,600	33,600	33,600	134,400	*25*
	UNDP			71800	Contractual Services - Imp Partner	12,240	12,240	12,240	12,240	48,960	*26*

Atlas Activity (GEF Component)	Atlas IA	Atlas Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Account Description	Amount Year 1 [2022]	Amount Year 2 [2023]	Amount Year 3 [2024]	Amount Year 4 [2025]	Total (USD)	*See Budget Note:*
	DWR, MonRE			75700	Training, Workshops and Confer	3,750	3,750	3,750	3,750	15,000	*27*
	UNDP			72800	IT Equipment	18,000	-	-	-	18,000	*28*
	UNDP			72200	Equipment & Furniture	8,000	-	-	-	8,000	*29*
	DWR, MonRE			72500	Supplies	2,406	2,406	2,405	2,405	9,622	*30*
	DWR, MoNRE			73100	Rental & Maintenance - Premises	3,600	3,600	3,600	3,600	14,400	*31*
	DWR, MonRE			72400	Communic & Audio Visual Equip	5,400	-	-		5,400	*32*
					sub-total LDCF	**86,996**	**55,596**	**55,595**	**55,595**	**253,782**	
	UNDP	04000	UNDP	71800	Contractual Services – Imp Partner	27,300	27,300	27,300	27,300	109,200	*33*
				71400	Contractual Services - Individual	9,000	9,000	9,000	9,000	36,000	*34*
				74100	Professional Services	4,000	4,000	4,000	4,000	16,000	*35*
				74596	Service to Projects – GOE	12,433	11,500	9,683	10,933	44,549	*36*
				74200	Audio Visual&Print Prod Costs	3,562	3,563	3,563	3,563	14,251	*37*
				72200	Equipment & Furniture	30,000	-	-	-	30,000	*38*
					Sub-total UNDP	**86,295**	**55,363**	**53,546**	**54,796**	**250,000**	
				Total Project Management		**173,291**	**110,959**	**109,141**	**110,391**	**503,782**	

Atlas Activity (GEF Component)	Atlas IA	Atlas Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Account Description	Amount Year 1 [2022]	Amount Year 2 [2023]	Amount Year 3 [2024]	Amount Year 4 [2025]	Total (USD)	*See Budget Note:*
TOTAL LDCF						**1,315,223**	**1,355,411**	**1,303,409**	**1,355,409**	**5,329,452**	
TOTAL UNDP (TRAC)						**86,295**	**55,363**	**53,546**	**54,796**	**250,000**	
PROJECT TOTAL						**1,401,518**	**1,410,774**	**1,356,955**	**1,410,205**	**5,579,452**	

Summary of Funds:

	Amount Year1	Amount Year 2	Amount Year 3	Amount Year 4	Total
GEF/LDCF	**1,315,223**	**1,355,411**	**1,303,409**	**1,355,409**	**5,329,452**
UNDP (TRAC)	**86,295**	**55,363**	**53,546**	**54,796**	250,000
Government (public investment)	6,015,614	6,015,614	6,015,614	6,015,614	**24,062,456**
Wildlife Conservation Society (in-kind)	303,465	303,465	303,466	303,466	**1,213,862**
United Nations Environment Programme (in-kind)	216,000	216,000	216,000	216,000	**864,000**
UNDP (In-kind)	268,069	268,066	268,066	268,066	**1,072,267**
TOTAL	**8,204,666**	**8,213,919**	**8,160,101**	**8,213,351**	**32,792,037**

Budget notes:

Component 1	
1	International Consultant (IC) for support to Component 1: • To design six training programs (one program per target district, including Luang Prabang city) to enable climate risk-informed water management practices in urban and rural areas (USD700 x 30days [Y1] – USD21,000) • To conduct protective infrastructure optioneering based on identified risk zones (USD 700 x 30days [Y1] – USD21,000) • To conduct options analysis of protective infrastructure in Luang Prabang (USD 700 x 30days [Y1] – USD21,000) • To draft fine-scale climate-resilient development and land use plans (USD 700 x 30days [Y1] – USD21,000) • To assess the current Xe Bang Hieng River Basin hydrological monitoring network, with support from DWR (USD 700 x 30days [Y1] – USD21,000) • To review and provide recommendations on early warning systems and emergency procedures (five days per district during review phase) (USD 700 x 60days [Y1] – USD42,000)
2	Local Consultant to support Component 1: • To conduct one week-long training program in each target district and Luang Prabang city (USD 300 x 30 days/year x 3 years [Y2,3,4] – USD27,000) • To assist the IC in designing the training programs (USD300 x 60 days [Y1] – USD18,000) • To assist the IC with protective infrastructure optioneering (USD300 x 60 days [Y1] – USD18,000) • To assist the IC in conducting the options analysis (USD300 x 60 days [Y1] – USD18,000) • To assist the IC in the drafting of plans (USD300 x 60 days [Y1] – USD18,000) • To assist the contractual services and deliver training on updated village weather stations (USD 300 x 25 days/year x 3 years [Y2,3,4] – USD22,500) • To assist the IC review EWS and emergency procedures (USD300 x 90 days [Y1] – USD27,000)
3	Contractual services (individual - IP) for support to Component 1: • To act as Project Coordinator (Approx. 11% of USD3,400 x 12 months x 4 years [Y1,2,3,4] – USD18,160)
4	Contractual services (individual) for support to Component 1: • To act as project Technical Specialist (33.33% of US10,000 x 12 months x 4 years [Y1,2,3,4] – USD159,984) • To act as Project Gender Officer (33.33% of USD300 x 10 weeks x 4 years [Y1,2,3,4] - USD4,000) • To act as Project Safeguards Officer (20% of USD500 x 10 weeks x 4 years [Y1,2,3,4] USD4,000)
5	Contractual services for support to Component 1: • To map current and future risk zones of the Xe Bang Hieng River Basin (USD64,000 — Y1) • For economic valuation of ecosystems. This cost includes integrating valuations into policy, ascertaining ecosystem services flow, promoting non-marketable ecosystem services as an income generator, enumerators and the collection of socio-economic data (USD64,000 — Y1) • To update hydrological monitoring network based on the recommendations of the international consultant (USD65,000 — Y1) • To undertake a revision of EWS and emergency procedures based on recommendations made by IC (USD64,000 — Y1)

6	Travel budget for experts involved in Component 1 — covering vehicle hire and local transport, DSA, travel to training events and international travel (USD35,704)
7	Training workshops and meetings for Component 1: • Training workshop for decision-makers on climate risk-informed water management and gender mainstreaming, in target rural and urban areas - 1 week training program in each district + Luang Prabang (USD3,750 x 6 workshops/year x 3 years [Y2,3,4] — USD67,500) • Conduct 3-day validation workshop for fine-scale climate-resilient development and land use plans (1 in Savannakhet + 1 in Luang Prabang) (USD3,750 x 2 workshops [Y1] —USD7,500) • Conduct training for target communities on the use of updated weather stations - 1 week training per district (USD3,750 x 5 workshops/year x 3 years [Y2,3,4] — USD56,250)
Component 2	
8	International Consultant for support to Component 2: • To design training on the use of improved practices, tools and technologies to support headwater conservation zone management, with support from DWR (USD 700 x 30days [Y1] – USD21,000) • To conduct training on the use of improved practices, tools and technologies to support headwater conservation zone management (USD 700 x 10days x 3 years [Y2,3,4] – USD21,000) • To undertake the drafting and introduction of CCAs to target communities (USD 700 x 30days [Y1] – USD21,000)
9	Local consultant for support to Component 2: • To run community engagement workshop to engage on CCAs (USD300 x 25 days [Y1] — USD7,500) • To introduce and train target communities on alternative and diversified livelihood activities and opportunities (USD300 x 25 days x 3 years [Y2,3,4] — USD22,500) • To assist the IC in conducting training and to act as translator (USD300 x 10 days x 3 years [Y2,3,4] — USD9,000) • To assist the contractual services and deliver training on communication and knowledge management tools and technologies (USD300 x 60 days x 3 years [Y2,3,4] — USD54,000) • To assist the IC in drafting and implementing CCAs and to act as translator (USD300 x 60 days [Y1] — USD18,000) • To assist the Project Safeguards Officer in assessments related to protective infrastructure (USD333 x 30 days [Y1] —USD10,000)
10	Contractual services (individual) for support to Component 2: • To act as project Technical Specialist (33.33% of US10,000 x 12 months x 4 years [Y1,2,3,4] – USD159,984) • To act as Project Gender Officer (33.33% of USD300 x 10 weeks x 4 years [Y1,2,3,4] – USD4,000) • To act as Project Safeguards Officer (60% of USD500 x 10 weeks x 4 years [Y1,2,3,4] USD12,000)
11	Contractual services (individual – IP) for support to Component 2: • To act as Project Coordinator (Approx. 16% — USD3400 x 12 months x 4 years [Y1,2,3,4] USD26,320)
12	Contractual services for support to Component 2: • DWR will drive the implementation of conservation and restoration in Xe Bang Hieng headwater conservation zones (USD1,000,000) — including planting activities and natural regeneration, with procurement of seedlings, etc. by contractual services. Cost of restoration @ US$ 1,000 per ha and cost for conservation @ US$ 50 per ha. These costs will include, *inter alia*: i) growing of

	indigenous seedlings; ii) planting activities; iii) natural regeneration; iv) installation of information and sign boards; and v) forest boundary management. • Construction of protective infrastructure in target sites (USD1,066,179) — Including: i) the construction or improvement of cascading weirs (US$ 10,000-50,000); ii) the construction or improvement of irrigation systems to improve access to water during dry seasons and droughts for agriculture (including the use of solar cells to supply electricity that is smart and more accessible @ US$1,500-2000 $ per ha. If the project will contribute for 30 households per village (in average 1 ha per household), this can cost up to US$45,000-60,000); and iii) construction of small reservoirs @ US$ 20,000-30,000. 10% will be demarcated for contingency costs. • To implement and distribute communication and knowledge management tools and technologies (e.g. mobile phone apps, community radio, etc.) to target communities (USD50,000) • To conduct market analyses to inform diversified and alternative livelihood activities (USD50,000)
13	Grants to support Community Conservation Agreements under Component 2: • Funding based on CCAs to Village Development Funds for small community enterprises for sustainable livelihood opportunities, such as agroforestry, small livestock, etc. — including processing and marketing activities, sustainable ecological management (fodder production, water availability, etc.). The grants will be managed following UNDP micro-capital grants policies. (USD20,000 x 5 target communities x 3 years [Y2, Y3, Y4] —USD300,000)
14	Travel budget for experts involved in Component 2 — covering vehicle hire and local transport, DSA, travel to training events and international travel (USD37,465)
15	Training workshops and meetings for Component 2: • For headwater communities in the use of improved practices, tools and technologies - 1 week training program in each headwater district (USD3,750 x 2 workshops/year x 3 years [Y2,3,4] —USD22,500) • For target communities on the use of communication and knowledge management tools and technologies - 1 week workshop per district + Luang Prabang (USD3,750 x 6 workshops/year x 3 years [Y2,3,4] — USD67,500) • Community engagement workshops to develop and finalise CCAs - 1 week engagement workshop in each district (USD3,750 x 5 workshop [Y1] —USD18,750) • Community engagement workshops to introduce and train communities on alternative livelihood opportunities - 1 week engagement workshop in each district (USD3,750 x 5 workshops/year x 3 years [Y2,3,4] — USD56,250) • Community engagement workshops to establish FPIC (USD20,000 x1 [Y1] — USD20,000)
16	Audio-visual & print production: • Audio-visual & print production expenses for consultations conducted by Project Safeguards Officer (USD4,000 x 1 [Y1] — USD4,000)
Component 3	
17	International Consultant for support to Component 3: • To design training for Xe Bang Hieng River Basin communities, with support from DWR (USD700 x 30 days [Y1] — USD21,000) • To perform Independent Mid-term Review (USD40,000 — Y2) **– counted 100% toward M&E budget** • To perform Independent Terminal Evaluation (USD40,000 — Y4) **– counted 100% toward M&E budget** •
18	Local Consultant for support to Component 3:

	• To conduct 1 week training program in each district (USD300 x 25 days x 3 years [Y2,3,4] — USD22,500) • To deliver training on community-based monitoring systems (USD300 x 25 days x 3 years [Y2,3,4] — USD22,500) • To act as support the International Consultant performing the Independent Mid-Term Review (USD12,000 — Y3) **– counted 100% toward M&E budget** • To act as support the International Consultant performing the Independent Terminal Evaluation (USD12,000 — Y4) **– counted 100% toward M&E budget**
19	Contractual services for support to Component 3: • To conduct awareness raising campaign among Xe Bang Hieng River Basin communities, on the impacts of climate change and adaptation opportunities (USD60,000) • To set up and establish knowledge management hub for the facilitate the sharing of lessons learned (USD80,000) • To design and implement awareness raising campaign in Luang Prabang (USD80,000) • To design and implement community based-monitoring systems (USD20,000)
20	Contractual services (individual - IP) for support to Component 3: • To act as Project Coordinator (Approx. 11% of USD3,400 x 12 months x 4 years [Y1,2,3,4] – USD18,160) including provision of inputs into PIRs and monitoring of stakeholder engagement plan **(**Embedded **M&E budget** – 2,500/year for 4 years – $10,000)
21	Contractual services (Individual) for support to Component 3: • To act as project Technical Specialist (33.33% of US10,000 x 12 months x 4 years [Y1,2,3,4] – USD159,984). This also includes monitoring of social and environmental safeguards of the project. **(**Embedded **M&E budget –** $1,400 x 4 years – $5,600) • To act as Project Gender Officer (33.33% of USD300 x 10 weeks x 4 years [Y1,2,3,4] - USD4,000) including to monitor gender action plan (**M&E budget** $1,000 x 4 years - $4,000) • To act as Project Safeguards Officer (20% of USD500 x 10 weeks x 4 years [Y1,2,3,4] USD4,000) including to monitor social and environmental safeguards of the project. (Embedded **M&E budget** – $600 x 4 years – 2,400) • To act as M&E and Reporting Specialist (USD2,500 x 12 months x 4 years [Y1,2,3,4] — USD120,000). This includes monitoring and reporting on GEF core indicators, project results framework, coordinating inputs for PIRs, monitoring of social and environmental safeguards and stakeholder engagement plan. **(**Embedded **M&E budget –** $4,500 x 4 years – $18,000) • Researcher to manage the operations of the management hub, compile and share lessons learned and conduct annual reviews (USD20,000 x 4 year [Y1,2,3,4] —USD80,000) **Note: total embedded budget for M&E is $30,000**
22	Equipment for support to Component 3: (USD125,000) • Monitoring equipment for use in target districts including, for example: i) GPS: ii) water quality testing kits; iii) river gauges; iv) invasive plant management equipment; and v) biodiversity monitoring equipment (fish monitoring equipment, binoculars, camera traps, field guides etc.)
23	Travel budget for experts involved in Component 3 — covering vehicle hire and local transport, DSA, travel to training events and international travel (USD40,230)
24	Training workshops and meetings for Component 3: • Training workshop for Xe Bang Hieng River Basin communities on: i) climate change impacts on agricultural production and socioeconomic conditions; ii) community-based adaptation opportunities and strategies (including water resources management,

	agroforestry, conservation agriculture, alternatives to swidden agriculture) and their benefits; and iii) gender mainstreaming at the village level — 1 week training program in each district (USD3,750 x 5 workshops x 3 years [Y2,3,4] — USD56,250) • Annual engagement workshop with relevant stakeholders to inform annual review and updates to the hub (USD3,750 x 1 workshop x 3 years [Y2,3,4] — USD11,250) • Training workshop for Xe Bang Hieng River Basin communities on the operations and maintenance of community-based monitoring systems — 1 week training program in each district (USD3,750 x 5 workshops x 3 years [Y2,3,4] — USD56,250) • Inception workshop (USD6,000 x 1 workshop — Y1) **– M&E**
Project Management Unit — LDCF	
25	Contractual services for the Project Management Unit: • Finance and Administration Officer (USD2,800 x 12 months/year [Y1,2,3,4] — USD134,400)
26	Contractual services for the Project Management Unit: Project Coordinator (30% — USD48,960 — to be covered under the GEF PMU, approx.38% ($62,640) to be covered under project activities and 32% ($51,600) to be covered under UNDP PMU. USD 3,400/ months for 48 months – USD 163,200)
27	Meetings under the Project Management Unit: • Project Board Meeting (USD3,750 x 1 meeting/year for 4 years [Y1,2,3,4] —USD15,000)
28	IT Equipment for the Project management Unit: • Laptop computers (USD2,000 x 9 [Y1] — USD18,000)
29	Equipment and Furniture for the Project Management Unit: • Office furniture, including 6 desks and chairs for project staff and 10 office cabinets (USD8,000 x 1 [Y1] — USD8,000)
30	Supplies for the Project Management Unit: • Office stationery (approx. USD 2,405.5 annually [Y1, 2, 3, 4] — USD9,622)
31	Rental and maintenance for the Project Management Unit: • Office electricity cost (USD1,200 annually [Y1, 2, 3, 4] —USD4,800) • Office water cost (USD600 annually [Y1, 2, 3, 4] —2,400) • Office cleaning (USD 1,800 annually [Y1, 2, 3, 4] — USD7,200)
32	IT Equipment for the Project management Unit: • Internet installation cost (USD5,400 x 1 [Y1] — USD5,400)
Project Management Cost — UNDP (TRAC co-finance)	
33	Contractual services – Individual (IP) for the Project Management Unit: • Project Coordinator (Approx. 32% — USD51,600 — to be covered under the UNDP PMU, approx.. 38% ($62,640) to be covered under project activities and 30% ($48,960) to be covered under GEF PMU. USD 3,400/ months for 48 months – USD 163,200) • Project Assistant (USD 1,200/month for 48 months – USD57,600)
34	Contractual services for the Project Management Unit: • National Communication and Design Specialist (USD1,500 x 6 months/year [Y1, 2, 3, 4] — USD36,000)
35	Professional services for the Project Management Unit to conduct Project Audit (USD4,000 for 4 years [Y1,2,3,4] — USD16,000)

36	UNDP Execution Support Services to the Project (USD44,549): • Staff and HR — USD11,579 • Finance — USD9,630 • Procurement — USD19,420 • Admin and logistics — USD3,713 • IT — USD207
37	Audio Visual & Print Prod Costs for the Project Management Unit: • Production of visibility materials (USD14,251 for 4 years)
38	Equipment for the following purposes: Project vehicle, which will be used by Project Manager and Project Coordinator to travel from duty station in Vientiane to project sites (6 hours to Savannakhet and 7 hours to Luang Prabang). The main purpose of using this vehicle (i) travel for oversight of the project activities implementation, which will need to conduct as regular basis and also attending meetings (project board, quarterly, mid-meeting and annual meetings) in the provinces, (ii) will be used transporting some necessary equipment e.g. solar pump, solar panel for setting up in the provinces. (USD30,000 x 1 [Y1] — USD30,000)

X. LEGAL CONTEXT

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Lao PDR and UNDP, signed on 10 October 1988. All references in the SBAA to "Executing Agency" shall be deemed to refer to "Implementing Partner."

This project will be implemented by the Department of Water Resources ("Implementing Partner"), within the Ministry of Natural Resources and the Environment, in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations or UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

XI. RISK MANAGEMENT

1. Consistent with the Article III of the SBAA *[or the Supplemental Provisions to the Project Document]*, the responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP's property in the Implementing Partner's custody, rests with the Implementing Partner. To this end, the Implementing Partner shall:
   a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
   b) assume all risks and liabilities related to the Implementing Partner's security, and the full implementation of the security plan.

2. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the Implementing Partner's obligations under this Project Document.

3. The Implementing Partner agrees to undertake all reasonable efforts to ensure that no UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml.

4. The Implementing Partner acknowledges and agrees that UNDP will not tolerate sexual harassment and sexual exploitation and abuse of anyone by the Implementing Partner, and each of its responsible parties, their respective sub-recipients and other entities involved in Project implementation, either as contractors or subcontractors and their personnel, and any individuals performing services for them under the Project Document.

   (a) In the implementation of the activities under this Project Document, the Implementing Partner, and each of its sub-parties referred to above, shall comply with the standards of conduct set forth in the Secretary General's Bulletin ST/SGB/2003/13 of 9 October 2003, concerning "Special measures for protection from sexual exploitation and sexual abuse" ("SEA").

(b) Moreover, and without limitation to the application of other regulations, rules, policies and procedures bearing upon the performance of the activities under this Project Document, in the implementation of activities, the Implementing Partner, and each of its sub-parties referred to above, shall not engage in any form of sexual harassment ("SH"). SH is defined as any unwelcome conduct of a sexual nature that might reasonably be expected or be perceived to cause offense or humiliation, when such conduct interferes with work, is made a condition of employment or creates an intimidating, hostile or offensive work environment.

5. a) In the performance of the activities under this Project Document, the Implementing Partner shall (with respect to its own activities), and shall require from its sub-parties referred to in paragraph 4 (with respect to their activities) that they, have minimum standards and procedures in place, or a plan to develop and/or improve such standards and procedures in order to be able to take effective preventive and investigative action. These should include: policies on sexual harassment and sexual exploitation and abuse; policies on whistleblowing/protection against retaliation; and complaints, disciplinary and investigative mechanisms. In line with this, the Implementing Partner will and will require that such sub-parties will take all appropriate measures to:

    i. Prevent its employees, agents or any other persons engaged to perform any services under this Project Document, from engaging in SH or SEA;

    ii. Offer employees and associated personnel training on prevention and response to SH and SEA, where the Implementing Partner and its sub-parties referred to in paragraph 4 have not put in place its own training regarding the prevention of SH and SEA, the Implementing Partner and its sub-parties may use the training material available at UNDP;

    iii. Report and monitor allegations of SH and SEA of which the Implementing Partner and its sub-parties referred to in paragraph 4 have been informed or have otherwise become aware, and status thereof;

    iv. Refer victims/survivors of SH and SEA to safe and confidential victim assistance; and

    v. Promptly and confidentially record and investigate any allegations credible enough to warrant an investigation of SH or SEA. The Implementing Partner shall advise UNDP of any such allegations received and investigations being conducted by itself or any of its sub-parties referred to in paragraph 4 with respect to their activities under the Project Document, and shall keep UNDP informed during the investigation by it or any of such sub-parties, to the extent that such notification (i) does not jeopardize the conduct of the investigation, including but not limited to the safety or security of persons, and/or (ii) is not in contravention of any laws applicable to it. Following the investigation, the Implementing Partner shall advise UNDP of any actions taken by it or any of the other entities further to the investigation.

    b) The Implementing Partner shall establish that it has complied with the foregoing, to the satisfaction of UNDP, when requested by UNDP or any party acting on its behalf to provide such confirmation. Failure of the Implementing Partner, and each of its sub-parties referred to in paragraph 4, to comply of the foregoing, as determined by UNDP, shall be considered grounds for suspension or termination of the Project.

6. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (http://www.undp.org/ses) and related Accountability Mechanism (http://www.undp.org/secu-srm).

7. The Implementing Partner shall: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any

concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.

8. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.

9. The Implementing Partner will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, responsible parties, subcontractors and sub-recipients in implementing the project or using UNDP funds. The Implementing Partner will ensure that its financial management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.

10. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to the Implementing Partner: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. The Implementing Partner agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.

11. In the event that an investigation is required, UNDP has the obligation to conduct investigations relating to any aspect of UNDP projects and programmes in accordance with UNDP's regulations, rules, policies and procedures. The Implementing Partner shall provide its full cooperation, including making available personnel, relevant documentation, and granting access to the Implementing Partner's (and its consultants', responsible parties', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with the Implementing Partner to find a solution.

12. The signatories to this Project Document will promptly inform one another in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

    Where the Implementing Partner becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, the Implementing Partner will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). The Implementing Partner shall provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

13. UNDP shall be entitled to a refund from the Implementing Partner of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document. Such amount may be deducted by UNDP from any payment due to the Implementing Partner under this or any other agreement. Recovery of such amount by UNDP shall not diminish or curtail the Implementing Partner's obligations under this Project Document.

    Where such funds have not been refunded to UNDP, the Implementing Partner agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to the Implementing Partner for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

    Note: The term "Project Document" as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

14. Each contract issued by the Implementing Partner in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from the Implementing Partner shall cooperate with any and all investigations and post-payment audits.

15. Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.

16. The Implementing Partner shall ensure that all of its obligations set forth under this section entitled "Risk Management" are passed on to each responsible party, subcontractor and sub-recipient and that all the clauses under this section entitled "Risk Management Standard Clauses" are included, *mutatis mutandis*, in all sub-contracts or sub-agreements entered into further to this Project Document.

