

Project Administration Manual

Project Number: 50236-002
Loan and Grant Number(s):
August 2019

Lao PDR: Sustainable Rural Infrastructure and
Watershed Management Sector Project

CURRENCY EQUIVALENTS

(as of 1 August 2019)

Currency unit	–	kip (KN)
KN1.00	=	\$0.000116
\$1.00	=	KN8,695

ABBREVIATIONS

ADB	–	Asian Development Bank
COL	–	ADB Concessional Loan (Ordinary Capital Resources)
DAFO	–	District Agriculture and Forest Office
DALAM	–	Department of Agricultural Land Management
DDG	–	Deputy Director General
DED	–	detailed engineering designs
DMS	–	detailed measurement survey
DNC	–	District Nutrition Committee
DNT	–	District Nutrition Team
DOI	–	Department of Irrigation
DOPF	–	Department of Planning and Finance
EARF	–	environmental assessment and review framework
EU	–	European Union Grant
EMP	–	environmental management plan
FMA	–	financial management assessment
FMM	–	financial management manual
FNP	–	Four Northern Provinces (Houaphan, Xiangkhuang, Louangphabang, Xaignabouli)
GAP	–	Gender Action Plan
GIZ	–	Deutsche Gesellschaft für Internationale Zusammenarbeit
HVC	–	high-value crop
IA	–	implementing agency
IEE	–	initial environmental examination
IFAD	–	International Fund Agricultural Development
IOL	–	inventory of loss
ISF	–	irrigation service fee
LARP	–	land acquisition resettlement plan
LIC	–	loan implementation consultants
LWU	–	Lao Women's Union
MAF	–	Ministry Agriculture and Forests
MOF	–	Ministry of Finance
MOU	–	memorandum of understanding
MTR	–	midterm report
NGO	–	nongovernment organization
OCB	–	open competitive bidding
PAFO	–	Provincial Agriculture and Forestry Office
PAM	–	project administration manual
PGT	–	program governance team
PIS	–	Provincial Irrigation Section PAFO
PLUP	–	Participatory Land Use Planning
PONRE	–	Provincial Office of Natural Resources and Environment
PPC	–	provincial procurement committee

PPIT	–	provincial project implementation team
PPMS	–	project performance management system
PSC	–	provincial steering committee
QCBS	–	quality cost-based selection
REGDF	–	resettlement and ethnic group development framework
RFP	–	request for proposal
RSP	–	representative subproject
SBCC	–	social behaviour change communication
SESAH	–	socio-economic survey of affected households
SF	–	ADB Special Funds Resources Grant
SRIWSM	–	Sustainable Rural Infrastructure and Watershed Management Sector Project
TRTA	–	transaction technical assistance
UXO	–	Unexploded Ordinance
WUA	–	water user association
WUG	–	water user group

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4. Subproject Planning and Monitoring Template
5. Table of Contents For Design Feasibility Report
6. Construction Supervision Guidelines
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Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with the policies and procedures of the government and Asian Development Bank (ADB). The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Ministry of Agriculture and Forestry (MAF) as the executing agency (EA), and the Department of Irrigation (DOI), and the Provincial Agriculture and Forestry Offices (PAFO) of Houaphan, Xiangkhouang, Louangphabang and Xaignabouli Provinces –implementing agencies (IA) are wholly responsible for the implementation of ADB-financed projects, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation including compliance by MAF - DOI, and PAFOs of Houaphan, Xiangkhouang, Louangphabang and Xaignabouli of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At loan negotiations, the borrower and ADB shall agree to the PAM and ensure consistency with the loan and grant agreements. Such agreement shall be reflected in the minutes of the loan negotiations. In the event of any discrepancy or contradiction between the PAM and the loan and grant agreements, the provisions of the loan and grant agreements shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval, they will be subsequently incorporated in the PAM.

I. PROJECT DESCRIPTION

A. Rationale

1. The project will improve rural incomes from market-driven diversified farm output, watershed health, and community nutrition in the four northern provinces (FNP) of Houaphan, Louangphabang, Xaignabouli, and Xiangkhouang. It will (i) promote diversification into dry season high-value crops (HVCs), improve the yields of wet season rice by providing irrigation and access; (ii) protect watershed ecological services; and (iii) improve nutrition. The project contributes to government policy goals for food security, economic growth, and natural resource conservation.

B. Impact and Outcome

2. The Project is aligned with the following impacts: market-driven and safe agricultural products developed, and rural areas integrated into the national economy.¹ The project will have the following outcome: high value agricultural production, natural resources management, status of women and community nutrition improved.