XII. MANDATORY ANNEXES

1. GEF Budget Template
2. GEF Execution Support Letter
3. Project Map and geospatial coordinates of the project area
4. Multiyear Workplan
5. Monitoring Plan
6. Social and Environmental Screening Procedure (SESP)
7. UNDP Atlas Risk Register
8. Overview of technical consultancies/subcontracts
9. Stakeholder Engagement Plan
10. Environmental Social Management Framework (ESMF)
11. Gender Analysis and Gender Action Plan
12. Procurement Plan – for first year of implementation especially
13. GEF focal area specific annexes
14. Co-finance letters
15. GEF and/or LDCF/SCCF Core indicators (see template below)
16. GEF Taxonomy (see template below)
17. Partners Capacity Assessment Tool and HACT assessment
18. UNDP Project Quality Assurance Report (to be completed in UNDP online corporate planning system)
19. Signed LOA between UNDP and IP requesting UNDP Support Services (if required on exceptional basis and authorized by the GEF)

Annex 1: GEF Budget Template

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity
		Component 1	*Component 2*	*Component 3*	*Sub-Total*	*M&E*	*PMC*		(Executing Entity receiving funds from the GEF Agency)[1]
Equipment	IT Equipment for the Project management Unit:· Laptop computers (USD2,000 x 9 [Y1] — USD18,000)				0		18,000	18,000	UNDP
Equipment	Internet installation cost (USD5,400 x 1 [Y1] — USD5,400)				0		5,400	5,400	DWR, MonRE
Furniture/Equipment - Vehicle	Equipment for support to Component 3: (USD125,000)· Monitoring equipment for use in target districts including, for example: i) GPS: ii) water quality testing kits; iii) river gauges; iv) invasive plant management equipment; and v) biodiversity monitoring equipment (fish monitoring equipment, binoculars, camera traps, field guides etc.)			125,000	125000			125,000	UNDP
Furniture/Equipment - Vehicle	Office furniture, including 6 desks and chairs for project staff and 10 office cabinets (USD8,000 x 1 [Y1] — USD8,000)				0		8,000	8,000	DWR, MonRE
Grants	Grants to support Community Conservation Agreements under Component 2: • Funding based on CCAs to Village Development Funds for small community enterprises for sustainable livelihood opportunities, such as agroforestry, small livestock, etc. — including processing and marketing activities, sustainable ecological management (fodder production, water availability, etc.). The grants will be managed following UNDP micro-capital grants policies. (USD20,000 x 5 target communities x 3 years [Y2, Y3, Y4] —USD300,000)		300,000		300,000			300,000	UNDP
Contractual Services – Company	Contractual services for support to Component 1: -To map current and future risk zones of the Xe Bang Hieng River Basin (USD64,000 — Y1); - For economic valuation of ecosystems. This cost includes integrating valuations into policy, ascertaining ecosystem services flow, promoting non-marketable ecosystem services as an income generator, enumerators and the collection of socio-economic data (USD64,000 — Y1); - To update hydrological monitoring network based on the recommendations of the international consultant (USD65,000 — Y1); - To undertake a revision of EWS and emergency procedures based on recommendations made by IC (USD64,000 — Y1)	257,000			257,000			257,000	UNDP

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity
		Component 1	*Component 2*	*Component 3*	*Sub-Total*	*M&E*	*PMC*		(Executing Entity receiving funds from the GEF Agency)[1]
Contractual Services – Company	Contractual services for support to Component 2:· DWR will drive the implementation of conservation and restoration in Xe Bang Hieng headwater conservation zones (USD1,000,000) — including planting activities and natural regeneration, with procurement of seedlings, etc. by contractual services. Cost of restoration @ US$ 1,000 per ha and cost for conservation @ US$ 50 per ha. These costs will include, inter alia: i) growing of indigenous seedlings; ii) planting activities; iii) natural regeneration; iv) installation of information and sign boards; and v) forest boundary management.· Construction of protective infrastructure in target sites (USD1,066,179) — Including: i) the construction or improvement of cascading weirs (US$ 10,000-50,000); ii) the construction or improvement of irrigation systems to improve access to water during dry seasons and droughts for agriculture (including the use of solar cells to supply electricity that is smart and more accessible @ US$1,500-2000 $ per ha. If the project will contribute for 30 households per village (in average 1 ha per household), this can cost up to US$45,000-60,000); and iii) construction of small reservoirs @ US$ 20,000-30,000. 10% will be demarcated for contingency costs.· To implement and distribute communication and knowledge management tools and technologies (e.g. mobile phone apps, community radio, etc.) to target communities (USD50,000)· To conduct market analyses to inform diversified and alternative livelihood activities (USD50,000)		2,166,179		2,166,179			2,166,179	UNDP
Contractual Services – Company	Contractual services for support to Component 3:· To conduct awareness raising campaign among Xe Bang Hieng River Basin communities, on the impacts of climate change and adaptation opportunities (USD60,000)· To set up and establish knowledge management hub for the facilitate the sharing of lessons learned (USD80,000)· To design and implement awareness raising campaign in Luang Prabang (USD80,000). To design and implement community based-monitoring systems (USD20,000).			240,000	240,000			240,000	UNDP

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity
		Component 1	*Component 2*	*Component 3*	*Sub-Total*	*M&E*	*PMC*		(Executing Entity receiving funds from the GEF Agency)[1]
Contractual services-Individual	Contractual services (individual - IP) to act as Project Coordinator Component 1 - Approx. 11% of USD3,400 x 12 months x 4 years [Y1,2,3,4] – USD18,160 Component 2 - Approx Approx. 16% — USD3400 x 12 months x 4 years [Y1,2,3,4] USD26,320 Component 3 - Approx. 11% of USD3,400 x 12 months x 4 years [Y1,2,3,4] – USD18,160) including provision of inputs into PIRs and monitoring of stakeholder engagement plan (**Embedded M&E budget – 2,500/year for 4 years – $10,000)** PMU: 30% — USD48,960 — to be covered under the GEF PMU and 32% or approx 51,600 to be covered under Co-finance PMU (not shown in this table as it is not LDCF budget)	18,160	26,320	8,160	52,640	10,000	48,960	111,600	DWR, MoNRE

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity
		Component 1	*Component 2*	*Component 3*	*Sub-Total*	*M&E*	*PMC*		(Executing Entity receiving funds from the GEF Agency)[1]
Contractual services-Individual	Contractual services (individual) for support to the following Components: **COMPONENT 1** • To act as project Technical Specialist (33.33% of US10,000 x 12 months x 4 years [Y1,2,3,4] – USD159,984) • To act as Project Gender Officer (33.33% of USD300 x 10 weeks x 4 years [Y1,2,3,4] - USD4,000) • To act as Project Safeguards Officer (20% of USD500 x 10 weeks x 4 years [Y1,2,3,4] USD4,000)) **COMPONENT 2** • To act as project Technical Specialist (33.33% of US10,000 x 12 months x 4 years [Y1,2,3,4] – USD159,984) • To act as Project Gender Officer (33.33% of USD300 x 10 weeks x 4 years [Y1,2,3,4] – USD4,000) • To act as Project Safeguards Officer (60% of USD500 x 10 weeks x 4 years [Y1,2,3,4] USD12,000) **COMPONENT 3 (WITH M&E BUDGET)** • To act as project Technical Specialist (33.33% of US10,000 x 12 months x 4 years [Y1,2,3,4] – USD159,984). This also includes monitoring of social and environmental safeguards of the project. (Embedded M&E budget – $1,400 x 4 years – $5,600) • To act as Project Gender Officer (33.33% of USD300 x 10 weeks x 4 years [Y1,2,3,4] - USD4,000) including to monitor gender action plan (M&E budget $1,000 x 4 years - $4,000) • To act as Project Safeguards Officer (20% of USD500 x 10 weeks x 4 years [Y1,2,3,4] USD4,000) including to monitor social and environmental safeguards of the project. (Embedded M&E budget – $600 x 4 years – 2,400) • To act as M&E and Reporting Specialist (USD2,500 x 12 months x 4 years [Y1,2,3,4] — USD120,000). This includes monitoring and reporting on GEF core indicators, project results framework, coordinating inputs for PIRs, monitoring of social and environmental safeguards and stakeholder engagement plan. (Embedded M&E budget – $4,500 x 4 years – $18,000) •Researcher to manage the operations of the management hub, compile and share lessons learned and conduct annual reviews (USD20,000 x 4 year [Y1,2,3,4] —USD80,000) Note: total embedded budget for M&E is $30,000 **PMC:** • Finance and Administration Officer (USD2,800 x 12 months/year [Y1,2,3,4] — USD134,400)	167,984	175,984	337,984	681,952	30,000	134,400	846,352	UNDP

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity
		Component 1	*Component 2*	*Component 3*	*Sub-Total*	*M&E*	*PMC*		(Executing Entity receiving funds from the GEF Agency)[1]
International Consultants	International Consultant (IC) for support to Component 1:· To design six training programs (one program per target district, including Luang Prabang city) to enable climate risk-informed water management practices in urban and rural areas (USD700 x 30days [Y1] – USD21,000)· To conduct protective infrastructure optioneering based on identified risk zones (USD 700 x 30days [Y1] – USD21,000)· To conduct options analysis of protective infrastructure in Luang Prabang (USD 700 x 30days [Y1] – USD21,000)· To draft fine-scale climate-resilient development and land use plans (USD 700 x 30days [Y1] – USD21,000)· To assess the current Xe Bang Hieng River Basin hydrological monitoring network, with support from DWR (USD 700 x 30days [Y1] – USD21,000)· To review and provide recommendations on early warning systems and emergency procedures (five days per district during review phase) (USD 700 x 60days [Y1] – USD42,000)	147,000			147,000			147,000	UNDP
International Consultants	International Consultant for support to Component 2:· To design training on the use of improved practices, tools and technologies to support headwater conservation zone management, with support from DWR (USD 700 x 30days [Y1] – USD21,000)· To conduct training on the use of improved practices, tools and technologies to support headwater conservation zone management (USD 700 x 10days x 3 years [Y2,3,4] – USD21,000)· To undertake the drafting and introduction of CCAs to target communities (USD 700 x 30days [Y1] – USD21,000)		63,000		63,000			63,000	UNDP
International Consultants	International Consultant for support to Component 3:· To design training for Xe Bang Hieng River Basin communities, with support from DWR (USD700 x 30)			21,000	21,000			21,000	UNDP
International Consultants	To perform Independent Mid-term Review (USD40,000 — Y2)· To perform Independent Terminal Evaluation (USD40,000 — Y4)					80,000		80,000	UNDP

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity
		Component 1	*Component 2*	*Component 3*	*Sub-Total*	*M&E*	*PMC*		(Executing Entity receiving funds from the GEF Agency)[1]
Local Consultants	Local Consultant to support Component 1:· To conduct one week-long training program in each target district and Luang Prabang city (USD 300 x 30 days/year x 3 years [Y2,3,4] – USD27,000)· To assist the IC in designing the training programs (USD300 x 60 days [Y1] – USD18,000)· To assist the IC with protective infrastructure optioneering (USD300 x 60 days [Y1] – USD18,000)· To assist the IC in conducting the options analysis (USD300 x 60 days [Y1] – USD18,000)· To assist the IC in the drafting of plans (USD300 x 60 days [Y1] – USD18,000)· To assist the contractual services and deliver training on updated village weather stations (USD 300 x 25 days/year x 3 years [Y2,3,4] – USD22,500)· To assist the IC review EWS and emergency procedures (USD300 x 90 days [Y1] – USD27,000)	148,500			148,500			148,500	UNDP
Local Consultants	Local consultant for support to Component 2:· To run community engagement workshop to engage on CCAs (USD300 x 25 days [Y1] — USD7,500)· To introduce and train target communities on alternative and diversified livelihood activities and opportunities (USD300 x 25 days x 3 years [Y2,3,4] — USD22,500)· To assist the IC in conducting training and to act as translator (USD300 x 10 days x 3 years [Y2,3,4] — USD9,000)· To assist the contractual services and deliver training on communication and knowledge management tools and technologies (USD300 x 60 days x 3 years [Y2,3,4] — USD54,000); To assist the IC in drafting and implementing CCAs and to act as translator (USD300 x 60 days [Y1] — USD18,000). To assist the Project Safeguards Officer in assessments related to protective infrastructure (USD333 x 30 days [Y1] —USD10,000)		121,000		121,000			121,000	UNDP
Local Consultants	Local Consultant for support to Component 3:· To conduct 1 week training program in each district (USD300 x 25 days x 3 years [Y2,3,4] — USD22,500) To deliver training on community-based monitoring systems (USD300 x 25 days x 3 years [Y2,3,4] — USD22,500)·			45,000	45,000			45,000	UNDP
Local Consultants	· To act as support the International Consultant performing the Independent Mid-Term Review (USD12,000 — Y3)· To act as support the International Consultant performing the Independent Terminal Evaluation (USD12,000 — Y4)				-	24,000		24,000	UNDP

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity
		Component 1	*Component 2*	*Component 3*	*Sub-Total*	*M&E*	*PMC*		(Executing Entity receiving funds from the GEF Agency)[1]
Trainings, Workshops, Meetings	Training workshops and meetings for Component 1:· Training workshop for decision-makers on climate risk-informed water management and gender mainstreaming, in target rural and urban areas - 1 week training program in each district + Luang Prabang (USD3,750 x 6 workshops/year x 3 years [Y2,3,4] — USD67,500)· Conduct 3-day validation workshop for fine-scale climate-resilient development and land use plans (1 in Savannakhet + 1 in Luang Prabang) (USD3,750 x 2 workshops [Y1] — USD7,500)· Conduct training for target communities on the use of updated weather stations - 1 week training per district (USD3,750 x 5 workshops/year x 3 years [Y2,3,4] — USD56,250)	131,250			131,250			131,250	DWR, MonRE
Trainings, Workshops, Meetings	Training workshops and meetings for Component 2: For headwater communities in the use of improved practices, tools and technologies - 1 week training program in each headwater district (USD3,750 x 2 workshops/year x 3 years [Y2,3,4] —USD22,500)· For target communities on the use of communication and knowledge management tools and technologies - 1 week workshop per district + Luang Prabang (USD3,750 x 6 workshops/year x 3 years [Y2,3,4] — USD67,500)· Community engagement workshops to develop and finalise CCAs - 1 week engagement workshop in each district (USD3,750 x 5 workshop [Y1] —USD18,750)· Community engagement workshops to introduce and train communities on alternative livelihood opportunities - 1 week engagement workshop in each district (USD3,750 x 5 workshops/year x 3 years [Y2,3,4] — USD56,250); • Community engagement workshops to establish FPIC (USD20,000 x1 [Y1] — USD20,000)		185,000		185,000			185,000	DWR, MonRE
Trainings, Workshops, Meetings	Training workshops and meetings for Component 3:· Training workshop for Xe Bang Hieng River Basin communities on: i) climate change impacts on agricultural production and socioeconomic conditions; ii) community-based adaptation opportunities and strategies (including water resources management, agroforestry, conservation agriculture, alternatives to swidden agriculture) and their benefits; and iii) gender mainstreaming at the village level — 1 week training program in each district (USD3,750 x 5 workshops x 3 years [Y2,3,4] — USD56,250)· Annual engagement workshop with relevant stakeholders to inform annual review and updates to the hub (USD3,750 x 1 workshop x 3 years [Y2,3,4] — USD11,250)· Training workshop for Xe Bang Hieng River Basin communities on the operations and maintenance of community-based monitoring systems — 1 week training program in each district (USD3,750 x 5 workshops x 3 years [Y2,3,4] — USD56,250)·			123,750	123,750			123,750	DWR, MonRE

Expenditure Category	Detailed Description	Component (USDeq.)						Total (USDeq.)	Responsible Entity
		Component 1	*Component 2*	*Component 3*	*Sub-Total*	*M&E*	*PMC*		(Executing Entity receiving funds from the GEF Agency)[1]
Trainings, Workshops, Meetings	Inception workshop (USD6,000 x 1 workshop — Y1)				-	6,000		6,000	DWR, MonRE
Trainings, Workshops, Meetings	Meetings under the Project Management Unit:· Project Board Meeting (USD3,750 x 1 meeting/year for 4 years [Y1,2,3,4] — USD15,000)						15,000	15,000	DWR, MonRE
Travel	Travel budget for experts involved in Component 1 — covering vehicle hire and local transport, DSA, travel to training events and international travel (USD35,704)	35,704			35,704			35,704	DWR, MonRE
Travel	Travel budget for experts involved in Component 2 — covering vehicle hire and local transport, DSA, travel to training events and international travel (USD37,465)		37,465		37,465			37,465	DWR, MonRE
Travel	Travel budget for experts involved in Component 3 — covering vehicle hire and local transport, DSA, travel to training events and international travel (USD40,230)			40,230	40,230			40,230	DWR, MonRE
Office Supplies	Office stationery (approx. USD 2,405.5 annually [Y1, 2, 3, 4] — USD9,622)				-		9,622	9,622	DWR, MonRE
Other Operating Costs	Audio-visual & print production expenses for consultations conducted by Project Safeguards Officer (USD4,000 x 1 [Y1] — USD4,000)		4,000		4,000			4,000	UNDP
Other Operating Costs	Office electricity cost (USD1,200 annually [Y1, 2, 3, 4] — USD4,800)· Office water cost (USD600 annually [Y1, 2, 3, 4] — 2,400)· Office cleaning (USD 1,800 annually [Y1, 2, 3, 4] — USD7,200)				-		14,400	14,400	DWR, MonRE
Grand Total		**905,598**	**3,078,948**	**941,124**	**4,925,670**	**150,000**	**253,782**	**5,329,452**	

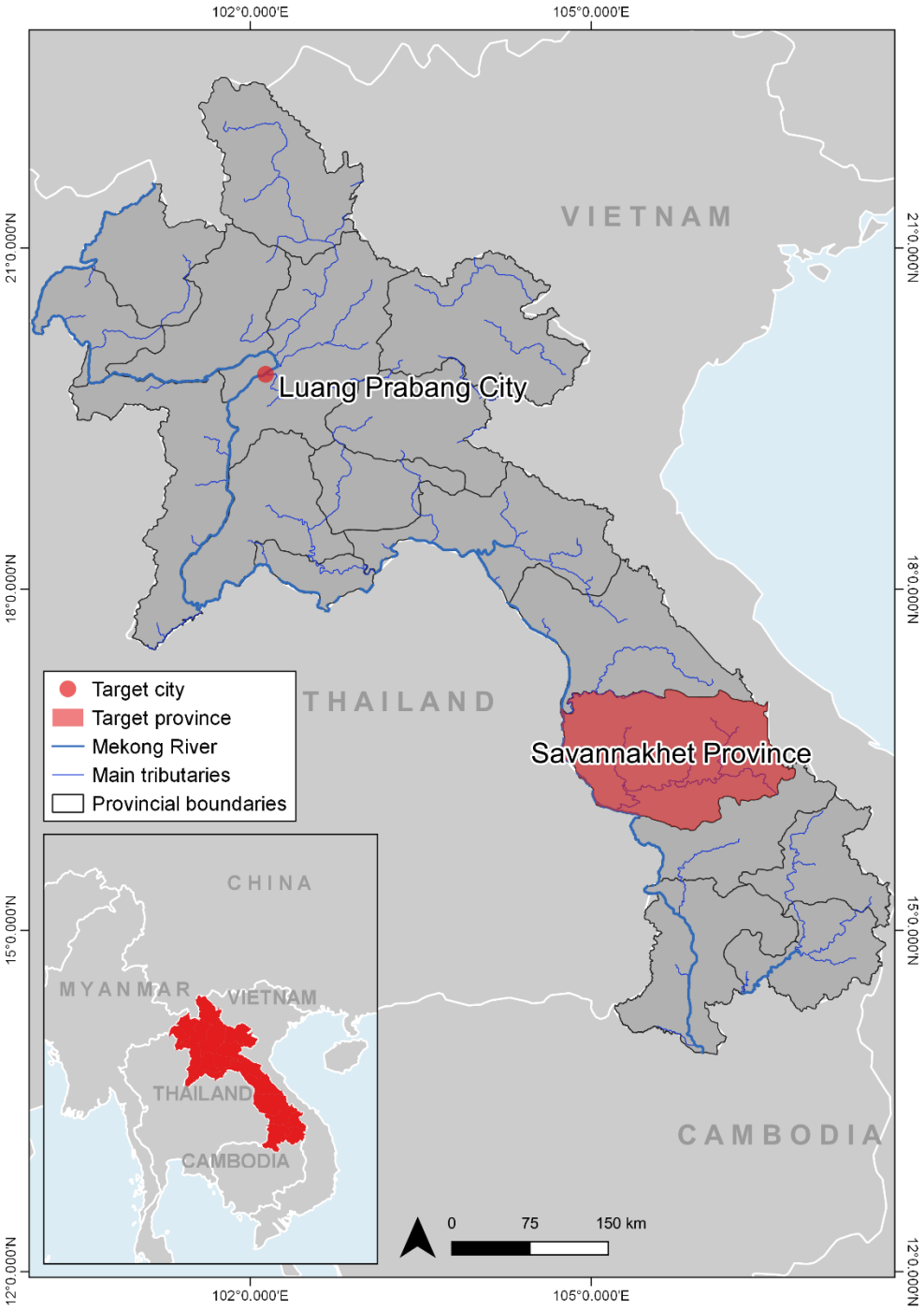
Annex 2: GEF execution support letter and LOA between UNDP and IP

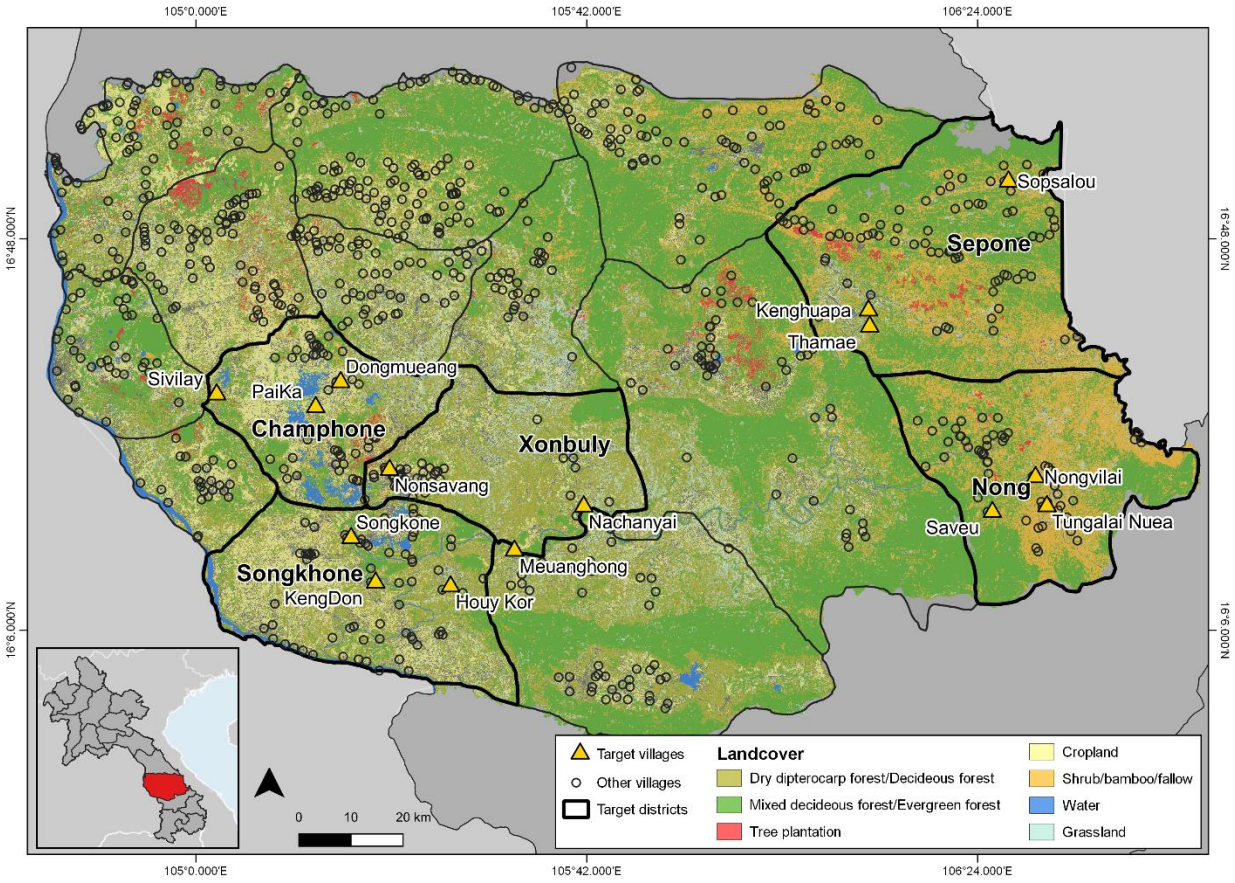
Annex 2a. GEF execution support letter:
https://pims.undp.org/attachments/6547/217292/1749823/1787999/OFP%20Endorsement%20UNDP%20Service%20EbA2302021%20signed.pdf

Annex 2b. LOA between UNDP and Implementing Partner (DWR under MoNRE)
https://pims.undp.org/attachments/6547/217292/1749824/1788000/LoA%20UNDP%20_%20DWR%20Signed.pdf

Annex 2c. Letter from DWR to GEF OFP Requesting UNDP Support Services
https://pims.undp.org/attachments/6547/217292/1749824/1788000/Letter%20from%20DWR%20to%20GEF%20OFP%20signed.pdf

Annex 3: Project map and Geospatial Coordinates of project sites





District	Name	Longitude	Latitude
Sepone	Sopsalou	106.4475	16.9025
	Kenghuapa	106.1969	16.6719
	Thamae	106.1989	16.6432
Nong	Nongvilai	106.4958	16.3738
	Tungalai Nuea	106.5164	16.3218
	Saveu	106.4187	16.3115
Champhone	Dongmueang	105.2515	16.5437
	Sivilay	105.0295	16.5218
	Paika	105.2068	16.4990
Xonbuly	Nonsavang	105.3391	16.3867
	Nachanyai	105.6868	16.3214
	Meuanghong	105.5628	16.2423
Songkhone	Houyakor	105.4483	16.1784
	Kangdone	105.3142	16.1853
	Songkone	105.2703	16.2650

Annex 4: Multi Year Work Plan

	Outcomes	Outputs	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 1: Developing national and provincial capacities for Integrated Catchment Management (ICM) and integrated urban Ecosystem-based Adaptation (EbA) for climate risk reduction	Outcome 1: Enhanced national and provincial capacities for integrated catchment management and integrated water resource management in target rural and urban communities	Output 1.1: Flood- and drought-risk maps of and an economic evaluation of urban ecosystem services and protective options produced for the Xe Bang Hieng River Basin and Luang Prabang city, respectively																
		Output 1.2: Integrated Climate-Resilient Flood Management Strategies developed for Luang Prabang and the Xe Bang Hieng River Basin, supported by an updated hydrometeorological monitoring network, EWS and revised emergency procedures for the Xe Bang Hieng River Basin																
Component 2: Ecosystem-based Adaptation (EbA) interventions under an Integrated	Outcome 2: Reduced flood risk through headwater conservation, restoration and protective infrastructure, supported by climate-resilient and alternative livelihoods	Output 2.1: Ecosystems conserved and restored through conservation zone management, Ecosystem-based Adaptation, and protective infrastructure,																

	Outcomes	Outputs	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Water Resource Management (IWRM) framework, with supporting protective infrastructure and livelihood enhancement		supported by innovative communication and knowledge management tools/technology																
		Output 2.2: Climate-resilient and alternative livelihoods promoted in headwater and lowland communities through Community Conservation Agreements (CCAs) and diversified livelihood opportunities																
Component 3: Knowledge management and Monitoring and Evaluation (M&E)	Outcome 3: Effective knowledge management and M&E through awareness/advocacy and monitoring of climate change impacts and adaptation opportunities in target rural and urban communities	Output 3.1: Training and awareness/advocacy campaigns conducted to enhance knowledge management, M&E and information exchange on climate change impacts on agricultural production and socioeconomic conditions and lessons disseminated on community-based adaptive solutions																
		Output 3.2: Community-based water resources and																

	Outcomes	Outputs	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		ecological monitoring systems established and community members trained in their operations and maintenance																

Annex 5: Monitoring Plan

This Monitoring Plan and the M&E Plan and Budget in Section VI of this project document will both guide monitoring and evaluation at the project level for the duration of project implementation.