C. Outputs

3. Output 1: Market-oriented agricultural production increased. Key activities include the following:

- (i) Market demand assessments for all subprojects completed and confirmed;
- (ii) Market connectivity forums and meetings started in the representative subprojects (RSPs);
- (iii) Enterprise grants procedures and implementation arrangements confirmed and grants awarded;
- (iv) Subproject farm to farm extension implemented; and
- (v) Market produce quality assurances systems operational.

4. Output 2: Watershed ecological services protected. Key activities include the following:

- (i) Provincial land use plans (PLUPs) prepared for 9 catchments in Xiangkhouang province (4) , and in Houaphan province (5) infrastructure (PRIs);
- (ii) PLUPs-associated behavioral change programs with supporting community agreements prepared, including 45% female participation; and
- (iii) PLUPs land use behavior change action plans implemented.

5. Output 3: Command area irrigation reliability improved. Key activities include the following:

- (i) RSP works contracted and completed;
- (ii) Additional PRI subprojects designed and contracted in batches 2 and 3 with batch 3 being the final processing deadline. Works contracted and completed with handover for batches 2 and 3.
- (iii) Water user groups (WUGs) and water user associations (WUAs) formed, with 50% participation by women, and with women in positions of management in 25% of the WUGs and WUAs ;

¹ The Government of Lao PDR, Ministry of Planning and Investment. 2015. *Five Year National Socio-Economic Development Plan VIII (2016–2020)*. Vientiane, the Government of Lao PDR, Ministry of Agriculture and Forestry. 2015. *Agriculture Development Strategy to 2025 and Vision to the Year 2030*. Vientiane, the Government of Lao PDR. 2017. *Central Party's Resolution on Land*. Vientiane, and the Government of Lao PDR. 2014. *Forestry Strategy to the Year 2020*. Vientiane, the Government of Lao PDR. 2015. *National Nutrition Strategy to 2025 and Plan of Action 2016-2020*. Vientiane.

- (iv) Subproject WUG organized into WUAs and
6. Output 4: Nutrition awareness and facilities improved. Key activities include the following:
- (i) District nutrition committees formed and operational;
 - (ii) Village nutrition schools implemented; and
 - (iii) Water, sanitation and hygiene facilities implemented in targeted villages.

D. Special features

7. The SRIWSM design builds on the existing ADB financed subsector irrigation portfolio and adopts new features. These include:
- (i) The transition from irrigation infrastructure focused on paddy rice to command areas, management, provision, and regulation of reliable water for dry season HVCs.
 - (ii) The requirement for cropping to be market-led and connected, including support for developing (i) agribusiness capacity within the provincial administration, (ii) supporting key commercial market chains attached to the irrigation districts, (iii) ensuring crop water demand is defined, scheduled, and used to specify engineering design terms of reference, and (iv) good agricultural practices using LAOGAP.
 - (iii) Support to secure watershed ecological services especially through land use change programs within the linked catchments that reduces the risk of accelerated evacuation of flood water, while increasing water retention within the catchment to reduce risk to dry season water supply.
 - (iv) A strong commitment to devolved project implementation under the Sam Sang policy with implementation responsibility delegated to provincial administration, recognizing the need to provide governance oversight and short-term mentoring with the benefit of building capacity in public institutions as opposed to local consultants.
 - (v) Support devolution with project wide information and financial management systems that will be cloud-based and able to interface with the new public sector's double entry accounting systems for the Ministry of Finance (MAF) and the Department of Irrigation (DOI).
 - (vi) The piloting and application of mobile phone technologies for project monitoring and reporting functions that will also enable public sector work plan reporting at far less cost and increased reliability.
 - (vii) The integration of nutrition sensitive agriculture activities into ADB-financed loan portfolio.

II. IMPLEMENTATION PLANS

E. Project Readiness Activities

Table 1: Lao PDR Project Readiness Filters

	Key Project Preparation Elements	Stage of Project Preparation				
		Appraisal/fact-finding	Negotiations	Signing	Effectiveness (within 3 months after signing)	First Disbursement (within 3 months after effectiveness)
1.	Project is within Government development priority	Confirmed				
2.	Project administration manual, project implementation manual, or project operational manual	Discussed and drafted	Completed and agreed			
3.	Discussion and agreement with Government on application of taxes and duties	Discussed and drafted	Completed and agreed			
4.	Environment impact assessment, social impact assessment, land acquisition & resettlement plan and ethnic minority development plan	Agreed	Action plans prepared, and government budget confirmed	Implementation started.		
5.	Procurement capacity assessment	Completed	Confirmed			
6.	Financial management capacity assessment	Completed	Confirmed	Start-up actions initiated.		
7.	Procurement plan for the first 18 months	Drafted	Confirmed			
8.	Auditing arrangements including terms of reference	Agreed	Confirmed			
9.	Monitoring and evaluation arrangements	Indicators in DMF and monitoring mechanism agreed	Key results indicators with baseline data and monitoring mechanism confirmed			