Monitoring	Indicators	Targets	Description of indicators and targets	Data source/Collection Methods[1]	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
Project objective from the results framework	***Indicator 1***	Savannakhet MT: 164,152 people (~1/3 of the total population of the target villages) ET: 492,462 people (the total population of the target districts in Savannakhet province plus the population of the target communities in Luang Prabang city)	Number of direct project beneficiaries (disaggregated by gender). (AMAT Indicator 1)	Consultation process, and Survey of local communities	Annually	Project Coordinator	Survey report, PIR	All households in target areas are committed to engage in implementation of the project activities and taking up adopting climate resilient activities.
	Indicator 2	MT: ~65,000 ha (~1/3 of the land area of the five target districts) under sustainable land management in production systems ET: ~200,000 ha (based on the area of Protected Areas and irrigated agricultural land in the target districts) under sustainable land management in production systems	Area of landscapes under climate-resilient management (ha) achieved by mid-term and the end of project	Survey of the project intervention areas	Annually	Project Coordinator/ME specialist	Survey report, PIR	Local government officials and communities are committed to adopt EBA approach through reforestation and restoration.
Project Outcome 1	***Indicator 3***	MT: 50% of officials scored better	Increased score on UNDP-GEF Capacity Development	UNDP-GEF Capacity assessment scorecard – stakeholders are	Annually	Project Coordinator/ME specialist	Assessment report, PIR, MTR, TER	Government officials are committed to participate in the trainings and

		ET: 100% of government officials score better.	Scorecard for government officials who attended trainings by the mid-term and the ended project targets	asked to complete the questionnaire before and after trainings.				implementing the project activities. The capacity development scorecard approach is properly used.
	Indicator 4	MT: At least one target district and Luang Prabang city integrating fine-scale climate-resilience development and land use plans. ET: All 5 target districts and Luang Prabang city integrating fine-scale climate-resilience development and land use plans	Level of use of fine-scale climate-resilient development and land use plans in target intervention sites	Process of consultation with stakeholders – development of the climate resilient management plan (CRMP).	Annually	Project Coordinator	CRMPs, PIR, MTR, TER	Both government officials and local communities are informed the climate risks,and committed to adopt the climate resilient technologies and practices.
Project Outcome 2	***Indicator 5***	MT: ~3,000 ha conserved in protected areas and ~200 ha of degraded ecosystems restored ET: ~10,000 ha conserved in protected areas and ~500 ha of degraded ecosystems restored	Area (ha) of land restored/conserved through Ecosystem-based Adaptation interventions in Xe Bang Hieng catchment.	Survey of project intervention areas.	Annually	Project Coordinator	Survey report, PIR	Involvement of local government officials and communities in the design and implementation of project result in long-term support of the project and the adoption of the EBA interventions.
	Indicator 6	MT: At least 2 CCAs under implementation in target communities ET: 5 CCAs under implementation in target communities	Number of CCAs under implementation supporting alternative climate-resilient livelihoods	Consultation process, community survey	Annually	Project Coordinator	Survey report, PIR	Local involvement in the implementation of project interventions and ongoing engagement through CCAs result in the adoption of the alternative climate resilient practices.

Project Outcome 3	***Indicator 7***	MT: At least a 25% improvement in knowledge score of men and women. ET: At least a 50% improvement in knowledge score of men and women	Level of knowledge and awareness on integrated catchment management and extreme climate events of men and women living in the project intervention sites	Stakeholder consultation and survey, including government officials and local communities.	Annually	Project Coordinator	Survey report, PIR, MER, TER	Involvement in the design and implementation of project interventions will result in long-term support of the project and adoption of new knowledge, skills and practices.
	Indicator 8	MT: 8 communities from target villages in Savannakhet Province trained ET: 15 communities from target villages in Savannakhet Province trained.	Number of communities operating and maintaining water resource and ecological monitoring systems.	Training participants registration	Annually	Project Coordinator	Training report, PIR	Involvement of local communities in the design and implementation of project interventions result in the willingness and adoption of the new technology and practices, and thus participate in the trainings and successful information sharing through EWS.
Environmental and Social risks and management plans, as relevant	***N/A***	N/A	Updated SESP and management plans	Consultation with stakeholders – government officials and communities	Annually	Project Coordinator, M&E specialist	Updated SESP	
Gender Action Plan, as relevant	***N/A***	N/A	Updated GAP	Consultation with stakeholders – government officials and communities	Annually	Project Coordinator, M&E specialist	Updated GAP	

Annex 6: UNDP Social and Environmental Screening Procedure (SESP)

Project Information

Project Information	
1. Project Title	Integrated Water Resource Management and Ecosystem-based Adaptation (EbA) in the Xe Bang Hieng River Basin and Luang Prabang City
2. Project Number (i.e. Atlas project ID, PIMS+)	PIMS 6547
3. Location (Global/Region/Country)	Lao PDR
4. Project stage (Design or Implementation)	Design (ProDoc stage)
5. Date	09/08/2021

Part A. Integrating Programming Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Programming Principles in Order to Strengthen Social and Environmental Sustainability?
Briefly describe in the space below how the project mainstreams the human rights-based approach
The proposed project will be implemented in accordance with international rights and is designed to avoid any adverse impacts on human rights (civil, political, economic, environmental, social or cultural) of any stakeholders involved, or the broader population. This approach will be supported by the risk assessments and safeguards to be described below, including the SEP, GA/GAP, ESMF, IPP, FPIC and GRM — which will help ensure the implementation of project interventions do not result in adverse human rights impacts. During project implementation, regular engagements will continue to be held to increase the role of community members — particularly women — as active participants in the interventions taking place in their communities. Moreover, community ownership will be promoted through the introduction of diversified and alternative livelihood opportunities, coupled with awareness-raising campaigns, by engaging with communities to expand their knowledge and understanding of the roles of their local ecosystems in reducing flood and drought risks. This will contribute to promoting the sustainable use of local ecosystem goods and services. By promoting community ownership, the project will ensure long-term community buy-in, and integration into livelihood practices will ensure the sustainability of the interventions.
Briefly describe in the space below how the project is likely to improve gender equality and women's empowerment

The project team conducted a Gender Analysis (GA) and developed a Gender Action Plan (GAP) for mainstreaming gender considerations into the project design, to ensure that the proposed project activities are both gender-responsive and designed in a gender-sensitive manner. The GEF policies, standards and guidelines on gender equality have been applied throughout project development and will continue to be applied during the implementation of the proposed project.

Responding to the key findings from the consultations, the project will contribute to gender equality in the following results areas:

- Closing gender gaps in access to and control over natural resources
- Improving women's participation and decision-making
- Generating socioeconomic benefits or services for women

The proposed project activities have been designed considering that in Lao PDR: i) women's household roles should be considered in any interventions concerning natural resource management, land-use planning and decision-making; ii) conservation incentives differ for men and women; iii) gendered division of labour needs to be understood prior to the introduction of any livelihood interventions; and iv) women need to have access to, and control over ecosystem goods and services. An understanding of gender mainstreaming in relevant sectors and associated ministries has been developed and gaps in gender equality were identified and addressed in all aspects of the project design. Women — and other vulnerable groups — have been actively involved in identifying environmentally sustainable activities and interventions that will support them in safeguarding natural resources and promoting their economic development, with specific strategies being developed to target and include female-headed households.

Briefly describe in the space below how the project mainstreams sustainability and resilience

The proposed project will promote the integrated management of land and water resources at target sites in the Xe Bang Hieng River Basin and Luang Prabang city. This will increase the climate resilience of communities to the impacts of floods and droughts — both of which are projected to become more intense and frequent under future climate scenarios, including the AR5 greenhouse gas emissions scenarios.

The preferred solution to overcoming climate change-induced floods and droughts in the target areas is to implement integrated catchment management (ICM) in the Xe Bang Hieng River Basin and strengthen government officials' and decision-makers' capacity to implement integrated urban flood management in Luang Prabang city. An integrated approach to catchment management is necessary to reduce the impacts of both floods and droughts on vulnerable communities in the Xe Bang Hieng River Basin as these impacts are wide-spread and can vary in scale — including community and village level, city level, district level and provincial level impacts. In addition to strengthening the capacity of government officials and decision-makers, such an approach involves implementing both Ecosystem-based Adaptation (EbA) and protective infrastructure interventions and introducing alternative livelihood opportunities.

Project sustainability will be enhanced through the activities in Component 1, which will: i) build institutional and technical capacity; ii) facilitate development and land-use planning; iii) facilitate the creation of flood management strategies; iv) update the existing flood management knowledge base; and v) revise or update current hydrological networks and early warning systems (EWS) to improve resilience beyond project completion. The sustainability of financial investments into EbA and protective infrastructure in Component 2 will also be supported by: i) 'soft' technical assistance in strengthening headwater conservation zone management; ii) providing communication and knowledge management tools and technologies; and iii) developing Community Conservation Agreements (CCAs). These supportive elements will ensure the continued implementation of interventions without GEF grant financing once the project is completed. Finally, Component 3 will contribute to the long-term sustainability of the project through knowledge management and M&E interventions to capture and distribute the lessons and outputs of the project for future use by stakeholders/beneficiaries.

Briefly describe in the space below how the project strengthens accountability to stakeholders

Accountability to stakeholders has been and will continue to be strengthened by the involvement of stakeholders in each level of project development and implementation. During project development, stakeholders from the target communities were consulted to inform project design and interventions. During project implementation, stakeholders will be able to communicate any concerns or grievances through the Grievance Redress Mechanism (GRM), to which UNDP will hold itself accountable. Through the GRM, UNDP will support stakeholders to collaboratively address grievances, risk complaints and disagreements related to social, environmental impacts and standards. At the Inception Workshop (start of the project), the project will select Beneficiary Representatives(s): individuals or groups representing the interests of those who will ultimately benefit from the project. This position(s) will be on the Project Board, with the primary function to ensure the realisation of project results from the perspective of project beneficiaries. The Beneficiary Representative is also responsible for validating the needs and monitoring progress against targets and quality criteria.

Under Component 3, monitoring and evaluation (M&E) will be supported through training and advocacy in the project's stakeholder communities, thereby strengthening stakeholder accountability and involvement throughout the project's life cycle. Through training and awareness raising campaigns, the project will involve stakeholders in community-based adaptation opportunities and strategies in water resource management, agroforestry, conservation agriculture and sustainable livelihood alternatives. The project will establish a knowledge hub for collecting and sharing project lessons within the stakeholder communities and beyond. By sharing knowledge in an accessible format, the project will ensure stakeholder engagement beyond the project's lifespan. Further to this, Output 3.2 will establish hydrological monitoring systems that are community-based. Involvement in these systems will continue stakeholder engagement and accountability in the project.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Complete SESP Attachment 1 before responding to Question 2.*	**QUESTION 3: What is the level of significance of the potential social and environmental risks?** *Note: Respond to Questions 4 and 5below before proceeding to Question 5*			**QUESTION 6: Describe the assessment and management measures for each risk rated Moderate, Substantial or High**
Risk Description (broken down by event, cause, impact)	***Impact and Likelihood (1-5)***	***Significance (Low, Moderate Substantial, High)***	***Comments (optional)***	***Description of assessment and management measures for risks rated as Moderate, Substantial or High***
Risk 1: Marginalized members of participating communities may not be able to engage with Community Conservation Agreements, project activities or have equal opportunities to participate in decision making processes during project implementation. Principle 1: Question P.5 Principle 3: Question P.13 & P.14 Standard 6: Question 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7,	I = 3 L = 4	**Moderate**	- Potential inequitable or discriminatory adverse impacts on affected populations. - Potential exclusion marginalized groups from fully participating in decisions that may affect them. - Potentially rights-holders do not have the capacity to claim their rights. - Potential for grievances or objections from affected stakeholders.	**Assessment** A Stakeholders Engagement Plan (SEP) was developed during the PPG providing guidelines on how to engage different stakeholders throughout the life cycle of the Integrated Water Resources Management and Ecosystem-based Adaptation in Xe Bang Hieng River Basin in 5 districts of Savannakhet province and Luang Prabang city with the objective to establish a systematic approach to help the project in i) Identifying stakeholders and build and maintain a constructive relationship with them; ii) Assessing the level of stakeholder interest and support for the project and to enable stakeholder's views to be taken into account in project design and environmental and social performance.

			-Potential for community members to have unequal access to EWS	**Management** The project will provide stakeholder consultations and involve all targeted groups, through identifying individuals, Government agencies, NGOs, private sectors, local communities, and other stakeholders that may be directly or indirectly affected by the project. These consultations will apply the best recognised principles for stakeholder engagement.
Risk 2: Proposed land tenure arrangements for the conservation of Xe Bang Hieng Protected forests may restrict access to resources, affect customary land rights, and create some level of economic displacement (particularly for marginalized people and ethnic groups). Principle 1: Question P.6 Principle 3: Question P.14 Standard 5: Questions 5.1,5.2, 5.3 & 5.4 Standard 6: Question 6.1, 6.2, 6.3, 6.5 & 6.6 6.7	I = 4 L = 3	**Substantial**	- Potential for restriction of availability, quality of and access to resources. - Potential economic displacement due to loss of access to resources due to land acquisition or access restriction. - Possible affect upon land tenure arrangements and/or community-based property rights/customary rights to land, and/or resources. - Ethnic Groups present in the Project area. - Potential for economic displacement of ethnic groups through access restrictions to resources. - Potential for grievances or objections from affected stakeholders.	**Assessment** During studies and consultations at the Project sites, the SESP identified three instances where further targeted assessments were required to determine the significance of the impacts and define management strategies: stakeholders assessment, gender assessment and Ethnic Group Assessment. , A Stakeholders Engagement Plan (SEP) was developed during the PPG identifying the stakeholders and providing guidelines on how to engage them. A Gender Action Plan was also developed. **Management** The SEP, GA/GAP, ESMF, IPP, FPIC and GRM prepared during the PPG will be implemented as required with communities prior to the implementation of any activities involving land management. For the activities not falling under CCAs , Process Framework(s) will be developed this will include the cases of permanent or temporarily resettlement, economic displacement, forced evictions and impacts on community based property rights, land tenure arrangements, customary rights to land, territories and resources. As noted under Risk 6, project activities will be implemented within 4 National Protected Areas. Proposed conservation zone management and forest boundary management in such areas would be based upon pre-existing boundaries, rules, regulations, protected area management plans and laws which may not be known or well understood by local communities or other stakeholders. The ESMF will contain procedures for the assessment and management of the activities implemented in the National Protected Areas.

				The core component of FPIC is consent – local resource users are entitled to determine whether or not they wish to participate in an intervention, and whether or not that intervention should proceed. Proposed land tenure arrangements through conservation zone management and forest boundary management depends entirely on this kind of consent from resource owners and users. The exception to these management measures will be those communities that are part of the Community Conservation Agreements (CCAs) where communities will be voluntarily restricting access to natural resources based on appropriate community-based decision-making processes.
Risk 3: Government staff at Provincial and District levels have limited capacity to implement some project activities, including flood management strategies, ICM, EbA and Community Conservation Agreements effectively to ensure the intended benefits to participating communities. Principle 1: Question P.2 Principle 3: Question P.14	I = 3 L = 4	**Moderate**	- Potentially duty-bearers do not have the capacity to meet their obligations. - Potential for grievances or objections from affected stakeholders. Lao PDR's capacity limitations are compounded by limited or ineffective coordination between relevant stakeholders from the sector and Ministry. Specifically, decision-makers, planners and contractors require technical training on effectively implementing ICM and EbA solutions to improve flood management. Regarding CCAs, it was determined they are currently in use by multiple actors in the Lao PDR, including with the GEF supported SAFE Ecosystems Project being implemented in Savannakhet Province. Despite the widespread use of CCAs, to date there has been no coordination among actors to harmonize definition or	**Assessment** During the PPG, it had been determined that Lao PDR's forestry sector has a long-term strategy on forestry, but notable capacity limitations hamper its enforcement in the Ministry of Agriculture and Forestry. **Management – Government Staff Capacity with ICM and EbA** To address this government staff capacity, Component 1 of the proposed project will focus on developing national and provincial officials and decision-makers' capacity to design and implement ICM and integrated urban EbA to enhance the climate resilience of rural and urban communities and ecosystems in Lao PDR. This integrated approach will be underpinned by enhanced climate-resilient planning at the national and provincial levels and include the use of innovative tools, such as EbA and hydrological modelling, to ensure that it is comprehensive and effective. A SESA will be applied to the development and implementation of ICM and integrated urban EbA such that potential social and environmental downstream impacts arising from the development of guidelines, ICM, policy directions will be identified. **Management – Government Staff Capacity with CCAs** In order to ensure effective application of CCAs being developed under Component 2, the project provide training to staff and Government Officials in order for them to understand and embrace CCAs as a co-management framework for working with participating communities in the

			application of the tool. Consequently, examples of instruments referred to as CCAs range from basic MOUs stating an intention to work together to elaborate arrangements that resemble detailed contracts. The contents can be general statements of principles, or specific commitments. This project offers an opportunity to learn from these various experiences and encourage the various institutions active in the conservation and development space to develop a shared understanding of CCAs as a tool.	project area - this relates to relevant DWRM as well as PONRE and DONRE personnel. CCAs should be integrated into the process of developing risk mapping and flood management plans for watershed management being developed under Component 1. It should be noted that the SEP, GA/GAP, ESMF, IPP, FPIC and GRM prepared during the PPG have to be implemented as required with communities prior to the implementation of any CCA. The core component of FPIC is consent – local resource users are entitled to determine whether or not they wish to participate in an intervention, and whether or not that intervention should proceed. The CCA model depends entirely on this kind of consent from resource owners and users; without explicit consent as verified through a signed agreement, a CA cannot proceed.
Risk 4: Women may not be able to equally engage with Community Conservation Agreements or benefit from project introduced livelihood activities. Principle 2: Question P.8, P.9 & P.10 Principle 3: Question P.14	I = 3 L = 3	**Moderate**	- Potential adverse impacts on gender equality. - Potential discrimination against women based on gender, limiting access to opportunities and benefits with the project. - Potential for grievances or objections from affected stakeholders.	**Assessment** A Gender Assessment and Gender Action Plan (GA/GAP) was developed during the PPG. As part of this, consultation meetings have been carried out with PONRE of both Savannakhet and Luang Prabang provinces with participation of DOREs of the respective target districts on the current situation of climate change impacts, on the proposed activities by the local authorities, project target villages based on the selection criteria. Additionally, village level consultations meetings have also been carried out. Project objectives and preliminary activities have been shared with the villagers. Village socio-economic data have been collected from the village authorities and 4 separate group discussions have been carried out with the boys, girls, women and men in each target village to obtain information on productive, reproductive roles and community managing roles as well as access and control to resources of different groups. **Management** Strategic areas for addressing gender issues in the three project components are as follows: • Assurance of gender disaggregated data in planning, implementing, monitoring and reporting.

				• Increase Women Access to and Control over Productive resources. • Operationalize Gender Action Plan at Village, district and provincial levels. The gender balance targets relevant to this project are summarized as follows: • Ratio of women members in the national and regional committee to protect and control natural disasters and man-made disaster shall cover 30% of all positions. • Ratio of women who receive the training on protection and response to natural disaster and man-made disaster shall cover 40% of all participants • Ratio of women who receive training on energy-efficient and sustainable agriculture technology shall cover 50% of all participants.
Risk 5: The project will construct protective infrastructure within and adjacent to waterways such as weirs, canals and small-scale irrigation schemes. Such developments have the potential to create hydrological changes and adverse social and environmental effects. These also have the potential to pose safety risks to local communities during the construction phase through actual construction activities, the transportation of materials, potential release of pollutants and generation of waste. Principle 3: Question P.14 Standard 1: Questions 1.1 1.7 & 1.11 Standard 3: Questions 3,1 3.2 3.3 3.4 3.5 3.6 & 3.7 Standard 8: Question 8.1 & 8.2	I = 3 L = 3	**Moderate**	- Potential adverse impacts to habitats. - Potential production and/or harvesting of fish populations. - Diversion / containment of surface water. - Consequential development activities which could lead to adverse social and environmental effects. - - Potential impact of soil degradation - Potential impact related to the use or handling of hazardous substances and chemicals - Protective infrastructure will be constructed under Activity 2.1.2 (Output 2.1) - Project construction could pose potential safety risks to local communities. - Potential risks to community health and safety due to the	**Assessment** During the PPG, the extent of the civil works related to protective infrastructure within and adjacent to waterways such as weirs, canals and small-scale irrigation schemes was not fully known (both technology and sites). However, it is known that any civil works constructed will not be considered "large-scale". As such, all civil works will follow relevant environmental impact assessment procedures (if applicable) and will ensure compliance with: i) national construction standards and norms; ii) sanitary norms and regulations; and iii) all relevant national laws and regulations related to forestry, water, environment, and health. **Management** The SEP, GA/GAP, ESMF, IPP, FPIC and GRM prepared during the PPG will be applied as required with communities prior to the construction of any civil works. The risk will be identified prior any physical work starts. The ESMF contains a procedure for the preparation of the Social Environmental Impact Assessment procedure to international standards and the Decree on Environment Impact Assessments 2019 (No. 21/GOL) of the Lao People's Democratic Republic. The SEIA procedure helps to identify the environmental risks, identify

			transport of dangerous materials during construction. - Potential release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local impacts (spills and related soil or groundwater contamination due to hydrological connection) - Potential generation of non-hazardous waste. - Potential for grievances or objections from affected stakeholders. - Potential air pollution due to emission from construction equipment and vehicles - Potential dust emission from earth movement	project alternatives, and develop mitigation measures through the life cycle of the project. The SEIA will be implemented for the activities implemented under Activity 1.1.2 as the risk identified based on the hydrogeological models will influence the protective infrastructure optioneering
Risk 6: The implementation of project activities within 4 Protected Areas, 1 Ramsar Site and 1 World Heritage Site[121] could involve or lead to temporary or permanent damages to those sites, and the biodiversity/ecosystems and cultural heritage they contain. Principle 3: Question P.14 Standard 1: Question 1.2 Standard 4: Question 4.1	I = 2 L = 4	**Moderate**	- Project activities proposed within legally protected areas. - Potential for grievances or objections from affected stakeholders.	**Assessment** However, during the PPG, an Environmental and Social Management Framework (ESMF) was prepared with the objective to identify environmental and social impacts and risks associated with the interventions in the National Protected Areas. The identified risks should be analysed and avoided or mitigated according to defined Action Plans, guidelines and specific procedures. **Management** As noted under Risk 2, any proposed conservation zone management and forest boundary management within National Protected Areas would be based upon pre-existing boundaries, rules, regulations, protected area management plans and laws which may not be known or well understood by local communities or other stakeholders.

[121] These sites include: i) Laving Lavern National Protected Area; ii) Dong Phouvieng National Protected Area; iii) the National Eld's Deer Sanctuary; iv) Phou Xang He National Protected Area; v) The Xe Champhone Ramsar Site; and vi) Luang Prabang World Heritage Site.