	Key Project Preparation Elements	Stage of Project Preparation				
		Appraisal/fact-finding	Negotiations	Signing	Effectiveness (within 3 months after signing)	First Disbursement (within 3 months after effectiveness)
10.	Required staff have been appointed to support project preparation and suitable project offices identified	Project organization chart, job descriptions, staffing and responsibilities agreed	Project organization chart, staffing and responsibilities confirmed. Office space available	Key staff on-board		
11.	Recruitment of project implementation consultants	TOR drafted	Confirmed	Consulting services advertised / request for proposals initiated	Proposals submitted, evaluated, and rankings confirmed with Government approval. Contract negotiations to proceed.	Contract awarded
12.	First year bidding documents for goods and civil works (where design is available)	List of contracts, timetable and responsibilities for implementation of advanced actions, as well as a source of financing to support advanced actions in place	Draft bidding documents prepared and submitted to ADB	No-objection letter from ADB obtained and bidding initiated	Bidding completed and bid evaluation reports submitted to ADB	Contract awarded
13.	Government counterpart funds and in-kind support	Agreed	Confirmed	Request for first year funds submitted to the Government	First year fund allocated	
14.	Subsidiary agreements (where applicable)	Content of subsidiary agreements discussed	Subsidiary agreement finalized and agreed			
15.	Legal opinion			Draft legal opinion submitted to ADB	Legal opinion cleared with ADB	
16.	Opening of advance account				Opening of advance account initiated	Advance account opened

Table 2: Project Readiness Activities

Indicative Activities	2019									2020			Responsible
	A	M	J	J	A	S	O	N	D	J	F	M	
Evidence of Government approval for 1 st year counterpart funding submitted to ADB.													MAF
Loan/Grant negotiations													ADB/MOF
Request for EoI for project start up consultants advertised													MAF
DED for four RSP OCB packages approved by Province													MAF
IFB for four RSP OCB packages advertised													MAF
ADB Board approval													ADB
Signing													Gov, ADB
Effectiveness													Gov, ADB

ADB = Asian Development Bank, ADB TA = ADB Technical Assistance, DOI = Department of Irrigation, MAF= Ministry of Agriculture & Forestry, MOF = Ministry of Finance, MONRE = Ministry of Natural Resources and Environment, PAFO = provincial agriculture and forestry office, PIS =provincial irrigation section, PONRE = Provincial Office of Natural Resources and Environment.

Source: Asian Development Bank.

Table 3: Project Implementation Plan

Activity	Action		2020				2021				2022				2023				2024				2025				2026				2027				
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q4	Q 1	Q 2	Q 3	
Signing		●																																	
Effectiveness			●																																
A: Advance Actions																																			
a.1: UXONRA - request for clearance all subprojects		■																																	
a.2: Gauge plates and flow records established	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
a.3: Project Year 1 (2020) Work Plan and Budget		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
a.4: Procurement Advance actions																																			
a.4.1: Start-up Consultants - EOIs submitted and draft negotiated contracts completed		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
a.4.2: Loan Implementation consultants - Technical and financial proposals evaluated	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
a.4.3: External Safeguard Monitoring Team - EOI, RFP, Eval ⁿ			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
a.5: Financial Management System														■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
a.5.1: Accounting systems developed	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
a.5.2: Financial training completed	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A.6: Implementation Staff and Roles defined	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Project Implementation Management																																			
PGT staff and operational manual approved		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
PPIIT (n=4) staff and operational manual approved		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Monitoring systems defined piloted and operated	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Financial arrangements and systems in place	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Vehicle and equipment procured			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Consultants in place																																			
- Startup consultant			●																																
- LIC			●																																
- External monitoring					●																														
- survey firms					●																														
- Service providers contracted					●																														
Mid Term Review															■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Project Completion Report																																			