				Management and Implementation of any project activities within National Protected Areas will be completed as required in accordance with the following: • Forestry Law of Lao PDR 2019 (Amended / No. 255/NA) of the Lao People's Democratic Republic The project, through detailed studies in ESIAs, will aim to avoid any damages to the ecosystem in the naturally protected areas and when avoidance is not possible , the impact will be monitored and mitigated with the definition of monitoring plans (Environmental and Social Management Plan ESMP) and Action Plans . Appropriate environmental and social indicators for Conservation of Biological Diversity and Protection of Natural Habitats will be developed and regular monitoring and evaluation will take place for each of the activities implemented within Protected Areas undertaken by extension officers and local government officials.
Risk 7: Through introducing climate-resilient agriculture and aquaculture, as well as EbA which involves reforestation activities, there is the potential of non-indigenous species being utilized. Principle 3: Question P.14 Standard 1: Question 1.6, 1.8 & 1.10	I = 4 L = 2	**Moderate**	- Potential risk of introducing invasive alien species. - Project involves reforestation. - Potential production and/or harvesting of fish populations. - Potential for grievances or objections from affected stakeholders.	**Assessment** During the PPG, alternative livelihood products, methods and practices under an IWRM framework have been identified i) climate-resilient agriculture — such as agroforestry, intercropping, minimum-tillage, integrated soil fertility management and water harvesting and management; ii) silvopasture; iii) cultivation and sale of NTFPs; and iv) aquaculture. The selection and application of these livelihood practices will be informed by a robust, climate-sensitive market analysis which will review existing barriers and opportunities to inform long-term climate-resilient strategies and contribute to promoting catchment integrity through ICM and IWRM practices and reducing deforestation/forest degradation. Additionally, proposed EbA project activities in will include reforestation and restoration of degraded ecosystems. This will be done by planting ecologically appropriate species to restore ecosystem function, as well as other methods including assisted natural regeneration and forest boundary management. **Management**

				The SEP, GA/GAP, ESMF, IPP, FPIC and GRM prepared during the PPG will be implemented as required with communities prior to the implementation of any activities involving the potential use of non-indigenous species. The above noted activities will be informed by, inter alia: i) the predicted impacts of climate change on the target areas; ii) the capacity of introduced species to maintain the provision of ecosystem goods and services under projected climate change conditions, specifically focusing on **indigenous species** that are drought- or flood-resilient; and iii) community needs and preferences**.** Specific studies and targeted assessment on ecologically appropriate species and methodologies for introduction will be developed by experts.
Risk 8: Protective infrastructure such as weirs, canals and small-scale irrigation schemes constructed during this project could be vulnerable to the impacts of climate change. Principle 3: Question P.14 Standard 2: Question 2.1 2.2 & 2.3	I = 3 L = 3	**Moderate**	- Potential outcomes of the project could be sensitive or vulnerable to potential impacts of climate change. - Project be susceptible to flooding and/or extreme climatic conditions. - Potential for grievances or objections from affected stakeholders. - Potential degradation of the constructed infrastructures due to lack of maintenance capacity with the consequent increase of flooding or water stagnation - Potential risk of collapse of the infrastructure	**Assessment** Project interventions such as the construction of hard infrastructure and the development of integrated climate-resilient flood management strategies will ensure that water resources and flood risks in the areas are managed in an integrated manner, considering the spatial interlinkages and dependencies between land use and ecosystem health, as well as the underlying causes of vulnerability to climate change. During the PPG, the extent of the civil works related to protective infrastructure within and adjacent to waterways such as weirs, canals and small-scale irrigation schemes was not fully known. However, it is known that any civil works constructed will not be considered “large-scale”. As such, all civil works are to be assessed and prepared by experts (i.e. Civil and Hydrological Engineers) to ensure such infrastructure meet climate-resilient engineering standards. **Management** The SEP, GA/GAP, ESMF, IPP, FPIC and GRM prepared during the PPG will be applied as required with communities prior to the construction of any civil works. Current climatic variability and flood risks will also be taken into account when selecting intervention sites, periods for construction as well as the design and implementation of all

				interventions. Disaster risk and response plans will be put in place in collaboration with selected communities. The design of the infrastructures proposed will be developed according to climate forecast flood risks models to ensure that the infrastructure will resist to climate change effects. At the same time a maintenance plan will be developed and made available to the local communities and authorities to ensure that the infrastructures will function properly.
Risk 9: During the current global COVID-19 Pandemic, there is a risk of community transmission (potentially resulting in death) between government officers, project staff, service provider contractors, and local communities through site visits and project implementation activities. Principle 3: Question P.14 Standard 3: Question 3.4	I = 3 L = 3	**Moderate**	- Potential health risks from vector-borne diseases (COVID-19). - Potential for grievances or objections from affected stakeholders.	**Management** The COVID-19 pandemic is a "once in a lifetime" crisis which is causing untold health and economic disparities across the globe. The pandemic has proven to be dynamic, particularly with the emergence new contagious variants. At the time of writing, Lao PDR is currently under a "flexible" lockdown order as per the Prime Minister Order (No. 532 /OPM) on Guidelines for Implementing Policies and Measures for Economic and Social Impacts of the COVID-19 Outbreak. The UN implements a global health and safety policy with regards to COVID-19 which it implements within all agency offices. As part of this policy, all UN Agencies are to follow National Guidance; in Lao PDR, this is the guidelines of the Prime Minister's Order. All project implementation and risk management will be subject to this and will be dynamic based upon monitoring updates provided by the Lao National COVID-19 Task Force of the Ministry of Health. When able to implement project activities, standard health and safety precautions required for protection against COVID-19 will be implemented, including, but not limited to: (i) wearing a face mask, (ii) handwashing regularly, (iii) social distancing, and (iv) enabling as possible for local communities, project staff, government staff and other stakeholders to voluntarily get vaccinated.
Risk 10: Service Provider Contractors may not follow or be in violation of National Labour Laws during construction of protective infrastructure. This may pose potential physical safety risks to workers. Principle 3: Question P.14	I = 3 L = 4	**Moderate**	- Potential risks and vulnerabilities related to occupational health and safety due to physical hazards during Project construction. - Potential failure to comply with national labor standards.	**Assessment** No formal assessment was made during the PPG with regards to worker's rights and safety due to the fact that the extent of the civil works to be completed was not fully known. However, it is known that any civil works constructed will not be considered "large-scale". The Government of Lao PDR and UNDP have a pre-existing agreement on the management of

Standard 7: 7.1 & 7.6			- Potential for grievances or objections from affected stakeholders.	such issues through the Guidance Notes on National Implementation Modality. **Management** All civil works related to protective infrastructure within and adjacent to waterways such as weirs, canals and small-scale irrigation schemes valued over 100,000,000 LAK will be procured by UNDP through the organization's Procurement Policy. Civil works less than this value will be procured by the Implementation Partner utilizing the guidance notes for National Implementation Modality agreed upon by the Government of Lao PDR and UNDP. To monitor the construction of any civil works, the project will separately contract an Engineer (or Engineer Team) to monitor work being completed is structurally sound and follows all technical plans and "bill of quantities". Additionally, both the Project Team and assigned UNDP staff will perform regular, unannounced site visits and audits to observe the respect of the National labor law and UNDP Health, Safety and Working Conditions standards are being met. Management and Implementation of any civil works with regards to labor and worker's safety will be completed as required in accordance with the following: • Labor Law, 2013 (No. 43/NA) of the Lao People's Democratic Republic. • Ministerial Decision on Occupational Safety and Health on Construction Sites (No. 3006 of 2013). • Decree on the Labor Safety and Health 2019 (No. 22/GO), Ministry of Labor and Social Welfare. • United Nations Supplier "Code of Conduct" which provides the minimum standards expected of suppliers to the UN. The Code of Conduct, which includes principles on labor, human rights, environment, and ethical conduct. • UNDP Programme and Operations Policies and Procedures (POPP): Construction Works Policy

Risk 11: During project implementation, objects (or infrastructure) of religious value may be affected in Savannakhet through project staff and Service Provider workers visiting and possibly inhabiting villages during project implementation. Principle 3: Question P.14 Standard 4: Question 4.1 4.2 4.3	I = 3 L = 3	**Moderate**	- Potential for project adversely impact sites, structures, or objects with religious values. - Potential for grievances or objections from affected stakeholders.	**Assessment** During the PPG, no formal assessment was carried out regarding how objects (or infrastructure) of religious value may be affected As this Risk is well understood, its management is to be integrated into all aspects of project implementation with local Ethnic Group communities. **Management** Project activities will be designed and implemented in a way that avoids the alteration, damage or removal of any physical cultural resources and sites, as well as any sites recognised as having unique value at the community, national or international level. Regional experts will be consulted (as necessary) to ensure compliance with national heritage legislation and that project design adheres to best practice guidelines.
Risk 12: Ethnic Groups (including Katang and Bru Ethnic Groups) inhabit the project implementation area of Savannakhet Province. Project activities will be implemented on lands where they live; proposed land tenure arrangements may restrict access to resources. Principle 3: Question P.14 Standard 6: Question 6.1 6.2 6.3 6.4 6.5 6.6 & 6.7	I = 4 L = 4	**Substantial**	- Ethnic groups present in the Project area. - Potential for economic displacement of ethnic groups through access restrictions to resources. - Potential for grievances or objections from affected stakeholders.	**Assessment** During the PPG, an Ethnic Groups Planning Framework (EGPF) was prepared for the Project. The EGPF identifies Ethnic Groups, the project's impacts on them, appropriate ways of engaging with them and beneficial and mitigation measures. The main objective of this EGPF is to help ensure that project is designed and implemented in a way that fosters full respect for EGs' identity, dignity, human rights, livelihood systems, and cultural uniqueness as defined by the EGs themselves to enable them to: • Receive culturally appropriate social and economic benefits, • Do not suffer adverse impacts as a result of the project, and • Can participate actively in the project. The EGPF is intended to safeguard the rights of EGs to participate and equitably receive culturally appropriate benefits from the project. For this purpose, the EGPF has been prepared in participating communes subject to results of project screening which identifies (i) the presence of Ethnic Groups, and (ii) project impacts on Ethnic Groups whether positive or negative, direct or indirect, temporary or permanent.

				The EGPF was able to determine Katang, Bru, Ta Oy, Thang, Tri and Lao Loum Ethnic Groups inhabit the rural and forested areas of Nong, and Sepone Districts of Savannakhet Province. **Management** *EGP (IPP equivalent): will be prepared during implemenation, building on the EGPF.* *Free Prior Informed Consent (FPIC):* serves as a safeguard in ensuring potential negative social and environmental impacts of any project from the perspectives of Ethnic Groups and Local Communities are considered and addressed. The FPIC process also allows all Ethnic Groups and Local Communities to voice out their concerns on potential adverse impacts of projects, which should be taken into account. In this process, they can demand for clear information disclosure from the project proponents that shall include results of feasibility study as well as comparative studies relating to the project. *Consultation Across the Project Cycle:* Meaningful consultation with EGs will be ensured through harnessing of culturally appropriate communication strategies and use of local language if possible. Consultations will only be conducted with full consideration of the current COVID-19 risk factors, local guidelines and restrictions to ensure no increased risk of infection to the participants. Where necessary, physical distancing and tools such as online meetings or correspondence will be implemented. *Participation of Ethnic Groups:* Participation under Project will involve the transferring of power to EGs at the community level enabling them to negotiate with development delivery systems and deciding and acting on what is essential to their development. *Documentation of the Consultation Process:* a process-oriented data-gathering tool that aims to enhance understanding of the relationship between process and structure. It is used to capture group dynamics, issues and

				concerns affecting decisions in support or against the project/subproject. *Grievance Redress Mechanisms (GRM):* The mechanism to receive and facilitate resolution of the affected Ethnic Groups' concerns, complaints, and grievances is provided and ethnic communities will be appropriately informed about such mechanism. *Monitoring and Reporting Arrangements:* The Executing/Implementing agencies with assistance from the national social safeguard specialist shall conduct the supervision and in-house monitoring of implementation of the EGP. The procedure for monitoring will be guided by the monitoring, evaluation, and reporting arrangements set forth in the EGP.

	QUESTION 4: What is the overall project risk categorization?				
	Low Risk	☐			
	Moderate Risk	☐			
	Substantial Risk	☒		This screening assessment has identified 12 risks, of which 10 have been scored as "Moderate" and 2 have been scored as "Substantial" giving the project an overall categorization of **"Substantial Risk"**. All principles and standards are triggered by this SESP screening.	
	High Risk	☐			
	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are triggered? (check all that apply)				
	Question only required for Moderate, Substantial and High Risk projects				
	Is assessment required? (check if "yes")	☒			***Status? (completed, planned)***
	if yes, indicate overall type and status		☒	Targeted assessment(s) • Stakeholder Analysis • Gender Analysis • Ethnic Groups Analysis	Completed
			☒	ESIA (Environmental and Social Impact Assessment)	Planned

			☒	SESA (Strategic Environmental and Social Assessment)	Planned
	Are management plans required? (check if "yes)	☒			
	If yes, indicate overall type		☒	Targeted management plans (e.g. Gender Action Plan, Emergency Response Plan, Waste Management Plan, others) • Stakeholder Engagement Plan • Gender Action Plan • Ethnic Groups Planning Framework • Identification of FPIC process • Grievance Redress Mechanism	Completed
			☒	ESMP (Environmental and Social Management Plan which may include range of targeted plans)	Planned
			☒	ESMF (Environmental and Social Management Framework)	Completed (with IPPF equivalent)
	Based on identified <u>risks</u>, which Principles/Project-level Standards triggered?		**Comments (not required)**		
	Overarching Principle: Leave No One Behind				
	Human Rights	☒	See Risks 1, 2 & 3		
	Gender Equality and Women's Empowerment	☒	See Risk 4		
	Accountability	☒	All Risks (Potential for grievances or objections from affected stakeholders.)		
	1. Biodiversity Conservation and Sustainable Natural Resource Management	☒	See Risks 5, 6 & 7		
	2. Climate Change and Disaster Risks	☒	See Risk 8		
	3. Community Health, Safety and Security	☒	See Risks 5 & 9		
	4. Cultural Heritage	☒	See Risk 6		
	5. Displacement and Resettlement	☒	See Risks 2 & 11		
	6. Indigenous Peoples	☒	See Risks 2 & 12		
	7. Labour and Working Conditions	☒	See Risk 10		
	8. Pollution Prevention and Resource Efficiency	☒	See Risk 5		

Final Sign Off

Final Screening at the design-stage is not complete until the following signatures are included

Signature	***Date***	***Description***
QA Assessor		UNDP staff member responsible for the project, typically a UNDP Programme Officer. Final signature confirms they have "checked" to ensure that the SESP is adequately conducted.
QA Approver		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD)**,** Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.
PAC Chair		UNDP chair of the PAC. In some cases, PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks		
INSTRUCTIONS: The risk screening checklist will assist in answering Questions 2-6 of the Screening Template. Answers to the checklist questions help to (1) identify potential risks, (2) determine the overall risk categorization of the project, and (3) determine required level of assessment and management measures. Refer to the SES toolkit for further guidance on addressing screening questions.		
Overarching Principle: Leave No One Behind **Human Rights**		**Answer (Yes/No)**
P.1	Have local communities or individuals raised human rights concerns regarding the project (e.g. during the stakeholder engagement process, grievance processes, public statements)?	Yes
P.2	Is there a risk that duty-bearers (e.g. government agencies) do not have the capacity to meet their obligations in the project?	Yes
P.3	Is there a risk that rights-holders (e.g. project-affected persons) do not have the capacity to claim their rights?	Yes
Would the project potentially involve or lead to:		
P.4	adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
P.5	inequitable or discriminatory impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups, including persons with disabilities? [122]	Yes
P.6	restrictions in availability, quality of and/or access to resources or basic services, in particular to marginalized individuals or groups, including persons with disabilities?	Yes
P.7	exacerbation of conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Gender Equality and Women's Empowerment		
P.8	Have women's groups/leaders raised gender equality concerns regarding the project, (e.g. during the stakeholder engagement process, grievance processes, public statements)?	Yes
Would the project potentially involve or lead to:		
P.9	adverse impacts on gender equality and/or the situation of women and girls?	Yes
P.10	reproducing discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	Yes
P.11	limitations on women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? *For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being*	Yes
P.12	exacerbation of risks of gender-based violence? *For example, through the influx of workers to a community, changes in community and household power dynamics, increased exposure to unsafe public places and/or transport, etc*.	Yes

[122] Prohibited grounds of discrimination include race, ethnicity, sex, age, language, disability, sexual orientation, gender identity, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender and transsexual people.

Sustainability and Resilience: Screening questions regarding risks associated with sustainability and resilience are encompassed by the Standard-specific questions below		
Accountability		
Would the project potentially involve or lead to:		
P.13	exclusion of any potentially affected stakeholders, in particular marginalized groups and excluded individuals (including persons with disabilities), from fully participating in decisions that may affect them?	Yes
P.14	grievances or objections from potentially affected stakeholders?	Yes
P.15	risks of retaliation or reprisals against stakeholders who express concerns or grievances, or who seek to participate in or to obtain information on the project?	No
Project-Level Standards		
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management		
Would the project potentially involve or lead to:		
1.1	adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? *For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes*	Yes
1.2	activities within or adjacent to critical habitats and/or environmentally sensitive areas, including (but not limited to) legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	Yes
1.3	changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	Yes
1.4	risks to endangered species (e.g. reduction, encroachment on habitat)?	No
1.5	exacerbation of illegal wildlife trade?	No
1.6	introduction of invasive alien species?	Yes
1.7	adverse impacts on soils?	Yes
1.8	harvesting of natural forests, plantation development, or reforestation?	Yes
1.9	significant agricultural production?	Yes
1.10	animal husbandry or harvesting of fish populations or other aquatic species?	Yes
1.11	significant extraction, diversion or containment of surface or ground water? *For example, construction of dams, reservoirs, river basin developments, groundwater extraction*	Yes
1.12	handling or utilization of genetically modified organisms/living modified organisms?[123]	No
1.13	utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)[124]	No
1.14	adverse transboundary or global environmental concerns?	No
Standard 2: Climate Change and Disaster Risks		
Would the project potentially involve or lead to:		

[123] See the Convention on Biological Diversity and its Cartagena Protocol on Biosafety.
[124] See the Convention on Biological Diversity and its Nagoya Protocol on access and benefit sharing from use of genetic resources.

2.1	areas subject to hazards such as earthquakes, floods, landslides, severe winds, storm surges, tsunami or volcanic eruptions?	Yes
2.2	outputs and outcomes sensitive or vulnerable to potential impacts of climate change or disasters? *For example, through increased precipitation, drought, temperature, salinity, extreme events, earthquakes*	Yes
2.3	increases in vulnerability to climate change impacts or disaster risks now or in the future (also known as maladaptive or negative coping practices)? *For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding*	Yes
2.4	increases of greenhouse gas emissions, black carbon emissions or other drivers of climate change?	No
Standard 3: Community Health, Safety and Security		
Would the project potentially involve or lead to:		
3.1	construction and/or infrastructure development (e.g. roads, buildings, dams)? (Note: the GEF does not finance projects that would involve the construction or rehabilitation of large or complex dams)	Yes
3.2	air pollution, noise, vibration, traffic, injuries, physical hazards, poor surface water quality due to runoff, erosion, sanitation?	Yes
3.3	harm or losses due to failure of structural elements of the project (e.g. collapse of buildings or infrastructure)?	Yes
3.4	risks of water-borne or other vector-borne diseases (e.g. temporary breeding habitats), communicable and noncommunicable diseases, nutritional disorders, mental health?	Yes
3.5	transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	Yes
3.6	adverse impacts on ecosystems and ecosystem services relevant to communities' health (e.g. food, surface water purification, natural buffers from flooding)?	yes
3.7	influx of project workers to project areas?	yes
3.8	engagement of security personnel to protect facilities and property or to support project activities?	Yes
Standard 4: Cultural Heritage		
Would the project potentially involve or lead to:		
4.1	activities adjacent to or within a Cultural Heritage site?	Yes
4.2	significant excavations, demolitions, movement of earth, flooding or other environmental changes?	Yes
4.3	adverse impacts to sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	Yes
4.4	alterations to landscapes and natural features with cultural significance?	No
4.5	utilization of tangible and/or intangible forms (e.g. practices, traditional knowledge) of Cultural Heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
Would the project potentially involve or lead to:		
5.1	temporary or permanent and full or partial physical displacement (including people without legally recognizable claims to land)?	Yes

5.2	economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	Yes
5.3	risk of forced evictions?[125]	Yes
5.4	impacts on or changes to land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	Yes
Standard 6: Indigenous Peoples		
Would the project potentially involve or lead to:		
6.1	areas where indigenous peoples are present (including project area of influence)?	Yes
6.2	activities located on lands and territories claimed by indigenous peoples?	Yes
6.3	impacts (positive or negative) to the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)? *If the answer to screening question 6.3 is "yes", then the potential risk impacts are considered significant and the project would be categorized as either Substantial Risk or High Risk*	Yes
6.4	the absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	Yes
6.5	the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	Yes
6.6	forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources? *Consider, and where appropriate ensure, consistency with the answers under Standard 5 above*	Yes
6.7	adverse impacts on the development priorities of indigenous peoples as defined by them?	Yes
6.8	risks to the physical and cultural survival of indigenous peoples?	No
6.9	impacts on the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices? *Consider, and where appropriate ensure, consistency with the answers under Standard 4 above.*	No
Standard 7: Labour and Working Conditions		
Would the project potentially involve or lead to: (note: applies to project and contractor workers)		
7.1	working conditions that do not meet national labour laws and international commitments?	Yes
7.2	working conditions that may deny freedom of association and collective bargaining?	No
7.3	use of child labour?	No
7.4	use of forced labour?	No
7.5	discriminatory working conditions and/or lack of equal opportunity?	No

[125] Forced eviction is defined here as the permanent or temporary removal against their will of individuals, families or communities from the homes and/or land which they occupy, without the provision of, and access to, appropriate forms of legal or other protection. Forced evictions constitute gross violations of a range of internationally recognized human rights.

7.6	occupational health and safety risks due to physical, chemical, biological and psychosocial hazards (including violence and harassment) throughout the project life-cycle?	Yes
Standard 8: Pollution Prevention and Resource Efficiency		
Would the project potentially involve or lead to:		
8.1	the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	Yes
8.2	the generation of waste (both hazardous and non-hazardous)?	Yes
8.3	the manufacture, trade, release, and/or use of hazardous materials and/or chemicals?	No
8.4	the use of chemicals or materials subject to international bans or phase-outs? *For example, DDT, PCBs and other chemicals listed in international conventions such as the* Montreal Protocol*,* Minamata Convention*,* Basel Convention*,* Rotterdam Convention*,* Stockholm Convention	No
8.5	the application of pesticides that may have a negative effect on the environment or human health?	Yes
8.6	significant consumption of raw materials, energy, and/or water?	No

Annex 7: UNDP Risk Register

#	Description	Risk Category	Impact & Probability	Risk Treatment / Management Measures	Risk Owner
1	NIM modality not functioning as planned and or as per POPP agreement with government	Financial Operational	Should agree operational modalities and process not be followed as this would result in non-compliance with agreed use of resources, (L = 1; I = 5) **MODERATE**	Measure in place through PB, Audits and sport checks – and the provision of technical specialists to monitor and ensure compliance with agreed standards. Training (and refresher) also provided with MPI to all government ministries and departments. UNDP POPP NIM Training will be provided prior commencing project implementation to ensure that all procedures will be followed strictly.	UNDP & GoL
2	Lower than anticipated institution capacity of the initial implementing partner. Based on HACT assessment	Operational Capacity development of national partners	(L= 2; I= 2) **LOW**	Additional support to the institutions of the GoL (M/PONRE) that will lead project implementation. In addition, the project will employ a full-time technical Specialist and a full-time Project Coordination, Monitoring & Evaluation (and reporting) Expert who will be responsible for assisting DWR in coordinating its activities as Executing Agency with the UNDP. The recommendations on the HACT report should be implemented and updated as quarterly basis. UNDP will work closely with IP to strengthen their capacity as needed.	DWR
3	Potential negative impacts from project activities involving reforestation. Caused from tree seedling being planted.	Environmental – biodiversity and use of natural resource	Potential of invasive species affecting the ecosystem (L=1; I= 2) **LOW**	Village forestry will only be carried out in the context of approved sustainable forestry management plans; reforestation will be carried out using clear criteria regarding use of native species, avoidance of land degradation, etc.	Target communities/ villages, IP and DOF
4	Slow implementation/ progress because of required institutional arrangements.	Organisational – institutional arrangements	Delayed processes limiting the possibility of timely completion (L=2; I = 2) **LOW**	MOUs issued with RPs – MOUs closely monitored.	DWR
5	Complex organizational arrangement between DWR, national, provincial and district level (and between Ministries).	Organisational – institutions arrangements	Delayed decision making and activity implementation	Special attention by board, MoUs/letter of Agreement with relevant parties,	DWR - MONRE

#	Description	Risk Category	Impact & Probability	Risk Treatment / Management Measures	Risk Owner
			(I = 2; L = 2) **LOW**	Operational Guide by project team. Clear and regular coordination mechanisms will be established	
6	Changes in staff results in weak delivery by extension staff, other implementers	Operational – leadership & management	Potential to slow down on implementation (I = 4; L = 2) **MODERATE**	Strict field monitoring; Support & encouragement by senior officers	DWR
7	Natural disasters within the project area – including flooding Ecosystems are not sufficiently resilient and their biological and physical integrity are incrementally compromised by the effects of global and regional climate change.	Environmental – climate change and disaster	Delays in implementation and damage to investments (I = 3; L = 2) **MODERATE**	Clear planning and monitoring to avoid rainy season and provision of support when needed. EWS established and capacity of preparedness enhanced	Target communities, IP
8	Changes in priorities and livelihood needs – between conservation and livelihoods	Strategic – Theory of Change	Livelihoods support initiatives impacting negatively on the environment (I= 4; L = 1) **LOW**	Careful and cautious design of conservation programme	DWR
9	Alignment with National priorities - Conflicts and misunderstanding among public institutions, private sector partners, NGOs and resource users undermine partnership approaches and implementation of cooperative governance arrangements	Political – Operational – alignment with national priorities	Long term sustainability efforts (I = 2; L = 1) **LOW**	During project preparation, numerous non-governmental organizations, private sector partners, and development institutions were consulted on the project goals and strategies. Continued consultation and engagement are integrated into the project activities and shared during implementation. clear links in plan in current 9th NSEDP and provincial priorities.	IP, UNDP
10	Findings and recommendations of Social Environment Screening (risks) not followed-up on and addressed. Note overall finding is considered substantial in screening.	Operational	(I = 3; L- 2) **MODERATE**	SES screen and plan updated after first 12 months and then on an ongoing basis. Clear follow up on all issue as part on monthly meetings and standard agenda in PB meetings.	UNDP, IP
11	Ethnic Groups (including Katang and Bru people) inhabit the project implementation area of Savannakhet Province. Project activities will be implemented on lands where they live and will have some effect upon natural resources and livelihoods.	Operational	- Ethnic groups present in the Project area. - Portions of the Project will be located on lands claimed by ethnic groups.	Ethnic Groups Planning Framework (EGPF) was prepared for the Project. The EGPF identifies Indigenous peoples, the project's impacts on them, appropriate ways of engaging with them and beneficial and mitigation measures. This requires review and	MONRE / GoL

#	Description	Risk Category	Impact & Probability	Risk Treatment / Management Measures	Risk Owner
			- Potential affect upon the lands, natural resources, and traditional livelihoods of indigenous peoples. - Potential for economic displacement of ethnic groups through access restrictions to lands. (I = 2; L = 4) **MODERATE**	monitoring during implementation.	

Annex 8.a: Overview of Project Staff and Technical Consultancies

Consultant	Time Input	Tasks, Inputs and Outputs
For Project Management		
Local / National contracting		

Project Coordinator
Rate:
USD3,400/month
 	
Budget note: 3, 11, 19, 35
	48 months/ over 4 years	The Project Coordinator (PC) will have full responsibility in ensuring delivery and quality of work programmes of components, annual component work plans and budget, and coordination of all components. He/she will provide overall guidance in implementing activities in the five-target district in Savannakhet Province and in Luang Prabang City and ensuring the smooth coordination with other projects on day-to-day basis.
		
		The PC will also provide overall coordination of day-to-day project planning, implementation, monitoring and overall management. He/she will provide technical guidance and technical advisory support to project implementing agencies and responsible parties to ensure realization of all outputs and outcomes as outlined in the approved project document and work plans developed by the project.
		
		<u>Duties and Responsibilities</u>
		The PC will carry out below tasks, but not limited to:
		• Provide overall technical support for implementation of the technical components of the project - including:
		• Supporting development and capacity building of stakeholders on ICM and integrated urban EbA to enhance climate resilience of rural and urban communities and ecosystems through use of innovative tools, such as EbA and hydrological modelling.
		  ○ Technical support on implementation of EbA interventions - primarily conservation and restoration of partly and severely degraded forests - in Savannakhet Province, such as protective infrastructure and climate-resilient livelihood enhancement to address the different dynamics of current and future vulnerability to climate change; developing communication and knowledge management tools for communities and training them on their use; conducting market analyses on community livelihoods; development of Community Conservation Agreements.
		  ○ Capturing and disseminating lessons learned during project implementation, as well as ensuring sustainability of project interventions through monitoring systems that will enable the adaptive management of project interventions; knowledge management and M&E through training and awareness raising campaigns at national and provincial levels and establishing community monitoring systems on a local level
		• Facilitate the day-to-day functioning of the PMU;
		• Coordinate the distribution of responsibilities amongst team members and organize the monitoring and tracking system.
		• Manage human and financial resources, in consultation with the project's senior management, to achieve results in line with the outputs and activities outlined in the project document;
		• Plan the activities of the project and monitor progress against the initial quality criteria;
		• Mobilize goods and services to initiative activities, including drafting TORs and work specifications;
		• Monitor events as determined in the Project Monitoring Schedule Plan, and update the plan as required;

Consultant	Time Input	Tasks, Inputs and Outputs
		• Manage requests for the provision of financial resources by UNDP, using advance of funds, direct payments, or reimbursement using the FACE (Fund Authorization and Certificate of Expenditures), and ensure that all are in line with UNDP Execution Support serviced and the NIM Policy and rules; • Monitor financial resources and accounting to ensure accuracy and reliability of financial reports; • Responsible for ensuring preparing and submitting financial reports to UNDP on a quarterly basis together with the Finance and Admin Officer; • Manage and monitor the project risks initially identified, submit new risks to the Project Board for consideration and decision on possible actions if required; update the status of these risks by maintaining the Project Risks Log; • Be responsible for managing issues and requests for change by maintaining an Issues Log; • Prepare the Project Progress Report (progress against planned activities, update on Risks and Issues, expenditures) and submit the report to the Project Board and Project Assurance; • Prepare the Annual review Report, and submit the report to the Project Board; • Prepare the AWP for the following year, as well as Quarterly Plans if required; • Work with co-founding partners to ensure that their activities/programs are integrated and complementary with the project. • Link up project activities with related and parallel activities both within MONRE and with external implementing partner agencies; • Support the Project Manager (PM) and National Project Director in organizing Project Board meetings • Be responsible for coordinating to support spot check and audit preparations and responses • Report and provide feedback to UNDP-GEF and the Project Board on project strategies, activities, progress, and barriers; • Manage relationships with project stakeholders including donors, NGOs, government agencies, and others as required. • Other duties as assigned by the Project Director, Project Manager, Technical Specialist and UNDP Program Analyst.
Project Assistant Rate: USD1200/month Budget note: 26, 36	48 months/ over 4 years	<u>Duties and Responsibilities</u> Under the guidance and supervision of the Project Manager, the Project Assistant will carry out the following tasks: • Support and Assist the Project Coordinator in day-to-day management and oversight of project activities; • Assist the M&E officer in matters related to M&E and knowledge resources management; • Assist in the preparation of progress reports; • Ensure all project documentation (progress reports, consulting and other technical reports and minutes of meetings) are properly maintained in hard and electronic copies in an efficient and readily accessible filing system, for when required by PB, TAC, UNDP, project consultants and other PMU staff; • Provide PMU-related administrative and logistical assistance; • Assist the Finance and Admin Officer in matters related to Finance and Admin; and • Assist in the coordination, hire of vehicles, booking of travels, preparations and conduct of meetings, workshops and consultations, etc.
Project Finance and Admin Officer	48 months/ over 4 years	<u>Duties and Responsibilities:</u>

Consultant	Time Input	Tasks, Inputs and Outputs
Rate: USD2,800/month Budget note: 24		• Standardise the finance and accounting system of the project while maintaining compatibility with UNDP financial and accounting procedures; • Establish financial and accounting management system for the project; • Coordinate and review day to day financial operation of the project; • Ensures project financial and accounting management is compliance with donor (Global Environment Facility) and National Implementing Modality (NIM) requirements, Standards and Standard Operating Procedures, especially, programme implementations, administration, human resources and procurements guidelines; • Produces all financial statements of the project as required; • Controls all the project cost based on the agreed and approved work and budget plans; • Regularly coordinates with UNDP assigned staff (Programme Analyst, Programme Associate) for timely preparation of the financial entries into Atlas system to meet the particular NIM advances and settlement deadlines; • Establishes and manages assigned project bank account to ensure the accuracy and transparency of both transactions in the bank statement and project operations account are definitely followed the financial guideline through careful and detailed oriented reconciliation; • Prepares budget analytical review with clear, realistic and understandable justifications to inform and discuss any significant variances may occur for further actions and solve any arisen problems systematically, immediately and in timely manner; • Analyses budget variances and adjusted as per approval and agreement during the set meeting; • Acts as primary focal point for UNDP Execution Support Services and NIM compliance for the project; • Advises project team members for all financial, administration, procurement and human resources aspects to ensure the project implementation aligns with the NIM and UNDP requirements; • To assure that all project staff both contractual service contracts and government partners settle their released within the deadline specified in NIM-SOP financial management handbook with accurate and correct settlements; • Prepayments made to the project team members for activities implementations are under control and recorded properly with milestone of settlements and sufficient supporting documents; • The Finance and Admin Officer also acts yearly and ad hoc project audits focal point to comply prepare all required auditing financial statements along with the supporting documents as well as fully be responsible for following up and taking necessary actions for audit action plan implementation in timely and corrective manner; • Prepares project operation account (POA), fund authorization cost expenditure (FACE), itemize cost estimate (ICE) and send to National Project Director, UNDP Programme Analyst and Programme Associate for detailed check and screening prior finalizing and approval; • Compiles the quarterly plans and budgets and ensures its alignment with project proposal and budgets and yearly work plan as well as a master budget plan, under the guidance of the National project Director and project team members through providing valid inputs; • Prepares monthly, quarterly and annual reconciliations of the POA versus project transaction detail and combined delivery reports (CDRs) with timely and accuracy manners; • In close cooperation with UNDP Programme Analyst and Programme Associate compiles and prepares the project periodical budget (quarterly and annual budgets) for accurate and precise budget versus actual, especially, to make a very clear proportion for the budget that will be reimbursed by UNDP and by project (POA); • Provide necessary financial information as and when required for project management decisions;

Consultant	Time Input	Tasks, Inputs and Outputs
		• Provide necessary financial information during project audit(s); • Review annual budgets and project expenditure reports, and notify the Project Manager if there are any discrepancies or issues; • Consolidate financial progress reports submitted by the responsible parties for implementation of project activities; • Liaise and follow up with the responsible parties for implementation of project activities in matters related to project funds and financial progress reports; • Creates financial management tool for project for tracking and monitoring for the assigned budget systematically and the tool enable to generate data if any particular financial reports are needed; • Prepares budget revisions of the projects based on the Combined Delivery Reports (CDRs) and or the requirements of the actual project activities implementation and the made agreements; • Provides significant financial inputs in the preparation of the Annual Work Plan (AWP); • Produces all project financial reports (quarterly, annual and as required by the Project Director and UNDP); • Manages and processes all required direct payments and send to UNDP CO for further processes; • Comply verifies budget and accounting data by researching files, calculating costs, and estimating anticipated expenditures from available information sources; • Prepares financial status reports, progress reports and other required financial reports; • Processes all types of payment requests for settlement purpose including quarterly advances to the partners; • Prepare periodic accounting records by recording receipts and disbursements (ledgers, cash books, vouchers, etc.) and reconciling data for recurring or financial special reports and take lead in preparation of annual procurement plan; • Undertakes project financial closure formalities including submission of terminal reports, transfer and disposal of equipment, processing of semi-final and final revisions, and support professional staff in preparing the terminal assessment reports; • Prepares reports and documents as per specified formats, project, or programme plans and general reference documents as well as general financial or specialized tasks related to the project which may be of a confidential nature within the assigned area of responsibility; • Facilitates in the timely issuance of contracts and assurance of other eligible entitlements of the project's personnel, experts, and consultants by preparing annual recruitment plans; and • Provides substantive and overall financial management support to the National Project Director for overall implementation, financial reports.
National Communications and Design Specialist Rate: USD1,500/month Budget note: 37	24 months/ over 4 years	This position will work directly with the Project Team at DWR, including the Project Coordinator, the UNDP Technical Specialist, the UNDP M&E and Reporting Officer, as well as DWR staff at the national, provincial and district levels. He/she will be closely guided by the Project Coordinator and play a key role in developing project communication materials and promotion strategies both nationally and internationally. This will include the development, design and dissemination of different types of communication documents and project promotional materials though various types of communication mediums for a broad and diverse target audience. Specific tasks to be undertaken by the Communications and Design Specialist are, but not limited to: • Communication of the implementation of the project based on the processes outputs and outcome indicators, indicated in the project results and resource framework. • Work closely with the Project staff, as well as the UNDP Public Information Unit to design and disseminate innovative promotion materials, where possible from sustainable material and from local and responsible providers, to raise the profile of the Project, to

Consultant	Time Input	Tasks, Inputs and Outputs
		attract funding for sustainable forest management and protected areas management, and promote responsible, inclusive and in Savannakhet and the five target districts and Luang Prabang City • Support the project team in the preparation of communication materials such as brochures, posters, technical reports, case studies, etc. targeted to specific audiences (local communities, resource managers, donor agencies, etc.) with full compliance as required by the GEF's Communication and Visibility Guidelines and UNDP's Communications Guidelines • Engage with different media channels to reach a diverse target audience, from local Lao youth, expatriates, prospective travellers ranging from low to high budget that are interested in responsible and attract general attention to the project's combined conservation and livelihood approach. • Collect, adapt and disseminate existing promotion material from the project stakeholders, partner organizations and other actors active in this sector. • Closely work with the Project Technical Specialist and other technical assistance staff to provide materials for awareness raising programmes for key stakeholders at the national, provincial, district and community level, engaging them in the topic of climate change, disasters, forest management and its benefit for local livelihoods • Conduct regular field visits to the distribution sites in Savannakhet Province and Luang Prabang city to investigate and communicate the development of the project and ecotourism activities. • Conduct post distribution and beneficiary interviews to communicate success stories with a human aspect. • Contribute to the UNDP communication database, including photos, videos, press releases, twitter and Facebook entries and further electronic communication material. • Organize and support the creation and launch of a project ecotourism website and Facebook page, to promote Savannakhet's tourism infrastructure and community-based ecotourism activities in an engaging manner. • Communicate the focus on gender and livelihood aspects of the Project's inclusive conservation approach in collaboration with the other specialists of the project. • Participate in knowledge transfer and capacity building of national project staff in terms of project communication and media channels Support coordination of the Project activities and the day-to-day operations of the project: • Cooperate with the project team including the coordinator, Project Manager, , UNDP Technical Specialist and project counterpart to prepare monthly work plans and provide support to develop annual and quarterly/six-month work plans • Together, with government counterparts and local authorities, implement activities as per the work plan • Monitor the implementation of activities, identify arising issues and provide solutions to address these, in close consultation and collaboration with the project manager and government staff, if necessary. • Develop and maintain a database of all technical reports, presentations, maps, data and pictures produced by the project during field of work. • Assist during preparation of monthly, quarterly and yearly progress and end project reports.

Consultant	Time Input	Tasks, Inputs and Outputs
		• Prepare Project Progress Report (progress against planned activities, update on Risks and Issues, expenditures) and submit the report to the Project Board and Project Assurance; • Monitor all technical, financial and administrative aspects on the utilization and impact of all resources made available to the project. • In cooperation with project staff and counterpart, organize meetings, workshops, study tours and training courses, and facilitate workshops, discussions and consultations with communities and stakeholders as required. • Provide training to staff including government partner, and stakeholder to help them understand the project when required. • Provide suggestion and support on the creation of women production group for an inclusive project. • Manage relationships with project stakeholders including donors, NGOs, government agencies, and others as required • Support translation and interpretation of project technical documents for workshop and meeting, etc. • Perform other tasks relate to project activities as required by UNDP and DWR. Overall output expectations: • Substantial technical, administrative and logistical assistance for the implementation of the Integrated Water Resource Management and Ecosystem-based Adaptation in the Xe Bang Hieng river basin and Luang Prabang city • Effective achievement of the Project activities and goals as per the project framework. • Technical documents such as reports, strategies, guidelines, agreement, incentive alternatives, action plans, training course/packages and communication materials as required.
International / Regional and global contracting		
Technical Specialist Rate: USD10,000/month Budget note: 4, 10, 21	48 months/ over 4 years	The position will have a lead technical responsibility under direct guidance of the Director General of DWR (serving as a National Project Director) and overall supervision of Deputy Resident Representative of UNDP Lao PDR and Head of Environment Unit. These include but are not limited to: technical project activities with focus on monitoring, evaluation and reporting; annual workplans and budget; integration with all outcomes; guiding activities in provinces; coordination with other related project; day-to-day project management; following up with monitoring results and findings related to the outputs and outcomes of the project. He/she will provide high level advice and guidance to DWR/Government of Lao PDR and UNDP in the following areas: • Technical and strategic guidance, rigorous analysis and advice to the Government of Lao PDR to effectively consider, develop and implement integrated water resource management and Ecosystem-based Adaptation, integrated spatial planning, supportive infrastructure of flood and drought, early warning system, Integrated Climate Resilient Flood Management Strategy. • Provision of technical advice, capacity building, institutional support and project management support to the Government to ensure effective and timely delivery of the Project. • Support resource mobilization and provide leadership on sustainable forest and land management, protected area management, community forest management, disaster risk reduction related issues within the government network, UN and strengthen partnerships/coordination with key stakeholders for better coordinated support for integrated water resource management and Ecosystem-based Adaptation in Xe Bang Hieng River Basin and Luang Prabang city. The Technical Specialist's contribution to the implementation of key project components is described in detail below.

Consultant	Time Input	Tasks, Inputs and Outputs
		1. Strategic guidance, rigorous analysis and advice to the Government of Lao PDR to effectively consider, develop and implement sustainable forest and land management, protected area management, integrated water resource management and Ecosystem-based Adaptation, Integrated Climate Resilient Flood Management Strategy. • Provide technical input, supervisor, policy advice and implementation of project activities with a special attention on planning, implementation, monitoring, evaluation and reporting, and quality control of project outputs; • Advise the government and UNDP on the linkages with other major programs or project of other agencies, organizations or departments and UN agencies; • Advice and support on draft and comments on necessary strategic and technical documents on sustainable forest and land management, protected area management, strategic environmental assessment, integrated water resource management and Ecosystem-based Adaptation, Integrated Climate Resilient Flood Management Strategy, issues such as policy papers or other analytical products in collaboration with other technical assistant consultants or staffs and government counterparts; • Ensure the development of cross-project linkage with other relevant UN and development partner projects for mutual reinforcing impact; • Facilitate information sharing and dialogue within the donor community and prepare briefs and policy papers related to the contexts and focus of the project; • Assist the government in information sharing/knowledge management in the thematic related to the scope of the project; • Provide other advice and support as may be required by the Government and UNDP as is to be expected in a dynamic process of the project; and • Systematically record the results of the project and provide substantive contribution to the UNDP/GEF annual reports as well as knowledge products. **2.** Provision of technical advice, capacity building, institutional support, project management and implementation support to the Government to ensure effective and timely delivery of the Integrated Water Resource Management and Ecosystem-based Adaption in Xe Bang Hieng river basin and Luang Prabang city Project. • Advise, support the relevant parties to develop a realistic annual and quarterly workplans and a corresponding budget plan with clearly stated milestones contributing to the achievement of target outcomes and outputs defined in the project document and obtained final approval., including workload management and performance assessment under the project framework; • Realize with national and international consultants, and government counterparts at national, provincial and districts levels to design, implement and monitor project activities; • Ensure the participation and involvement of relevant stakeholders in project activities at national, provincial and district levels in the project planning, implementation, monitoring, evaluation and reporting; • Support implementation of project activities to ensure delivery of resources and results according to planned targets, activities, and approved budget at the national, provincial and district levels; • Ensure the development of linkages across the project outcomes and outputs, as well as advice and update the National Project Director and UNDP on the project progress on a regular basis;

Consultant	Time Input	Tasks, Inputs and Outputs
		• Support regular ongoing communications and information sharing, including providing technical inputs to the preparation of quarterly progress reports and annual reports to UNDP and GEF; • Advise, support and implement Annual Project Reviews, annual audits, mid-term evaluation and final evaluation of the Project in collaboration with the project team and consultants; • Mobilize and recruit competent national and international experts that are needed by different outcomes/components of the project; • Organize and oversee consultant input, develop detailed Terms of References for national and international consultants and contractors in collaboration with Project Manager, National Project Director, UNDP and support in procurement of goods, organization of training sessions, seminars, etc; • Liaise with all consultants and project teams to ensure that the planned deliverables are completed in timely manner within the contract period; • Support and be involved in organizing and facilitating project meetings, workshops etc. with relevant substantive inputs. • Identify and develop synthesis of best practices and lessons learned for organizational sharing and learning; • Closely work with the Project Coordinator/Monitoring& Evaluation and Reporting Officer to provide capacity development for key government staff at the national, provincial and district levels to support better informed and planned for the project, protected area conservation, integrated water resource management, ecosystem-based adaption and livelihood development; • Closely work with the Project Coordinator/Monitoring& Evaluation and Reporting Officer to provide capacity development for key government staff at the national, provincial and district levels to support and complete the Protected Area sites' Management Effectiveness Tracking Tool (MEETT), Capacity Development Monitoring Scorecard and other tools as required by GEF 7; • Ensure results of the evaluation of all training activities and workshop carried out under the project feeding into the progress reports with an emphasis on results-oriented aspects, accounting for gender issues; • Support DWR and UNDP in closing projects operationally in accordance with rules and regulations of UNDP; • Undertake technical oversight on a daily basis including monitoring technical aspects of project activities; and • Perform other tasks related to the project as required by the DWR and UNDP. **3.** Support resource mobilization and provide leadership on sustainable forest and land management, protected area management, community forest management, land use planning, Integrated water resource management, ecosystem-based adaptation within the government network, UN and strengthen partnerships/coordination with key stakeholders for better coordinated support for integrated sustainable development and sustainable development golds localization. • Support the government and the UNDP in strengthening partnership/coordination with key stakeholders, particular the donors/development partners, private sector, and the government to identify opportunities, formulate joint initiative with maximum impacts and efficiency, minimize duplication of efforts and reduce traction costs in the area of sustainable forest and land management, protected area management, community forest management, land use planning, Integrated water resource management, ecosystem-based adaptation; • Promote information sharing and facilitate dialogue within the donor community and prepare briefs and policy papers related to the project thematic area and agencies; and • Perform other duties related to the project as assigned by UNDP Senior Management.
For Technical Assistance		

Consultant	Time Input	Tasks, Inputs and Outputs
Project Gender Officer Rate: USD300/week Budget note: 4, 10, 21	40 weeks/ over 4 years	Duties and Responsibilities: • Monitor progress in implementation of the project Gender Action Plan ensuring that targets are fully met and the reporting requirements are fulfilled; • Oversee/develop/coordinate implementation of all gender-related work; • Review the Gender Action Plan annually, and update and revise corresponding management plans as necessary; and • Work with the M&E officer and Safeguards Officer to ensure reporting, monitoring and evaluation fully address the gender concerns of the project — across all three project Components.
Project Safeguards Officer Rate: USD500/week Budget note: 4, 10, 21	80 weeks/ over 4 years	Duties and Responsibilities: • Monitor progress in development/implementation of the project ESMP/ESMF ensuring that UNDP's SES policy is fully met, and the reporting requirements are fulfilled; • Oversee/develop/coordinate implementation of all safeguard-related plans; • Ensure social and environmental grievances are managed effectively and with transparency; • Review the SESP annually, and update and revise corresponding risk log; mitigation/management plans as necessary; • Ensure full disclosure with concerned stakeholders; and • Ensure environmental and social risks are identified, avoided, mitigated and managed throughout project implementation; and • Work with the M&E officer and Gender Officer to ensure reporting and M&E fully address the safeguard concerns of the project — across all three project Components.
Outcome 1: Enhanced national and provincial capacities for integrated catchment and flood management in target rural and urban communities		
Local / National contracting — Budget Note: 2		
National Consultant Rate: USD300/Day	90 days/over 3 years	The National Consultant will conduct a 1-week training program, designed by the International Consultant, in each of the five target districts and in Luang Prabang city to enable climate risk-informed water management practices in urban and rural areas.
National Consultant Rate: USD300/Day	60 days/over 1 year	The National Consultant will assist the International Consultant in designing six training programs — one training program for each of the target districts and for Luang Prabang city — to enable climate risk-informed water management practices in urban and rural areas.
National Consultant Rate: USD300/Day	60 days/over 1 year	The National Consultant will assist the International Consultant in conducting protective infrastructure optioneering, based on identified risk zones, in the Xe Bang Hieng River Basin.
National Consultant Rate: USD300/Day	60 days/over 1 year	The National Consultant will assist the International Consultant in conducting an options analysis of protective infrastructure in Luang Prabang city.
National Consultant Rate: USD300/Day	60 days/over 1 year	The National Consultant will assist the International Consultant in the drafting of fine-scale climate-resilient development and land use plans, for Luang Prabang city and the headwater and lowland areas of the Xe Bang Hieng River Basin.
National Consultant Rate: USD300/Day	75 days/over 3 years	The National Consultant will assist the Contractual Services update the hydrological monitoring network, based on the recommendations of the International Consultant, and deliver training on updated village weather stations.
National Consultant Rate: USD300/Day	90 days/over 1 year	The National Consultant will assist the International Consultant in reviewing and providing recommendations on early warning systems and emergency procedures in the five target districts.
International / Regional and global contracting		
International Consultant Rate: USD700/Day Budget Note: 1	30 days/over 1 year	The International Consultant will design six training programs — one training program for each of the target districts and for Luang Prabang city — to enable climate risk-informed water management practices in urban and rural areas.

Consultant	Time Input	Tasks, Inputs and Outputs
International Consultant Rate: USD700/Day Budget Note: 1	30 days/over 1 year	The International Consultant will conduct protective infrastructure optioneering, based on identified risk zones, in the Xe Bang Hieng River Basin.
International Consultant Rate: USD700/Day Budget Note: 1	30 days/over 1 year	The International Consultant will conduct an options analysis of protective infrastructure in Luang Prabang city.
International Consultant Rate: USD700/Day Budget Note: 1	30 days/over 1 year	The International Consultant will draft fine-scale climate-resilient development and land use plans, for Luang Prabang city and the headwater and lowland areas of the Xe Bang Hieng River Basin.
International Consultant Rate: USD700/Day Budget Note: 1	30 days/over 1 year	The International Consultant will assess the current Xe Bang Hieng River Basin hydrological monitoring network
International Consultant Rate: USD700/Day Budget Note: 1	60 days/over 1 year	The International Consultant will review and provide recommendation on early warning systems and emergency procedures in the five target districts.
Contractual Services Budget Note: 5	1 year	The project will contract a specialist firm to map current and future risk zones of the Xe Bang Hieng River Basin
Contractual Services Budget Note: 5	1 year	The project will contract a specialist firm to conduct economic valuation of ecosystems. This cost includes integrating valuations into policy, ascertaining ecosystem services flow, promoting non-marketable ecosystem services as an income generator, enumerators and the collection of socio-economic data
Contractual Services Budget Note: 5	1 year	The project will contract a specialist firm to update the existing hydrological monitoring network based on the recommendations of the international consultant
Contractual Services Budget Note: 5	1 year	The project will contract a specialist firm to undertake a revision of EWS and emergency procedures based on recommendations made by IC
Outcome 2: Ecosystems restored and protected through conservation zone management, EbA, and climate resilient and alternative livelihoods.		
Local / National contracting — Budget Note: 9		

Consultant	Time Input	Tasks, Inputs and Outputs
National Consultant Rate: USD300/Day	25 days/over 1 year	The National Consultant will run community engagement workshops to engage communities on CCAs.
National Consultant Rate: USD300/Day	75 days/over 3 years	The National Consultant will introduce and train communities on diversified livelihood activities and opportunities.
National Consultant Rate: USD300/Day	30 days/over 3 years	The National Consultant will assist the International Consultant conduct training on the use of improved practices, tools and technologies to support headwater conservation zone management, as well as acting as a translator.
National Consultant Rate: USD300/Day	180 days/over 3 years	The National Consultant will assist the Contractual Services to implement and distribute communication and knowledge management tools and technologies (e.g. mobile phone apps, community radio, etc.) to target communities, as well as train these communities on their use.
National Consultant Rate: USD300/Day	60 days/over 1 year	The National Consultant will assist the International Consultant in drafting and implementing CCAs in target communities and will act as translator.
National Consultant Rate: USD333/Day	30 days/over 1 year	The National Consultant will assist the Project Safeguards Officer in assessments related to protective infrastructure.
International / Regional and global contracting		
International Consultant Rate: USD700/Day Budget Note: 8	30 days/over 1 year	The International Consultant will design training on the use of improved practices, tools and technologies to support headwater conservation zone management.
International Consultant Rate: USD700/Day Budget Note: 8	30 days/over 3 years	The International Consultant will conduct training on the use of improved practices, tools and technologies to support headwater conservation zone management
International Consultant Rate: USD700/Day Budget Note: 8	30 days/over 1 year	The International Consultant will undertake the drafting and implementation of CCAs in the target communities.
Contractual Services Budget Note: 12	1 year	The project will contract a specialist firm to partner with DWR for the provision of resources for conservation and restoration activities.
Contractual Services Budget Note: 12	1 year	The project will contract a specialist firm to construct protective infrastructure in target sites.
Contractual Services Budget Note: 12	1 year	The project will contract a specialist firm to implement and distribute communication and knowledge management tools and technologies (e.g. mobile phone apps, community radio, etc.) to target communities.
Contractual Services	1 year	The project will contract a specialist firm to conduct market analyses to inform diversified and alternative livelihood activities.

Consultant	Time Input	Tasks, Inputs and Outputs
Budget Note: 12		
Outcome 3: Effective knowledge management and M&E through awareness/advocacy and monitoring of climate change impacts and adaptation opportunities in target rural and urban communities		
Local / National contracting		
Monitoring & Evaluation and Reporting Officer Rate: 30,000 USD/annum Budget Note: 20	4 years	The specific task to be undertaken by the Monitoring & Evaluation and Reporting Officer are, but not limited to: • Monitor the implementation of the project on the basis of process, outputs, outcome indicators indicated in the project results and resource framework; • Ensure the successful commissioning of the M&E plan through participatory process and within the specified timelines. • Modify and update M&E toolkits and log-frames for projects as needed; • Plan and deliver the M&E training for project staff, DWR at the central and local levels, and relevant stakeholders who engage in the M&E work; Closely work with the Technical Specialist, Project Coordinator and other technical assistant staff to provide capacity development for key government staff at the national, provincial and district levels to support and complete the Protected Area sites' Management Effectiveness Tracking Tool (METT), Financing Sustainability for PA Systems Scoring, Capacity Development Monitoring Scorecard and the other tools as required; • Analyse monitoring information for all activities, outputs, outcome of the project with support from the Technical Specialist, Project Coordinator, relevant government officers at DWR, and UNDP Programme Analyst; • Analyse monitoring reports for the project team in the fields and verify with DWR, and UNDP team; • Prepare quarterly and annual project progress and monitoring reports incorporating gender disaggregated information in collaboration with the Technical Specialist, the Project Coordinator and project specialists; • Prepare annual donor report – GEF Project Implementation Review (PIR) with relevant information on communication, safeguards, gender data, partnerships etc in collaboration with the Technical Specialist, the Project Coordinator and project specialists; • Effective record keeping through maintaining soft and hard copies of files for purposes of spot checks, audits, quality assurance, monitoring and evaluation; • Identify potential problems and facilitate overall programming decisions based on the information from the M&E analysis and maintain risk, issue and communication logs on behalf of the project; • Conduct regular field visits to distribution sites in Savannakhet Province and Luang Prabang city to check viability in relation to the number of beneficiaries, rations, commodities and quantities distributed; • Conduct post distribution monitoring interviews with beneficiaries in order to verify written reports; • Develop and maintain and manage the M&E database of the project, incorporating gender disaggregated information in collaboration with the gender and stakeholder Specialist; • Coordinate and liaise with government counterparts at central and local levels and UNDP and liaise with other development programmes to improve timely and quality of the monitoring reports, quarterly and annual reports to UNDP and donors; and Participate in knowledge transfer and capacity building of national project staff in M&E.
National Consultant Rate: USD400/Day Budget Note: 17	30 days/over 1 year	The National Consultant will assist the International Consultant performing the Independent Mid-Term Review

Consultant	Time Input	Tasks, Inputs and Outputs
National Consultant Rate: USD400/Day Budget Note: 17	30 days/over 1 year	The National Consultant will assist the International Consultant performing the Independent Terminal Evaluation
National consultant Rate: USD300/Day Budget Note: 17	75 days/over 3 years	The National Consultant will conduct a 1-week training program for target Xe Bang Hieng River Basin communities on: i) climate change impacts on agricultural production and socioeconomic conditions; and ii) community-based adaptation opportunities and strategies (including water resources management, agroforestry, conservation agriculture, alternatives to swidden agriculture) and their benefits.
National consultant Rate: USD300/Day Budget Note: 17	75 days/over 3 years	The National Consultant will deliver training, in the target districts, on the community-based monitoring systems.
International / Regional and global contracting		
International consultant Rate: USD1,333/Day Budget Note: 16	30 days/over 1 year	The International Consultant will perform an Independent Mid-term Review.
International consultant Rate: USD1,333/Day Budget Note: 16	30 days/over 1 year	The International Consultant will perform an Independent Terminal Evaluation.
International consultant Rate: USD700/Day Budget Note: 16	30 days/ over 1 year	The International Consultant will design training for target Xe Bang Hieng River Basin communities on: i) climate change impacts on agricultural production and socioeconomic conditions; ii) community-based adaptation opportunities and strategies (including water resources management, agroforestry, conservation agriculture, alternatives to swidden agriculture) and their benefits and iii) gender mainstreaming at the village level.
Contractual Services Budget Note: 18	1 year	The project will contract a specialist firm to conduct an awareness raising campaign among Xe Bang Hieng River Basin communities, on the impacts of climate change and adaptation opportunities.
Contractual Services Budget Note: 18	1 year	The project will contract a specialist firm to set up and establish knowledge management hub for the facilitate the sharing of lessons learned.

Consultant	Time Input	Tasks, Inputs and Outputs
Contractual Services Budget Note: 18	1 year	The project will contract a specialist firm to design and implement awareness raising campaign in Luang Prabang.
Contractual Services Budget Note: 18	1 year	The project will contract a specialist firm to design and implement community based-monitoring systems.
Contractual Services Budget Note: 18	1 year	The project will contract a researcher to manage the operations of the management hub, compile and share lessons learned and conduct annual reviews.

Annex 8.b: Terms of Reference (indicative, all ToRs will be reviewed before advertising in line with applicable contractual and implementation modality of the project and guidance from GSSU)

I. Position Information	
Job code title:	Technical Specialist for Integrated Water Resource Management and Ecosystem-based adaptation in Xe Bang Hieng River basin and Luang Prabang City, Project (00098851)
Position Number:	TBC
Department:	Department of Water Resources, Ministry of Natural Resource and Environment
Report to:	UNDP Deputy Resident Representative/Head of Environment Unit
Position status:	Non-rotational
Current grade:	IPSA
Approved grade	IPSA (P3/P4 equiv) – IPSA contract
Position classified by:	OHR
Classification approved by:	OHR
Starting date:	As soon as possible
Application deadline:	1 June 2022
Expected duration of assignment:	1 June 2022-31 May 2025 1-year, renewable yearly during duration of the programme, depending on satisfactory performance and funding availability

II. Organizational Context

The Lao People's Democratic Republic (hereafter referred to as Lao PDR) is a landlocked Least Developed Country (LDC) in Southeast Asia — bordered by Vietnam to the east, Thailand to the west, Cambodia to the south and Myanmar and China to the north. It has a total land area of ~236,800 km^2, of which ~20% comprises floodplains along the Mekong River that flows from north to south through the country[126,127].

Lao PDR has a tropical climate, characterised by high interannual rainfall variability, with 70% of rainfall occurring during the rainy season from April–October, along with a mean annual temperature of 18°C[128]. The country's climate is influenced by typhoons from the southwest and monsoons from the northeast, which both result in flooding along the Mekong and its tributaries. The flooding events resulting from typhoons are typically intense, but relatively brief, flash events. The increasing amount of rainfall from extreme rainfall days — ~10 mm per decade since the 1960s — and the accumulation of monsoon rains in the upper Mekong River Basin during this period, leads to seasonal nationwide flooding events[129,130]. Most of Lao PDR's population of ~7 million people are concentrated on the eastern bank of the Mekong and its tributaries, making them highly vulnerable to the impacts of floods — including landslides, erosion of riverbanks, damage to infrastructure and agricultural damages and

[126] Lao People's Democratic Republic. 2009.National Adaptation Programme of Action to Climate Change.
[127] Lao PDR Second National Communication to the UNFCCC
[128] Lao People's Democratic Republic. 2000. The First National Communication on Climate Change.
[129] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).
[130] Lao PDR Second National Communication to the UNFCCC

losses that lead to reduced food security. While lowland and floodplain communities are more vulnerable to floods, communities situated in the mountainous headwater regions are more vulnerable to droughts[131,132].

In addition to changes in rainfall patterns, Lao PDR's national average temperature increased by 0.1–0.3°C per decade between 1951 and 2000. This increase, coupled with decreasing rainfall during the dry season, has led to longer and more severe droughts throughout the country [133]. Despite this national trend in increasing temperature, the average temperature is not uniform across the country, with temperatures in the south trending slightly higher than the national average and temperatures in the north trending slightly below the national average[134].

Lao PDR is extremely vulnerable to climate change, particularly the impacts of floods and droughts. Since the 1960s, the country has experienced an increase in the frequency and severity of these events, resulting in increased impacts on, and risks to, vulnerable communities in the country. These impacts include, for example, damage to crops, thereby decreasing food and financial security. The severity of climate change impacts is further compounded by non-climate change-related factors such as increasing urbanisation, ecosystem degradation and deforestation.

The UNDP-GEF LDCF Integrated Water Resource Management (IWRM) and Ecosystem-based Adaptation (EbA) in the Xe Bang Hieng River Basin and Luang Prabang City project aims to support the government of Lao PDR (GoL) to promote the integrated management of land and water resources at target sites in the Xe Bang Hieng River Basin and Luang Prabang City. This will increase the climate resilience of communities to the impacts of floods and droughts — both of which are projected to become more intense and frequent under future climate scenarios. The project will be implemented over the period of four years from May 2022 to May 2025 by the Department of Water Resources under the GoL's Ministry of Natural Resources and Environment.

As mentioned above, the proposed project will strengthen the climate resilience of communities in two particularly vulnerable areas of Lao PDR — Savannakhet Province and Luang Prabang City — primarily focussing on the impacts of floods and droughts. This improved resilience will be achieved through three complementary project components, specifically: i) developing national and provincial capacities for Integrated Catchment Management (ICM) and integrated urban Ecosystem-based Adaptation (EbA) for climate risk reduction; ii) Ecosystem-based Adaptation (EbA) interventions, with supporting protective infrastructure and livelihood enhancement; and iii) knowledge management and monitoring and evaluation (M&E).

To implement the proposed project, US$5,329,452 is requested from the GEF Trust Fund LDCF. A matching amount of US$ 27,462,585 has been confirmed as co-financing from numerous national and international sources.

Against this background, the UNDP Lao PDR and the Department of Water Resources (DWR) seek a qualified Technical Specialist to provide managerial and technical skills to the project team and the project implementing agencies' timely realisation of all outputs and outcomes as outlined in the approved project document and other workplans developed by the project.

III. Functions/ Key Results Expected

[131] Damage can be defined as impacts that can be alleviated or repaired while losses are associated with irreversibility. See: Calliari, E., Surminski, S., & Mysiak, J. (2019). Loss and Damage from Climate Change (R. Mechler, L. M. Bouwer, T. Schinko, S. Surminski, & J. Linnerooth-Bayer (eds.)). Springer International Publishing. https://doi.org/10.1007/978-3-319-72026-5. Available online at: https://link.springer.com/content/pdf/10.1007%2F978-3-319-72026-5.pdf

[132] Center for Excellence in Disaster Management & Humanitarian Assistance. Disaster Management Reference Handbook: Lao (2017). Available at: https://reliefweb.int/sites/reliefweb.int/files/resources/CFE%20DM%20Reference%20Handbook-Lao%20PDR%202017.pdf

[133] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).

[134] Aaron J. M. Russell, Joost Foppes, Diji Chandrasekharan Behr, Sounthone Ketphanh, Serge Rafanoharana. 2015. How Forests Enhance Resilience to Climate Change: The Case of Smallholder Agriculture in Lao PDR. Washington DC: Program on Forests (PROFOR).

The position will have a lead technical responsibility under direct guidance of the Director General of DWR (serving as a National Project Director) and supervision of Head of Environment Unit. These include but are not limited to: technical project activities with focus on monitoring, evaluation and reporting; annual workplans and budget; integration with all outcomes; guiding activities in provinces; coordination with other related projects; day-to-day project management; and following up with monitoring results and findings related to the outputs and outcomes of the project.

The suitable candidate will provide high-level advice and guidance to DWR/GoL and UNDP in the following areas:

- Technical and strategic guidance, rigorous analysis and advice to the GoL to effectively consider, develop and implement integrated water resource management (IWRM) and ecosystem-based adaptation (EbA), integrated spatial planning, supportive infrastructure of flood and drought, early warning systems and the integrated climate-resilient flood management strategy.
- Provision of technical advice, capacity building, institutional support and project management support to the GoL to ensure effective and timely delivery of the project.
- Support resource mobilisation and provide leadership on sustainable forest and land management, protected area management, community forest management, disaster risk reduction-related matters within the government network and UN and strengthen partnerships/coordination with key stakeholders for better coordinated support for IWRM and EbA in Xe Bang Hieng River Basin and Luang Prabang City.

4. Strategic guidance, rigorous analysis and advice to the GoL to effectively consider, develop and implement sustainable forest and land management, protected area management, IWRM and EbA, as well as the integrated climate-resilient flood management strategy

- Provide technical input, supervision, policy advice and implementation of project activities with specific focus on planning, implementation, monitoring, evaluation, reporting, and quality control of project outputs.
- Advise the GoL and UNDP on the linkages with other major programmes or projects of other organisations, departments or UN agencies.
- Advise and support on drafts and provide comments on necessary strategic and technical documents on sustainable forest and land management, protected area management, strategic environmental assessments, IWRM and EbA, integrated climate-resilient flood management, and components such as policy papers or other analytical products in collaboration with other technical assistant consultants or staff and government counterparts.
- Ensure the development of cross-project linkage with other relevant UN and development partner projects for mutual reinforcing impact.
- Facilitate information sharing and dialogue within the donor community and prepare briefs and policy papers related to the contexts and focus of the project.
- Assist the GoL in information sharing/knowledge management in the thematic areas related to the scope of the project.
- Provide other advice and support as may be required by the GoL and UNDP as is typical of the dynamic process of project development and implementation.
- Systematically record the results of the project and provide substantive contribution to the UNDP/GEF annual reports as well as knowledge products.

5. Provision of technical advice, capacity building, institutional support, project management and implementation support to the GoL to ensure effective and timely delivery of the IWRM and EbA in Xe Bang Hieng River Basin and Luang Prabang City project.

- Advise, support the relevant parties to develop realistic annual and quarterly workplans and a corresponding budget plan with clearly stated milestones contributing to the achievement of target

outcomes and outputs defined in the project document and final approval, including workload management and performance assessment under the project framework.

- Liaise with national and international consultants, and government counterparts at national, provincial and district levels to design, implement and monitor project activities.
- Ensure the participation and involvement of relevant stakeholders in project activities at national, provincial and district levels in the project planning, implementation, monitoring, evaluation and reporting.
- Support the implementation of project activities to ensure the delivery of resources and results according to planned targets, activities and approved budget at the national, provincial and district levels.
- Ensure the development of linkages across the project outcomes and outputs, as well as advise and update the National Project Director and UNDP on the project progress on a regular basis.
- Support regular ongoing communications and information sharing, including providing technical inputs to the preparation of quarterly progress reports and annual reports to UNDP and GEF.
- Advise, support and implement Annual Project Reviews, annual audits, mid-term evaluation and final evaluation of the project in collaboration with the project team and consultants.
- Mobilise and recruit competent national and international experts that are required for different outcomes/components of the project.
- Organise and oversee consultant input, develop detailed Terms of References (ToRs) for national and international consultants and contractors in collaboration with Project Manager, National Project Director, UNDP and support in procurement of goods, organisation of training sessions, workshops and seminars.
- Liaise with all consultants and project teams to ensure that the planned deliverables are completed in a timely manner within the contract period.
- Support and engage in organising and facilitating project meetings and workshops with relevant substantive inputs.
- Identify and develop synthesis of best practices and lessons learned for organisational sharing and learning.
- Work closely with the Project Coordinator, Monitoring & Evaluation and Reporting Officer to provide capacity development for key government staff at the national, provincial and district levels to support better informed planning for the project, protected area conservation, IWRM, EbA and livelihood development.
- Closely work with the Project Coordinator, Monitoring & Evaluation and Reporting Officer to provide capacity development for key government staff at the national, provincial and district levels to support and complete the Protected Area sites' Management Effectiveness Tracking Tool (MEETT), Capacity Development Monitoring Scorecard and other tools as required by GEF 7.
- Ensure results of the evaluation of all training activities and workshops carried out under the project feed into the progress reports with an emphasis on results and taking into account gender concerns.
- Support DWR and UNDP in closing projects operationally in accordance with rules and regulations of UNDP.
- Undertake technical oversight on a daily basis including monitoring technical aspects of project activities.
- Perform other tasks related to the project as required by the DWR and UNDP.

6. Support resource mobilisation and provide leadership on sustainable forest and land management, protected area management, community forest management, land-use planning, IWRM, EbA within the government network and UN and strengthen partnerships/coordination with key stakeholders for better coordinated better coordinated support for IWRM and EbA in Xe Bang Hieng River Basin and Luang Prabang City

- Support the GoL and UNDP in strengthening partnership/coordination with key stakeholders, particularly the donors/development partners, private sector, and government to identify opportunities, formulate joint initiatives with maximum impacts and efficiency, minimise duplication of efforts and reduce traction costs in the area of sustainable forest and land management, protected area management, community forest management, land-use planning, IWRM and EbA.

- Promote information sharing and facilitate dialogue within the donor community and prepare briefs and policy papers related to the project thematic area and agencies.
- Perform other duties related to the project as assigned by UNDP Senior Management.

7. Impact of Results

The key results will have an impact on:

1. Achieving the anticipated results of the Integrated Water Resource Management (IWRM) and Ecosystem-based Adaptation (EbA) in the Xe Bang Hieng River Basin and Luang Prabang City project.
2. Strengthening national and local planning, institutional and staff capacity and processes on sustainable forest and land management, protected area management, community forest management, land-use planning, IWRM and EbA.
3. Creating partnerships and coordination within UN agencies and government counterparts in the specific project thematic areas.

8. Competencies

Corporate Competencies:

- Demonstrates commitment to UNDP's mission, vision and values.
- Demonstrate integrity by respecting the Government of Lao PDR's (GoL) vision, values and ethical standards.
- Displays cultural, gender, religious, race, nationality, and age sensitivity and adaptability.
- Treats all people fairly without favouritism.
- Projects a confident leadership style that encourages team spirit and cooperation.

Functional Competencies:

<u>Development and Operational Effectiveness:</u>

- Ability to lead strategic planning and results-based management of the project.
- Able to formulate and manage budgets, across multiple components.
- Can design and implement new systems in the government.
- Creativity, flexibility and pro-active approach in a challenging work environment.

<u>Management and Leadership:</u>

- Ability to coordinate effectively and demonstrate conflict resolution skills.
- Consistently approaches work with a positive, constructive attitude.
- Builds strong relationships with clients, partners and external actors.
- Remains calm, in control and good humoured even under pressure.
- Displays openness to change and ability to manage complexities.

<u>Partnering and Networking:</u>

- Seeks and applies knowledge, information, and best practices from the region.
- Demonstrates networking capabilities in working with government and partners.
- Ability to manage and coordinate large-scale multi-stakeholder projects and activities.

<u>Knowledge Management and Learning:</u>

- Promote knowledge management in the project setting and among counterparts.
- Ensure that project leadership is well briefed and aware of requirements.
- Actively pursues personal learning and facilitates development of colleagues.

9. Competencies	
Education	A minimum of Master's degree or equivalent in protected area management, land-use planning, natural resource management, disaster risk reduction, climate change, environmental management and planning, sustainable forest management, environmental management, environmental economics, and/or relevant field of studies. A PhD qualification is preferred.
Experience	- A minimum of 7 years relevant working experience within protected area management, land-use planning, natural resource management, disaster risk reduction, climate change, environmental management and planning, sustainable forest management, environmental management, environmental economics, and/or relevant field of studies. - A minimum of 5 years of proven experience in project management, in providing management advisory services, hands-on experience in design, monitoring and evaluation of development projects. - Demonstrated track record in developing and providing sound policy advice, strategic planning, organisational guidance and critical analysis in relation to protected area management, land-use planning, natural resource management, disaster risk reduction, climate change, environmental management and planning, sustainable forest management, environmental management, environmental economics, and/or relevant field of studies. - Experience with community-based conservation and multiple-use protected areas. - Experience in developing and/or reviewing environmental law, policy, guidelines, and strategies. - Previous work experience in South-East Asia or developing countries is desirable. - Results oriented, strong team player. - Excellent interpersonal, communication and negotiating skills. - Excellent computer skills, including full working knowledge of standard word processing, spreadsheet, and presentation software packages. - Ability and willingness to travel within and outside Lao PDR. - Having similar responsibilities in a UNDP programme/project is an advantage. - Familiarity with UNDP projects/programmes and NIM Implementation is an advantage.
Language requirements	- Excellent command of the English language, with excellent written and oral communication skills. - Knowledge of or familiarity with the Lao language would be an advantage.

10. Signatures – Post Description Certification		
Incumbent (if applicable) Name:	Signature:	Date:
Supervisor Name:	Signature:	Date:

Chief Division/Section Name: Signature: Date:

POST TITLE:	Project Coordinator
Contract	Project / NPSA contract
PROJECT NAME:	Integrated Water Resource Management and Ecosystem-based Adaptation in the Xe Bang Hieng river basin and Luang Prabang city
PLACE OF ASSIGNMENT:	Department of Water Resources, Ministry of Natural Resources and Environnement. Vientiane Capital, Lao PDR
DURATION OF ASSIGNMENT:	12 months renewable, with a 3 months-probation period

1) GENERAL BACKGROUND

The UNDP-GEF LDCF Integrated Water Resource Management and Ecosystem-based Adaptation in the Xe Bang Hieng river basin and Luang Prabang city aims to support the government of Lao PDR to promote the integrated management of land and water resources at target sites in the Xe Bang Hieng River Basin and Luang Prabang city. This will increase the climate resilience of communities to the impacts of floods and droughts — both of which are projected to become more intense and frequent under future climate scenarios. The project will be implemented over the period of four-years from May 2022 to May 2025 by the Department of Water Resource of the Ministry of Natural Resources and Environment.

Lao People's Democratic Republic (Lao PDR) is extremely vulnerable to climate change, particularly the impacts of floods and droughts. Since the 1960s, the country has experienced an increase in the frequency and severity of these events, resulting in increased impacts on, and risks to, vulnerable communities in Lao PDR. These impacts include damage to crops, which has adversely impacted food and financial security in the country. The severity of climate change impacts is further compounded by non-climate change-related factors such as increasing urbanisation, ecosystem degradation and deforestation.

The proposed project will strengthen the climate resilience of communities in two particularly vulnerable areas of Lao PDR – Savannakhet Province and Luang Prabang City – particularly focussing on the impacts of floods and droughts. This improved resilience will be achieved through three complementary project components, specifically: i) developing national and provincial capacities for Integrated Catchment Management (ICM) and integrated urban ecosystem-based adaptation (EbA) for climate risk reduction; ii) EbA interventions, with supporting protective infrastructure and livelihood enhancement; and iii) knowledge management and monitoring and evaluation (M&E).

2) OBJECTIVES OF THE ASSIGNMENT

The Project Coordinator (PC) will have full responsibility in ensuring delivery and quality of work programmes of components, annual component work plans and budget, and coordination of all components. He/she will provide overall guidance in implementing activities in the five-target district in Savanakhet Province and in Luang Prabang City, and ensuring the smooth coordination with other project on day-to-day basis.

The PC will also provide overall coordination of day-to-day project planning, implementation, monitoring and overall management. He/she will provide technical guidance and technical advisory support to project implementing agencies and responsible parties to ensure realization of all outputs and outcomes as outlined in the approved project document and work plans developed by the project.

3) SCOPE OF WORK

The PC will carry out the tasks below, that include, but are not limited to:

- Provide overall technical support for implementation of the technical components of the project - including:
  - Supporting development and capacity building of stakeholders on ICM and integrated urban EbA to enhance climate resilience of rural and urban communities and ecosystems through use of innovative tools, such as EbA and hydrological modelling.
  - Technical support on implementation of EbA interventions - primarily conservation and restoration of partly and severely degraded forests - in Savannakhet Province, such as protective infrastructure and climate-resilient livelihood enhancement to address the different dynamics of current and future vulnerability to climate change; developing communication and knowledge management tools for communities and training them on their use; conducting market analyses on community livelihoods; development of Community Conservation Agreements.
  - Capturing and disseminating lessons learned during project implementation, as well as ensuring sustainability of project interventions through monitoring systems that will enable the adaptive management of project interventions; knowledge management and M&E through training and awareness raising campaigns at national and provincial levels and establishing community monitoring systems on a local level
- Facilitate the day-to-day functioning of the PMU;
- Coordinate the distribution of responsibilities amongst team members and organize the monitoring and tracking system.
- Manage human and financial resources, in consultation with the project's senior management, to achieve results in line with the outputs and activities outlined in the project document;
- Plan the activities of the project and monitor progress against the initial quality criteria;
- Mobilize goods and services to initiative activities, including drafting TORs and work specifications;
- Monitor events as determined in the Project Monitoring Schedule Plan, and update the plan as required;
- Manage requests for the provision of financial resources by UNDP, using advance of funds, direct payments, or reimbursement using the FACE (Fund Authorization and Certificate of Expenditures), and ensure that all are in line with UNDP Execution Support serviced and the NIM Policy and rules;
- Monitor financial resources and accounting to ensure accuracy and reliability of financial reports;
- Responsible for ensuring preparing and submitting financial reports to UNDP on a quarterly basis together with the finance and Admin Officer;
- Manage and monitor the project risks initially identified, submit new risks to the Project Board for consideration and decision on possible actions if required; update the status of these risks by maintaining the Project Risks Log;
- Be responsible for managing issues and requests for change by maintaining an Issues Log;
- Prepare the Project Progress Report (progress against planned activities, update on Risks and Issues, expenditures) and submit the report to the Project Board and Project Assurance;
- Prepare the Annual review Report, and submit the report to the Project Board;
- Prepare the AWP for the following year, as well as Quarterly Plans if required;

- Work with co-founding partners to ensure that their activities/programs are integrated and complementary with the project.
- Link up project activities with related and parallel activities both within MONRE and with external implementing partner agencies;
- Support the Project Manager (PM) and National Project Director in organizing Project Board meetings
- Be responsible for coordinating to support spot check and audit preparations and responses
- Report and provide feedback to UNDP-GEF and the Project Board on project strategies, activities, progress, and barriers;
- Manage relationships with project stakeholders including donors, NGOs, government agencies, and others as required.
- Other duties as assigned by the Project Director, Project Manager, Technical Specialist and UNDP Program Analyst.

4) DURATION OF ASSIGNMENT, DUTY STATION AND EXPECTED PLACES OF TRAVEL

The successful candidate will be offered a 12-month contract which can be renewed based on performance and needs. This position will be based at the Department of Water Resources Management (DWR), MoNRE, Vientiane Capital in Laos, with frequently travel to the project office in Savannakhet Province and Luang Prabang City.

5) PROVISION OF MONITORING AND PROGRESS CONTROLS

The Project Coordinator reports to the Head of Environment Unit. A secondary reporting line exists to the Technical Specialist and UNDP Programme Analyst.

All staff in the PMU report to this position, as well as the coordinators for the components. As appropriate, other staff will have assigned reporting lines to the PC.

6) DEGREE OF EXPERTISE AND QUALIFICATIONS

- Masters in natural resources management, environment and sustainable development and related fields.
- At least 7 years working experience in project implementation/management of projects within the disciplines of environmental science, integrated ecosystem based adaptation, integrated water resources management, natural resource management or other related field.
- Experience related to integrated water resources management, ecosystem-based adaptation, land use planning, environmental management, results based management and planning, gender inclusion and/or similar specializations.
- Experience in project design, activity/budget planning, implementation, monitoring and reporting.
- Excellent inter-personal, communication and negotiating skills.
- Previous work experience on issues relevant to the project.
- Ability and willingness to travel within and outside Lao PDR.
- Demonstrable skills in office computer use - word processing, spread sheets etc.
- Proven track record of project management and project team experience working with government, NGOs, and other key stakeholders in Lao PDR.
- Ability to lead a team and to work in the team effectively.
- Good working knowledge of written and spoken English and Lao.
- Excellent coordination skills, with ability to work under pressure and handle multiple activities and projects concurrently.
- Knowledge of UNDP and the UN system an advantage.

7) SUPERVISION AND PERFORMANCE EVALUATION:

The PC will report to the Head of Environment Unit, Technical Specialist and UNDP Programme Analyst. His/her performance review will be evaluated by the Project Manager, together with the immediate supervisor and UNDP Programme Analyst.

By:.....	By:.....
_____	_____
On behalf of the Implementing Partner	Subscriber's name:
Date: _____	Date:_____

POST TITLE:	Finance and Admin Officer
Contract	NPSA/ Project contract
PROJECT NAME:	Integrated Water Resource Management and Ecosystem-based Adaptation in the Xe Bang Hieng river basin and Luang Prabang city
PLACE OF ASSIGNMENT:	Department of Water Resources, Ministry of Natural Resources and Environment. Vientiane Capital, Lao PDR
DURATION OF ASSIGNMENT:	12 months renewable with a 3 months-probation period

1) GENERAL BACKGROUND

The UNDP-GEF LDCF Integrated Water Resource Management and Ecosystem-based Adaptation in the Xe Bang Hieng River Basin and Luang Prabang City project aims to support the government of Lao PDR (GoL) to promote the integrated management of land and water resources at target sites in the Xe Bang Hieng River Basin and Luang Prabang City. This will increase the climate resilience of communities to the impacts of floods and droughts — both of which are projected to become more intense and frequent under future climate scenarios. The project will be implemented over the period of four years from May 2022 to May 2025 by the Department of Water Resources under the Ministry of Natural Resources and Environment.

Lao People's Democratic Republic (Lao PDR) is extremely vulnerable to climate change, particularly the impacts of floods and droughts. Since the 1960s, the country has experienced an increase in the frequency and severity of these events, resulting in increased impacts on, and risks to, vulnerable communities in the country. These impacts include, for example, damage to crops, that decrease food and financial security. The severity of climate change impacts is further compounded by non-climate change-related factors such as increasing urbanisation, ecosystem degradation and deforestation.

The proposed project will strengthen the climate resilience of communities in two particularly vulnerable areas of Lao PDR — Savannakhet Province and Luang Prabang City — particularly focussing on the impacts of floods and droughts. This improved resilience will be achieved through three complementary project components, specifically: i) developing national and provincial capacities for integrated catchment management (ICM) and integrated urban ecosystem-based adaptation (EbA) for climate risk reduction; ii) EbA interventions, with supporting protective infrastructure and livelihood enhancement; and iii) knowledge management and monitoring and evaluation (M&E).

2) OBJECTIVES OF THE ASSIGNMENT

The Finance and Admin Officer will be responsible for the overall financial and budgeting management, cost control, budget planning, financial reporting, administration and procurement as well as human resources management of the project. The suitable candidate's primary duty is to review and process the project operations account for all related payments in line with the UNDP Execution Support Services Modality platform and the Standard Operational Procedures to ensure the compliance of the implementing agency (UNDP) and donor (Global Environment Facility) awarding requirements.

The Finance and Admin Officer is also responsible for the preparation of the project periodical budget revisions based on the project document and any agreed adjustments that might occur during the actual implementation phase. In collaboration with and guided by the National Project Director (NPD) and/or the Project Manager (PM), the Finance and Admin Officer is expected to ensure that the project is able to systematically and timeously implement its annual work and budget plans within the means provided in the project document.

Achieving this, requires the constructive utilisation of the complex structure and benefitting from the diversity of resources. Standard parameters such as efficiency and effectiveness will determine the professional focus of the candidate. The position requires capacity for cost-benefit comparison, full accountability and maximum transparency throughout the project. Similarly, an emphasis on co-financed contributions and complementary activities will be necessary from the position.

A guiding principle for the position is to keep the project on a level that all accounts, records and files can be successfully audited within a 2-3 weeks' notice period and/or as required.

3) SCOPE OF WORK

- Standardise the finance and accounting system of the project while maintaining compatibility with UNDP financial and accounting procedures.
- Establish a financial and accounting management system for the project.
- Coordinate and review day-to-day financial operations of the project.
- Ensure project's financial and accounting management is in compliance with donor (GEF) and National Implementing Modality (NIM) requirements, Standards and Standard Operating Procedures — in particular programme implementations, administration, human resources and procurement guidelines.
- Produce all financial statements of the project as required.
- Control all the project costs, based on the agreed and approved work and budget plans.
- Regularly coordinate with UNDP-assigned staff (Programme Analyst, Programme Associate) for timely preparation of the financial entries into the Atlas system, to meet the particular NIM advances and settlement deadlines.
- Establish and manage assigned project bank account to ensure the accuracy and transparency of transactions in both the bank statement and project operations account, following the financial guidelines through careful and detailed oriented reconciliation.
- Prepare budget analytical review with clear, realistic and understandable justifications to inform and discuss any significant variances that may occur for further actions and solve any arising problems systematically and in timely manner.
- Analyse budget variances and make adjustments as per approval and agreement during the set meeting.
- Act as primary focal point for UNDP Execution Support Services and NIM compliance for the project.
- Advise project team members for all financial, administration, procurement and human resources aspects to ensure the project implementation aligns with the NIM and UNDP requirements.
- Assure that all project staff, both contractual service contracts and government partners, settle their released within the deadline specified in the NIM-SOP financial management handbook, with accurate and correct settlements.

- Control and record prepayments made to the project team members for activities' implementations, with milestone of settlements and sufficient supporting documents.
- Act as focal point for annual and ad-hoc project audits — prepare all required auditing financial statements along with the supporting documents, as well as fully be responsible for following up and taking necessary actions for audit action plan implementation in timely and corrective manner.
- Prepare project operation account (POA), fund authorization cost expenditure (FACE), itemize cost estimate (ICE) and send to National Project Director, UNDP Programme Analyst and Programme Associate for detailed check and screening prior to finalising and approval.
- Compile the quarterly plans and budgets and ensure its alignment with project proposal and budgets and yearly workplan as well as a master budget plan, under the guidance of the National Project Director and project team members by providing valid inputs.
- Prepares monthly, quarterly and annual reconciliations of the POA versus project transaction detail and combined delivery reports (CDRs) in timely and accurate manner.
- In close cooperation with UNDP Programme Analyst and Programme Associate, compile and prepare the project periodical budget (quarterly and annual budgets) for accurate and precise budget versus actual expenditure, in particular to ensure the budget that will be reimbursed by UNDP and by the project (POA).
- Create financial management tool of project for the systematic tracking and monitoring of the assigned budget as well as the project tool that enables the generation of data if any particular financial reports are needed.
- Prepare budget revisions of the projects based on the Combined Delivery Reports (CDRs) and/or the requirements of the actual project activities' implementation under the necessary agreements.
- Provide significant financial inputs in the preparation of the Annual Work Plan (AWP).
- Produce all project financial reports (quarterly, annual and as required by the Project Director and UNDP).
- Manage and process all required direct payments and send to UNDP CO for further processes.
- Verify budget and accounting data by researching files, calculating costs, and estimating anticipated expenditures from available information sources.
- Prepare financial status reports, progress reports and other required financial reports.
- Process all types of payment requests for settlement purposes including quarterly advances to the partners.
- Prepare periodic accounting records by recording receipts and disbursements (ledgers, cash books, and vouchers), reconcile data for recurring or financial special reports and take lead in preparation of annual procurement plan.
- Undertake project financial closure formalities including submission of terminal reports, transfer and disposal of equipment, processing of semi-final and final revisions, and support professional staff in preparing the terminal assessment reports.
- Prepare reports and documents as per specified formats, project or programme plans, general reference documents as well as general financial or specialised tasks related to the project which may be confidential within the assigned area of responsibility.
- Facilitate in the timely issuance of contracts and assurance of other eligible entitlements of the project's personnel, experts, and consultants by preparing annual recruitment plans.
- Provide substantive and overall financial management support to the NPD for overall implementation and financial reports.

4) DURATION OF ASSIGNMENT, DUTY STATION AND EXPECTED PLACES OF TRAVEL

The successful candidate will be offered a 12-month contract which can be renewed depending on performance and the work requirements of the project. This position will be located at the Department of Water Resources (DWR), MONRE, Vientiane Capital in Lao PDR with occasional travel to project offices in Savannakhet Province and Luang Prabang city

5) PROVISION OF MONITORING AND PROGRESS CONTROLS

The suitable candidate is engaged to prepare and follow up on the following reporting and deadlines:

1. Quarterly financial statement and report to be submitted to UNDP for expenditure clearance and final approval.
2. Annual financial report upon the finalisation of the combined delivery report (CDR).
3. Quarterly pre-payment follow-up and monitoring report sheet.
4. Budget analytical reports.
5. Monthly bank, cash reconciliation reports including detailed bank statements.
6. Audit action plan implementation report.
7. Detailed cost control reports that include project transaction detail reports, project resources overview, project budget balance reports.
8. Compliance report for financial management, procurement, administration, and human resources management.
9. The position is fully responsible for all deadlines under project implementation, including quarterly and annual fiscal year closure.

The Finance and Admin Officer will report to the Project Coordinator with addition reporting lines to the Technical Specialist and UNDP Programme Analyst.

6) DEGREE OF EXPERTISE AND QUALIFICATIONS

- Graduate Degree in Financial, Business Management, or other relevant discipline.
- At least 4 years practical experience in donor-funded projects in financial and accounting contexts, of which at least one year was at the managerial level within the financial department.
- Concrete experience in both UN and INGOs' financial management standards, operations and procedures.
- Initiative, sound judgment, and capacity to work independently and is capable to cope under pressure.
- Knowledge of database packages and web-based management systems would be advantageous.
- Excellent interpersonal and communication skills.
- Proficient verbal and written Lao skills.
- Qualified financial management (budget versus actual monitoring).
- Ability to plan and organise a substantial workload that includes complex, diverse tasks and responsibilities in environmental context.
- Excellent experience of budgeting and budget management.
- Excellent understanding of UNDP-NIM Project financial systems and procedures.
- Excellent understanding of financial planning and management.
- Excellent analytical skills — the ability to analyse complex financial data and design and produce effective information management.
- Concrete experience of computerized accounts packages, including Excel, PowerPoint and Word.
- Demonstrate credibility with colleagues and stakeholders at all levels of an organisation.
- Excellent oral and written communication skills in English.
- Ability to support the NPD to build a small, proactive team, motivating staff and working collaboratively with colleagues and providing on-the-job support and advice as necessary

• Strong communication and interpersonal skills

7) SUPERVISION AND PERFORMANCE EVALUATION:

The candidate will report to the Project Coordinator and his/her performance review will be conducted by their immediate supervisor and UNDP Programme Analyst.

By:..... By:.....

_____ _____

On behalf of the Implementing Partner Subscriber's name:

Date: _____ Date:_____

INTERNATIONAL UN VOLUNTEER DESCRIPTION OF ASSIGNMENT

LAO PDR — Monitoring & Evaluation and Reporting Officer

The United Nations Volunteers (UNV) programme is the UN organisation that promotes volunteerism to support peace and development worldwide. Volunteerism can transform the pace and nature of development and it benefits both society at large and the individual volunteer. UNV contributes to peace and development by advocating for volunteerism globally, encouraging partners to integrate volunteerism into development programming, and mobilising volunteers. In most cultures volunteerism is deeply embedded in long-established, ancient traditions of sharing and support within the communities. In this context, UNV participate in numerous forms of volunteerism and play a role in development and peace together with co-workers, host agencies and local communities. In all assignments, UN volunteers promote volunteerism through their action and conduct. Engaging in volunteering can effectively and positively enrich their understanding of local and social realities, as well as create a bridge between themselves and the people in their host community. This will make the time they spend as UN volunteers even more rewarding and productive.

General Information

Country of Assignment	Lao People's Democratic Rep
Host Institute	United Nations Development Programme
Volunteer Category	International Specialist
Number of Volunteer	1
Duration	24 months
Possibility of Extension	Yes
Expected Starting Date	1 June 2022
Duty Station	Vientiane [LAO]
Assignment Place	Family Duty Station

Assignment Place Remark

Family duty station

Living Conditions

The position will be based in the Vientiane Capital City of Lao PDR with monthly travel to project sites in Savannakhet Province and Luang Prabang City. Living conditions in Vientiane are of high quality and cost of living is affordable. Vientiane is a relatively safe place to live in, with violent crime incidents being rare. However, women should exert vigilance if travelling alone during the dark and it is best advised to move in groups. The biggest hazards relate to traffic accidents, which means taking utmost care in traffic, especially when riding a motorbike. The Vientiane entertainment scene is still quiet and to avoid feeling lonely, the person should be proactive in forming friendships,

and should be ready to make the best of the UNV Buddy Programme. There is a wide range of housing options in Vientiane located within easy reach of the office. Houses or apartments are usually of good standards. All basic commodities can be bought in Vientiane and its immediate vicinity. When travelling within the province or project site, staff will experience more hardship because of a lack of infrastructure and general poverty. Accommodation during site visits will entail basic guest houses or homestays.

The UNV Office in Lao PDR can assist the UN Volunteer in finding adequate accommodation. House shares with 3-4 people are most common, but single apartments are also available. Vientiane's city centre is laid out along the Mekong River and is surrounded by restaurants, shops, bars and cafes.

Assignment Details

Assignment Title: Monitoring & Evaluation and Reporting Officer

Organizational Context & Project Description

The UNDP-GEF LDCF Integrated Water Resource Management (IWRM) and Ecosystem-based Adaptation (EbA) in the Xe Bang Hieng river basin and Luang Prabang city aims to support the government of Lao PDR to promote the integrated management of land and water resources at target sites in the Xe Bang Hieng River Basin and Luang Prabang City. This will increase the climate resilience of communities to the impacts of floods and droughts — both of which are projected to become more intense and frequent under future climate scenarios. The project will be implemented over the period of four years from May 2022 to May 2025 by the Department of Water Resources of the Ministry of Natural Resources and Environment.

Lao People's Democratic Republic (Lao PDR) is extremely vulnerable to climate change, particularly the impacts of floods and droughts. Since the 1960s, the country has experienced an increase in the frequency and severity of these events, resulting in increased impacts on, and risks to, vulnerable communities in Lao PDR. These impacts include, for example, damage to crops that have decreased food and financial security. The severity of climate change impacts is further compounded by non-climate change-related factors such as increasing urbanisation, ecosystem degradation and deforestation.

The project will strengthen the climate resilience of communities in two particularly vulnerable areas of Lao PDR — Savannakhet Province and Luang Prabang City — particularly focussing on the impact of floods and droughts. This improved resilience will be achieved through three complementary project components, specifically: i) developing national and provincial capacities for Integrated Catchment Management (ICM) and integrated urban Ecosystem-based Adaptation (EbA) for climate risk reduction; ii) EbA interventions, with supporting protective infrastructure and livelihood enhancement; and iii) knowledge management and monitoring and evaluation (M&E).

Sustainable Development Goals	13. Climate Action UNV Focus Area	Task description
Community resilience environment & disaster reduction		

The Monitoring & Evaluation and Reporting Officer will be working in the Department of Water Resources (DWR) under direct supervision of the Project Coordinator with overall leadership and guidance from the Director General of the DWR who, as the National Project Director, is working closely for technical inputs with the Technical Specialist. UNDP's Head of Natural Resource Management and Climate Change Unit with project oversight will be the focal point for reporting lines to the UNDP Country Office, working closely with the UNDP CO Programme Officer. The UN volunteer will work closely with the DWR staff at the national, provincial and district levels and relevant government counterparts. This will include frequent and extended travel to Savannakhet Province and Luang Prabang City.

The UN volunteer will attend the Natural Resource Management and Climate Change Unit Meetings, staff meetings at the UNDP Office, and contribute to the overall implementation of UNDP Country Programme Document and work of the Natural Resource Management and Climate Change Unit in relation to the project activities. He/she will be closely guided by the Technical Specialist and play a key role in guiding the project team at DWR and other relevant stakeholders in the participatory design and implementing the monitoring and evaluation system of the project. This will include the development of the baseline and indicator assessment, the monitoring plan, providing support and facilitating re-examination of the results resource framework, baseline data development and tracking the progress and preparing the reports in collaboration with the Project Coordinator and the Technical Specialist. He/she will contribute to the knowledge transfer and capacity-building programme of the project. The volunteer will also support the project coordination and management at the Vientiane Office and the field offices in Savannakhet Province and Luang Prabang City.

The specific tasks to be undertaken by the UN volunteer include:

- Monitor the implementation of the project on the basis of process, outputs and outcome indicators indicated in the project results and resource framework.
- Ensure the successful commissioning of the M&E plan through participatory processes and within the specified timelines.
- Modify and update M&E toolkits and logframes for projects as needed.
- Plan and deliver the M&E training for project staff, DWR at the central and local levels, and relevant stakeholders that engage in the M&E work.
- Closely work with the Technical Specialist, Project Coordinator and other technical assistant staff to provide capacity development for key government staff at the national, provincial and district levels to support and complete the Protected Area sites' Management Effectiveness Tracking Tool (METT), Financing Sustainability for PA Systems Scoring, Capacity Development Monitoring Scorecard and the other tools as required.
- Analyse monitoring information for all activities, outputs and outcomes of the project with support from the Technical Specialist, Project Coordinator, relevant government officers at DWR, and UNDP Programme Analyst.
- Analyse monitoring reports for the project team in the field and verify with DWR and UNDP team.
- Prepare quarterly and annual project progress and monitoring reports incorporating gender-disaggregated information in collaboration with the Technical Specialist, the Project Coordinator and project specialists.
- Prepare annual donor report — GEF Project Implementation Review (PIR) with relevant information on communication, safeguards, gender data and partnerships in collaboration with the Technical Specialist, the Project Coordinator and project specialists.
- Effective record keeping by maintaining soft and hard copies of files for purposes of spot checks, audits, quality assurance and M&E.
- Identify potential problems and facilitate overall programming decisions based on the information from the M&E analysis and maintain risk, issue and communication logs on behalf of the project.
- Conduct regular field visits to distribution sites in Savannakhet Province and Luang Prabang City to check viability in relation to the number of beneficiaries, rations, commodities and quantities distributed.
- Conduct post-distribution monitoring interviews with beneficiaries to verify written reports.
- Develop, maintain and manage the M&E database of the project, incorporating gender-disaggregated information in collaboration with the Gender Officer

- Coordinate and liaise with government counterparts at central and local levels and UNDP, and liaise with other development programmes to improve timely delivery and quality of the monitoring reports, quarterly and annual reports to UNDP and donors.
- Participate in knowledge transfer and capacity building of national project staff in M&E.

UN volunteers are required to:

- Strengthen their knowledge and understanding of the concept of volunteerism by reading relevant UNV and external publications and actively participate in UNV activities (for example in events that mark International Volunteer Day).
- Be acquainted with and build on traditional and/or local forms of volunteerism in the host country.
- Provide annual and end of assignment reports on UNV actions, results and opportunities using UNV's Volunteer Reporting Application.
- Contribute articles/write-ups on field experiences and submit them for UNV publications/websites, newsletters and press releases.
- Assist with the UNV Buddy Programme for newly-arrived UN Volunteers.
- Promote or advise local groups in the use of online volunteering, or encourage relevant local individuals and organisations to use the UNV Online Volunteering service whenever technically possible.

Results/Expected Outputs:

- Contributed to the achievement of the anticipated results of the IWRM and EbA in Xe Bang Hieng River Basin and Luang Prabang City project.
- Streamlined management, systematic monitoring and data maintenance.
- Produced high quality reports and materials relating to project progress, performance, trends of changes and impacts.
- Enhanced capacity of project staff, DWR at national and local levels, and relevant government agencies as well local community.
- Contributed to better reporting on the concerns related to gender disaggregation and roles.
- The development of capacity through coaching, mentoring and formal on-the-job training, when working with (including supervising) national staff or (non-) governmental counterparts, including Implementing Partners (IPs).
- Age, Gender and Diversity (AGD) perspective is systematically applied, integrated and documented in all activities throughout the assignment.
- A final statement of achievements towards volunteerism for peace and development during the assignment, such as reporting on the number of volunteers mobilised, activities participated in and capacities developed.

Qualifications/Requirements

Required Degree Level	Master's degree or equivalent

Education — Additional Comments

- Master's degree or equivalent in protected area management, forest management, disaster risk reduction, natural resource management, land-use planning, environmental management and planning, environmental management, environmental economic, and/or relevant field of studies.

Required experience 60 months

Experience Remark

- A minimum of 5 years relevant working experience within the discipline of protected areas management, disaster risk reduction, natural resource management, land-use planning, environmental management and planning, management, environmental management, environmental economic, and/or relevant fields.
- A minimum of 3 years practical experience in Results-Based Management (RBM) and M&E practices.
- Strong analytical thinking and capacity to present complex ideas in simple and easily understandable language.
- Solid understanding of development issues.
- Results oriented, strong team player.
- Experience with community-based conservation management.
- Ability and willing to travel within and outside Vientiane Capital.
- Willingness to work in a multi-cultural and ethnically diverse environment.

Language Skills:
Strong English skills (Mandatory)

Area of Expertise:
Monitoring and Evaluation (Mandatory)

Area of Expertise Requirement

Need Driving Licence No

Conditions of Service and other information

Condition of Service Click here to view Conditions of Service

Conditions of Service for International Specialist:

The contract lasts for the period indicated above with possibility of extensions subject to availability of funding, operational necessity and satisfactory performance. However, there is no expectation of renewal of the assignment.

A UN volunteer receives a Volunteer Living Allowance (VLA) which is composed of the Monthly Living Allowance (MLA) and a Family Allowance (FA) for those with dependents (maximum three).

The Volunteer Living Allowance (VLA) is paid at the end of each month to cover housing, utilities, transportation, communications and other basic needs. The VLA can be computed by applying the Post-Adjustment Multiplier (PAM) to the VLA base rate of US$1,602. The VLA base rate is a global rate across the world, while the PAM is duty station/country-specific and fluctuates on a monthly basis according to the cost of living. This method ensures that international UN volunteers have comparable purchasing power at all duty stations irrespective of varying costs of living. The PAM is established by the International Civil Service Commission (ICSC) and is published at the beginning of every month on the ICSC website http://icsc.un.org.

For UN volunteer entitlements, kindly refer to the link https://vmam.unv.org/calculator/entitlements

In non-family duty stations that belong to hardship categories D or E, as classified by the ICSC, international UN Volunteers receive a Well-Being Differential (WBD) on a monthly basis.

Furthermore, UN Volunteers are provided a settling-in-grant (SIG) at the start of the assignment (if the volunteer did not reside in the duty station for at least 6 months prior to taking up the assignment) and in the event of a permanent reassignment to another duty station.

UNV provides life, health, permanent disability insurances as well as assignment travel, annual leave and full integration in the UN security framework (including residential security reimbursements).

UN Volunteers are paid Daily Subsistence Allowance at the UN rate for official travels, flight tickets for periodic home visits and for the final repatriation travel (if applicable). Resettlement allowance is paid for satisfactory service at the end of the assignment.
UNV will provide, together with the offer of assignment, a copy of the Conditions of Service, including Code of conduct, to the successful candidate.

Supervision, induction and duty of care of UN Volunteers:

UN volunteers should be provided equal duty of care as extended to all host entity personnel. Host entity support to the UN volunteer includes, but is not limited to:

- Introductory briefings about the organisation and office-related context including security, emergency procedures, good cultural practice and orientation to the local environment;
- Support with arrival administration including setting-up of bank accounts, residence permit applications and completion of other official processes as required by the host government or host entity;
- Structured guidance, mentoring and coaching by a supervisor including a clear workplan and performance appraisal;
- Access to office space, equipment, IT support and any other systems and tools required to complete the objectives of the assignment including a host entity email address;
- Access to shared host entity corporate knowledge, training and learning;
- Inclusion of the volunteer in emergency procedures such as evacuations;
- Leave management;
- DSA for official travel, when applicable;
- All changes in the Description of Assignment occurring between recruitment and arrival or during the assignment need to be formalised with the United Nations Volunteer Programme.

Application Code LAOR000492-3313

Application procedure

*Not yet registered in the UNV Talent Pool?
*
Please first register your profile at https://vmam.unv.org/candidate/signup. Important: After creating your account, complete all sections of your profile and submit it. Then go to 'My Page' at https://vmam.unv.org/candidate/mypage and click on the 'Special Calls' hyperlink. Lastly, select the special call to which you would like to apply.

*Already registered in the UNV Talent Pool?

Please first update your profile at https://vmam.unv.org/candidate/profile. Then go to 'My Page' at https://vmam.unv.org/candidate/mypage and click on the 'Special Calls' hyperlink to select the special call to which you would like to apply.

Application deadline: XXXX
Disclaimer
United Nations Volunteers is an equal opportunity programme which welcomes applications from qualified professionals. We are committed to achieving diversity in terms of gender, nationality and culture.

POST TITLE:	Project Assistant
PROJECT NAME:	Integrated Water Resource Management and Ecosystem-based Adaptation in the Xe Bang Hieng river basin and Luang Prabang city
PLACE OF ASSIGNMENT:	Department of Water Resources, Ministry of Natural Resources and Environnement. Vientiane Capital, Lao PDR
DURATION OF ASSIGNMENT:	12 months renewable, with a 3 months-probation period

1) GENERAL BACKGROUND

The UNDP-GEF LDCF Integrated Water Resource Management and Ecosystem-based Adaptation in the Xe Bang Hieng River Basin and Luang Prabang City aims to support the government of Lao PDR to promote the integrated management of land and water resources at target sites in the Xe Bang Hieng River Basin and Luang Prabang City. This will increase the climate resilience of communities to the impacts of floods and droughts — both of which are projected to become more intense and frequent under future climate scenarios. The project will be implemented over the period of four years from May 2022 to May 2025 by the Department of Water Resources of the Ministry of Natural Resources and Environment.

Lao People's Democratic Republic (Lao PDR) is extremely vulnerable to climate change, particularly the impacts of floods and droughts. Since the 1960s, the country has experienced an increase in the frequency and severity of these events, resulting in increased impacts on, and risks to, vulnerable communities in Lao PDR. These impacts include, for example, damage to crops, thereby decreasing food and financial security. The severity of climate change impacts is further compounded by non-climate change-related factors such as increasing urbanisation, ecosystem degradation and deforestation.

The proposed project will strengthen the climate resilience of communities in two particularly vulnerable areas of Lao PDR — namely Savannakhet Province and Luang Prabang city — particularly focussing on the impacts of floods and droughts. This improved resilience will be achieved through three complementary project components, specifically: i) developing national and provincial capacities for Integrated Catchment Management (ICM) and integrated urban ecosystem-based adaptation (EbA) for climate risk reduction; ii) EbA interventions, with supporting protective infrastructure and livelihood enhancement; and iii) knowledge management and monitoring and evaluation (M&E).

2) OBJECTIVES OF THE ASSIGNMENT

The project requires a full-time Project Assistant to support the day-to-day project planning, implementation, monitoring and general management. He/she will provide assistance to the Project Management Unit (PMU) and the

project implementing agencies in a timely manner against all outputs and outcomes as outlined in the approved project document and other workplans developed by the project.

The Project Assistant will have a responsibility for project operations under guidance of Project Coordinator. He/she will also be responsible for ensuring delivery quality of support to the work programmes of components, annual component work plans and budget, and coordination of all components. He/she will provide assistance and ensuring the smooth coordination with other projects on day-to-day basis, following up, organising workshops, training and filing documents.

3) SCOPE OF WORK

Under the guidance and supervision of the Project Manager, the Project Assistant will carry out the following tasks:

- Support and Assist the Project Coordinator in day-to-day management and oversight of project activities;
- Assist the M&E officer in matters related to M&E and knowledge resources management;
- Assist in the preparation of progress reports;
- Ensure all project documentation (progress reports, consulting and other technical reports and minutes of meetings) are properly maintained in hard and electronic copies in an efficient and readily accessible filing system, for when required by PB, TAC, UNDP, project consultants and other PMU staff;
- Provide PMU-related administrative and logistical assistance;
- Assist the Finance and Admin Officer in matters related to Finance and Admin;
- Assist in the coordination, hiring of vehicles, booking of travels, preparations and conduct of meetings, workshops and consultations.

4) DURATION OF ASSIGNMENT, DUTY STATION AND EXPECTED PLACES OF TRAVEL

The successful candidate will be offered a 12-month contract with the possibility for renewal depending on the workload of the project and the results of his/her performance review. This position will be located at the Department of Water Resources Management (DWR), MONRE, Vientiane Capital, with occasional travel to project offices in Savannakhet Province and Luang Prabang City.

5) PROVISION OF MONITORING AND PROGRESS CONTROLS

The Project Assistant reports to the Project Coordinator. A secondary reporting line exists to the M&E and Reporting Officer, and Finance and Admin Officer.

6) DEGREE OF EXPERTISE AND QUALIFICATIONS

- Bachelor's degree on Business, Economics, Community Development, Environmental Planning or any related course.
- Minimum 3 years of demonstrable experience in supporting project development and implementation.
- Past working experience with UNDP will be an advantage.
- Excellent interpersonal, communication and negotiating skills.
- Previous work experience on issues relevant to the project.
- Ability and willingness to travel within and outside Lao PDR.
- Demonstrable skills in office computer use — word processing and spread sheets.
- Proven track record of project assistance and project team experience working with government, NGOs, and other key stakeholders in Lao PDR.
- Good working knowledge of written and spoken English and Lao.

- Excellent coordination skills, with ability to work under pressure and handle multiple activities and projects concurrently.
- Knowledge of UNDP and the UN system an advantage.

7) SUPERVISION AND PERFORMANCE EVALUATION:

The Project Assistant will report to the Project Coordinator. His/her performance review will be evaluated by the Project Coordinator, together with their immediate supervisor and UNDP Programme Analyst.

By:.....	By:.....
_____	_____
On behalf of the Implementing Partner	Subscriber's name:
Date: _____	Date:_____

Annex 9: Stakeholder Engagement Plan

Link to Stakeholder Engagement Plan:

https://pims.undp.org/attachments/6547/217292/1749818/1797096/Annex%209.%20Stakeholder%20Engagement%20Plan_7%20February%202022.docx

Annex 10: Environmental Social Management Framework

https://pims.undp.org/attachments/6547/217292/1748699/1797095/6547%20Lao%20PPG_UNDP_Annex%2010%20ESMF-IPPF_clean%20and%20cleared_7%20February%202022.docx

Annex 11: Gender Analysis and Gender Action Plan

Link to Gender Analysis and Gender Action Plan:

https://pims.undp.org/attachments/6547/217292/1749819/1797097/Annex%2011.%20Gender%20Analysis%20and%20Gender%20Action%20Plan_7%20February%202022.docx

Annex 12: Procurement Plan

Outcome	Description of Activities	Category	Unit of Measure	Quantity	Estimated Unit Price in USD	Estimated Value in USD	Indicative timeline of Procurement process				Expected Start procurement process	Expected Completion of Procurement Process
							Q1	Q2	Q3	Q4		
Outcome 1: Enhanced national and provincial capacities for integrated catchment and flood management in target rural and urban communities	International consultant to design training 6 programs to enable climate risk-informed water management practices in urban and rural areas (1 per district + Luang Prabang)	Individual Contract (IC)	Days	30	$ 700	$ 21,000					1-Aug-22	31-Oct-22
	International consultant to conduct protective infrastructure optioneering based on identified risk zones		Days	30	$ 700	$ 21,000					1-Nov-22	31-Jan-22
	International consultant to conduct options analysis of protective infrastructure in Luang Prabang		Days	30	$ 700	$ 21,000					1-Nov-22	31-Jan-22
	International consultant to draft fine-scale climate-resilient development and land use plans		Days	30	$ 700	$ 21,000					1-Aug-22	31-Oct-22
	International Consultant to assess the current Xe Bang Hieng River Basin hydrological monitoring network		Days	30	$ 700	$ 21,000					1-Aug-22	31-Oct-22
	International consultant to review and provide recommendation on early warning systems and emergency procedures (5 days per district during review phase)		Days	60	$ 700	$ 42,000					1-Nov-22	31-Jan-22
	National consultant to conduct 1 week training program in each district + Luang Prabang	Individual Contract (IC)	Days	90	$ 300	$ 27,000					Procurement process expected to begin in Y2	
	National consultant to assist the international consultant in designing the training programs		Days	60	$ 300	$ 18,000					1-Aug-22	31-Oct-22
	National consultant to assist the IC with protective infrastructure optioneering		Days	60	$ 300	$ 18,000					1-Nov-22	31-Jan-22

Outcome	Description of Activities	Category	Unit of Measure	Quantity	Estimated Unit Price in USD	Estimated Value in USD	Indicative timeline of Procurement process				Expected Start procurement process	Expected Completion of Procurement Process
							Q1	Q2	Q3	Q4		
	National consultant to assist the IC in conducting the options analysis		Days	60	$ 300	$ 18,000					1-Nov-22	31-Jan-22
	National consultant to assist the IC in the drafting of plans		Days	60	$ 300	$ 18,000					1-Aug-22	31-Oct-22
	National consultant to assist the contractual services and deliver training on updated village weather stations		Days	75	$ 300	$ 22,500					Procurement process expected to begin in Y2	
	National consultant to assist the IC review EWS and emergency procedures		Days	90	$ 300	$ 27,000					1-Nov-22	31-Jan-22
	Training workshop for decision-makers on climate risk-informed water management in target rural and urban areas - 1 week training program in each district + Luang Prabang	Service Contract	Workshops	18	$ 3,750	$ 67,500					Procurement process expected to begin in Y2	
	Conduct 3 day validation workshop (1 in Savannakhet + 1 in Luang Prabang)		Workshop	2	$ 3,750	$ 7,500					1-May-22	31-Jul-22
	Conduct training for target communities on the use of updated weather stations - 1 week training per district		Workshops	15	$ 3,750	$ 56,250					Procurement process expected to begin in Y2	
	Contractual services to map current and future risk zones of the Xe Bang Hieng River Basin		Contract	1	$ 64,000	$ 64,000					1-Nov-22	30-Apr-22
	Contractual services for economic valuation of ecosystems. This cost includes integrating valuations into policy, ascertaining ecosystem services flow, promoting non-marketable ecosystem services as an income generator, enumerators and the collection of socio-economic data.		Contract	1	$ 64,000	$ 64,000					1-Aug-22	31-Jan-22

Outcome	Description of Activities	Category	Unit of Measure	Quantity	Estimated Unit Price in USD	Estimated Value in USD	Indicative timeline of Procurement process				Expected Start procurement process	Expected Completion of Procurement Process
							Q1	Q2	Q3	Q4		
	Contractual services to update hydrological monitoring network based on the recommendations of the international consultant		Contract	1	$ 65,000	$ 65,000					1-Feb-22	30-Apr-22
	Contractual services to undertake a revision of EWS and emergency procedures based on recommendations made by IC		Contract	1	$ 64,000	$ 64,000					1-Feb-22	30-Apr-22
Outcome 2: Ecosystems restored and protected through conservation zone management, EbA, and climate resilient and alternative livelihoods.	International consultant to design training on the use of improved practices, tools and technologies to support headwater conservation zone management	Individual Contract (IC)	Days	30	$ 700	$ 21,000					1-Nov-22	31-Jan-22
	International consultant to conduct training on the use of improved practices, tools and technologies to support headwater conservation zone management		Days	30	$ 700	$ 21,000					Procurement process expected to begin in Y2	
	International Consultant to undertake the drafting and implementation of CCAs		Days	30	$ 700	$ 21,000					1-Nov-22	31-Jan-22
	National consultant to run community engagement workshop to engage on CCAs	Individual Contract (IC)	Days	25	$ 300	$ 7,500					1-Feb-22	30-Apr-22
	National consultant to introduce and train communities on diversified livelihood activities and opportunities		Days	75	$ 300	$ 22,500					Procurement process expected to begin in Y2	
	National consultant to assist the IC in conducting training and to act as translator		Days	30	$ 300	$ 9,000					Procurement process expected to begin in Y2	
	National consultant to assist the contractual services and deliver training on communication and knowledge management tools and technologies		Days	180	$ 300	$ 54,000					Procurement process expected to begin in Y2	

Outcome	Description of Activities	Category	Unit of Measure	Quantity	Estimated Unit Price in USD	Estimated Value in USD	Indicative timeline of Procurement process				Expected Start procurement process	Expected Completion of Procurement Process
							Q1	Q2	Q3	Q4		
	National consultant to assist the IC train communities on alternative livelihoods and to act as translator		Days	60	$ 300	$ 18,000					Procurement process expected to begin in Y2	
	National consultant to assist the Project Safeguards Officer in assessments related to protective infrastructure		Days	30	$333	$10,000					1-May-22	31-Jul-22
	DWR will drive the implementation of conservation and restoration in Xe Bang Hieng headwater conservation zones, including planting activities and natural regeneration, with procurement of seedlings, etc. by contractual services. Cost of restoration @ US$ 1,000 per ha and cost for conservation @ US$ 50 per ha. The cost includes growing of indigenous seedlings, planting activities and natural regeneration	Service Contract	Contract	1	$ 1,000,000	$ 1,000,000					Procurement process expected to begin in Y2	
	Construction of protective infrastructure in target sites — Including: i) the construction or improvement of cascading weirs (US$ 10,000-50,000); ii) the construction or improvement of irrigation systems to improve access to water during dry seasons and droughts for agriculture (including the use of solar cells to supply electricity that is smart and more accessible @ US$1,500-2000 $ per ha. If the project will contribute for 30 households per village (in average 1 ha per household), this can cost up to US$45,000-60,000); and iii) construction of small reservoirs @	Contract for Civil Works	Contract	1	$ 1,066,179	$ 1,066,179					Procurement process expected to begin in Y2	

Outcome	Description of Activities	Category	Unit of Measure	Quantity	Estimated Unit Price in USD	Estimated Value in USD	Indicative timeline of Procurement process				Expected Start procurement process	Expected Completion of Procurement Process
							Q1	Q2	Q3	Q4		
	US$ 20,000-30,000. 10% will be demarcated for contingency costs.											
	Contractual services to implement and distribute communication and knowledge management tools and technologies (e.g. mobile phone apps, community radio, etc.) to target communities	Service Contract	Contract	1	$ 50,000	$ 50,000					1-Feb-22	30-Apr-22
	Contractual services to conduct market analyses to inform alternative livelihood activities		Contract	1	$ 50,000	$ 50,000					1-Nov-22	31-Jan-22
	Audio visual & print production expenses	Purchase Order	Equipment	1	$4,000	$4,000					1-Aug-22	31-Oct-22
	Training workshop for headwater communities in the use of improved practices, tools and technologies - 1 week training program in each headwater district	Professional Services contract	Workshop	6	$ 3,750	$ 22,500					Procurement process expected to begin in Y2	
	Conduct training for target villages on the use of communication and knowledge management tools and technologies - 1 week workshop per district + Luang Prabang		Workshops	18	$ 3,750	$ 67,500					Procurement process expected to begin in Y2	

Outcome	Description of Activities	Category	Unit of Measure	Quantity	Estimated Unit Price in USD	Estimated Value in USD	Indicative timeline of Procurement process				Expected Start procurement process	Expected Completion of Procurement Process
							Q1	Q2	Q3	Q4		
	Community engagement workshops to develop and finalise CCAs - 1 week engagement workshop in each district		Workshop	5	$ 3,750	$ 18,750					1-Nov-22	31-Jan-22
	Community engagement workshops to introduce and train communities on alternative livelihood opportunities - 1 week engagement workshop in each district		Workshop	15	$ 3,750	$ 56,250					Procurement process expected to begin in Y2	
	Community engagement workshops to establish FPIC		Workshop	1	$20,000	$20,000					1-Aug-22	31-Oct-22
Outcome 3: Effective knowledge management and M&E through awareness/advocacy and monitoring of climate change impacts and adaptation opportunities in target rural and urban communities.	International consultant to design training for Xe Bang Hieng River Basin communities	Individual Contract (IC)	Days	30	$ 700	$ 21,000					1-Aug-22	31-Oct-22
	International consultant to perform Independent Mid-term Review		Contract	1	$ 40,000	$ 40,000					Procurement process expected to begin in Y2	
	International consultant to perform Independent Terminal Evaluation		Contract	1	$ 40,000	$ 40,000					Procurement process expected to begin in Y2	
	National Consultant to support the International Consultant performing the Independent Mid-Term Review		Contract	1	$ 12,000	$ 12,000					Procurement process expected to begin in Y2	
	National Consultant to support the International Consultant performing the Independent Terminal Evaluation		Contract	1	$ 12,000	$ 12,000					Procurement process expected to begin in Y2	
	National consultant to conduct 1 week training program in each district		Days	75	$ 300	$ 22,500					Procurement process expected to begin in Y2	
	National consultant to deliver training on community-based monitoring systems		Days	75	$ 300	$ 22,500					Procurement process expected to begin in Y2	
	Contractual service to conduct awareness raising campaign	Service Contract	Contract	3	$ 20,000	$ 60,000					Procurement process expected to begin in Y2	
	Contractual services to set up and establish knowledge management		Contract	1	$ 80,000	$ 80,000					1-May-22	31-Jul-22

Outcome	Description of Activities	Category	Unit of Measure	Quantity	Estimated Unit Price in USD	Estimated Value in USD	Indicative timeline of Procurement process				Expected Start procurement process	Expected Completion of Procurement Process
							Q1	Q2	Q3	Q4		
	hub for the facilitate the sharing of lessons learned											
	Contractual services to design and implement awareness raising campaign in Luang Prabang		Contract	4	$ 20,000	$ 80,000					1-Feb-22	30-Apr-22
	Contractual services to design and implement community based-monitoring systems		Contract	1	$ 20,000	$ 20,000					1-Feb-22	30-Apr-22
	Researcher to manage the operations of the management hub, compile and share lessons learned and conduct annual reviews	Individual Contract (IC)	Contract	4	$ 20,000	$ 80,000					1-May-22	31-Jul-22
	Training workshop for Xe Bang Hieng River Basin communities - 1 week training program in each district	Professional Services contract	Workshops	15	$ 3,750	$ 56,250					Procurement process expected to begin in Y2	
	Annual engagement workshop with relevant stakeholders to inform annual review and updates to the hub		Workshop	3	$ 3,750	$ 11,250					Procurement process expected to begin in Y2	
	Training workshop for Xe Bang Hieng River Basin communities - 1 week training program in each district		Workshops	15	$ 3,750	$ 56,250					Procurement process expected to begin in Y2	
	Inception Workshop		Workshops	1	$ 6,000	$ 6,000					1-May-22	31-Jul-22
	Project Board Meeting		Workshops	4	$ 3,750	$ 15,000					1-May-22	31-Jul-22
	Monitoring equipment for use in target districts. The cost includes GPS, office equipment (laptop), water quality testing kits, river gauges, invasive plant management equipment; biodiversity monitoring equipment (fish monitoring equipment, binoculars, camera traps, field guides etc.)	Purchase Order	Monitoring equipment	5	$ 25,000	$ 125,000					1-Feb-22	

Outcome	Description of Activities	Category	Unit of Measure	Quantity	Estimated Unit Price in USD	Estimated Value in USD	Indicative timeline of Procurement process				Expected Start procurement process	Expected Completion of Procurement Process
							Q1	Q2	Q3	Q4		
Personnel (PMC and Outcomes)	Project Coordinator (Outcome 1-3; PMC) Remark: cost indicated here is only for the LDCF budget; 32% co-financed by UNDP TRAC	Service Contract (Individuals)	Months	48	$ 2,325	$ 111,600					1-May-22	31-Jul-22
	Finance and Administration Officer (PMC)		Months	48	$ 2,800	$ 134,400					1-May-22	31-Jul-22
	Technical Specialist (Outcome 1-3)		Months	48	$ 10,000	$ 480,000					1-May-22	31-Jul-22
	Gender Officer (Outcome 1-3)		Weeks	40	$ 300	$ 12,000					1-May-22	31-Jul-22
	Safeguards Officer (Outcome 1-3)		Weeks	40	$ 300	$ 20,000					1-May-22	31-Jul-22
	M&E and Reporting Officer (Outcome 3)		Months	48	$ 2,500	$ 120,000					1-May-22	31-Jul-22
	Office laptop computers	Purchase Order	Items	9	$ 2,000	$ 18,000					1-May-22	31-Jul-22
	Office furniture		Contract	1	$ 8,000	$ 8,000					1-May-22	31-Jul-22
	Office stationery		Contract	1	$ 2,406	$ 2,406					1-May-22	31-Jul-22
	Office Internet		Contract	1	$ 5,400	$ 5,400					1-May-22	31-Jul-22
	Office cleaning, electricity, and water		Contract	1	$ 14,400	$ 14,400					1-May-22	31-Jul-22

Annex 13: GEF focal area specific annexes

Annex 13.a: Pre-Feasibility Study

https://pims.undp.org/attachments/6547/217292/1750198/1788947/Annex%2013a.%20Pre%20Feasibility%20Study_7%20February%202022.docx

Annex 13.b: Baseline Analysis:

https://pims.undp.org/attachments/6547/217292/1750198/1788947/Annex%2013b.%20Baseline%20Analysis_7%20February%202022.docx

Annex 13.c: COVID Analysis and Baseline:

https://pims.undp.org/attachments/6547/217292/1750198/1788947/Annex%2013c.%20COVID-19%20Framework_7%20February%202022.docx

Annex 14. Co-finance Letters

Source of co-finance	Link to co-finance letter
Department of Planning and Finance, MONRE	https://pims.undp.org/attachments/6547/217292/1749816/1787992/1.%20MoNRE_DFP.pdf
Department of Irrigation, MAF	https://pims.undp.org/attachments/6547/217292/1749816/1787992/2.%20MAF_Dept%20of%20Irrigation%20_LPB_PICSA_.pdf
Provincial Department of Agriculture and Forestry, Savannakhet Province, MAF	https://pims.undp.org/attachments/6547/217292/1749816/1787992/3.%20MAF_Savannakhet_PoNRE.pdf
Wildlife Conservation Society	https://pims.undp.org/attachments/6547/217292/1749816/1787992/4.%20Wildlife%20Conservative%20Society.pdf
UNEP	https://pims.undp.org/attachments/6547/217292/1749816/1787992/5.%20UNEP.pdf
UNDP (TRAC)	https://pims.undp.org/attachments/6547/217292/1749816/1787992/7.%20UNDP%20Co-financing%20letter_GEF%20250K%20signed.pdf
UNDP (ROK-funded project)	https://pims.undp.org/attachments/6547/217292/1749816/1787992/8.%20UNDP%20Co-financing%20letter_ROK-Water%20Project%20final%20signed.pdf

Annex 15: GEF Core indicators

https://pims.undp.org/attachments/6547/217292/1750198/1788947/Annex%2015.%20GEF%20LDCF%20Core%20Indicators_7%20February%202022.xlsx

Annex 16: GEF 7 Taxonomy

https://pims.undp.org/attachments/6547/217292/1750198/1788947/Annex%2016.%20GEF%207%20Taxonomy_7%20February%202022.docx

Annex 17: Partners Capacity Assessment Tool and HACT assessment

Annex 17a. HACT Micro Assessments

https://pims.undp.org/attachments/6547/217292/1750200/1788953/Annex%2017.%20HACT%20micro%20assessments.zip

Annex 17b. Partners Capacity Assessment Tool (PCAT)

https://pims.undp.org/attachments/6547/217292/1749821/1789190/Annex%2017b.%20PCAT.zip

Annex 18. UNDP Quality Assurance Report

https://pims.undp.org/attachments/6547/217292/1749542/1787262/Annex%2018.%20UNDP%20Quality%20Assurance%20Report.pdf