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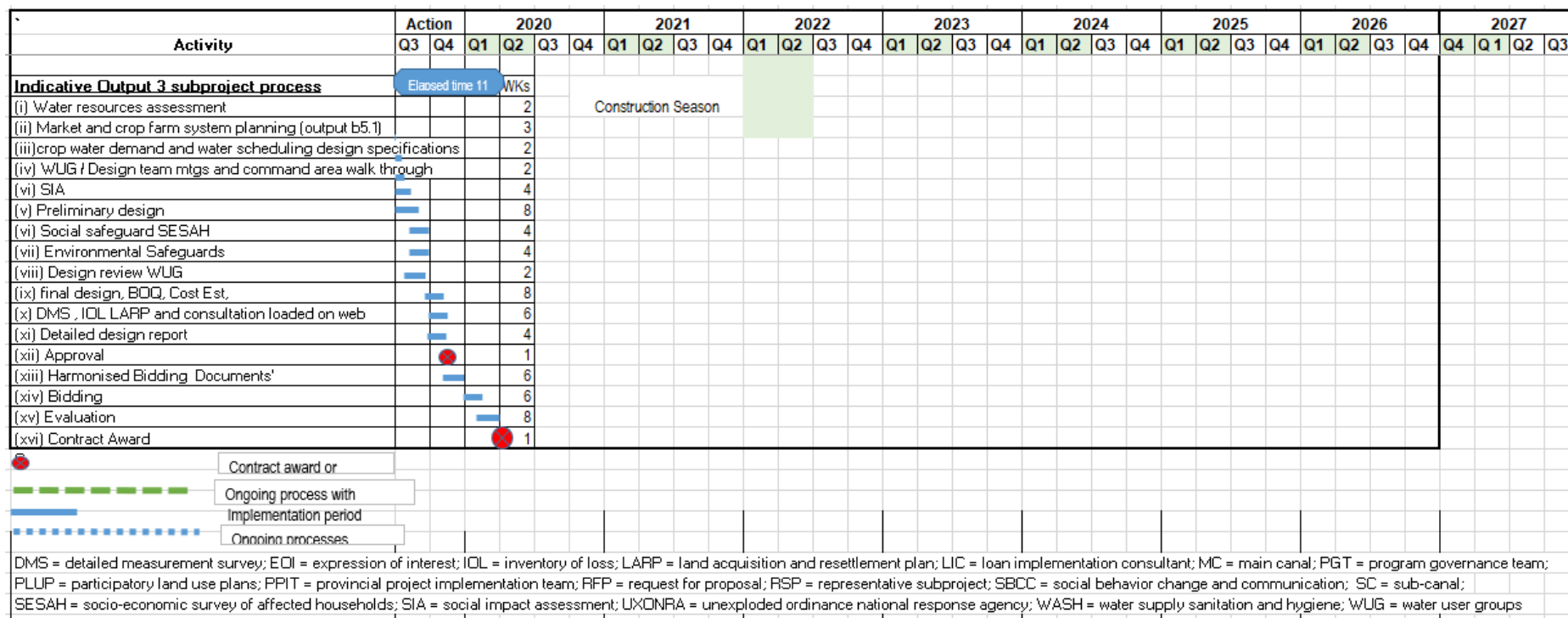


Table 4: Subproject Processing Batches²

Province	Representative Subproject		Additional Subproject Rank 1		Additional Subproject Rank 2	
	Batch 1		Batch 2		Batch 3	
	Processing	Construction	Processing	Construction	Processing	Construction
A: Houaphan						
i) Nam Pua	Q3 2020	2020 - 2021				
ii) Nam Hom			2020-2021	2021-2022		
iii) Nam Harm			Q3/4 2021	2022-2023		
iv) Nam Soy					Q3/4 2022	2023-2024
B: Xiangkhouang						
i) Nam Tong	Q3 2020	2020 - 2021				
ii) Nam Pew			2020-2021	2021-2022		
iii) Nam Mud			2020-2021	2021-2022		
iv) Nam Guer					Q3/4 2022	2023-2024
v) Nam Kha					Q3/4 2021	2022-2023
C: Louangphabang						
i). N.Seng MC/HW	Q3 2020	2020 - 2021				
N. Seng SC1	Q3 2020	2021 -2022				
iii) Nam Nan			2020-2021	2021-2022		
iv) Nam Nan -(1&4			2020-2021	2021-2022		
v) Nam Khan					Q3/4 2021	2022-2023
D: Xaignabouli						
i). N. Phieng 1&2	Q2/3 2020	2020 - 2021				
ii). Nam Pon			2020-2021	2021-2022		
iii.) Nam Poui			2020-2021	2021-2022		
iv). Houay Khean					Q3/4 2021	2022-2023
v). Nam Yang					Q3/4 2022	2023-2024

Note: The four representative subprojects are: (i) Nam Seng Irrigation Scheme, (ii) Nam Tong Irrigation Scheme, (iii) Nam Phoua Irrigation Scheme, and (iv) Nam Phieng Irrigation Scheme.

² Annex 1 is the detailed list of all subprojects and supporting screening.

8. **Shortlisted subprojects.** The additional subprojects will be processed according to the following schedule. Batch one of 4 RSPs will be followed by Batch 2 of up to two subprojects per province, and then batch three the following year will process 2 subprojects in Xiangkhouang and Xaignabouli provinces, and one subproject each in Houaphan and Louangphabang Provinces. to ensure that design costs are not wasted if implementation financing is not available. Processing in batches will ensure that the previous year's batch is contracted prior to committing funds to the final batch so that each IA is assured that sufficient funds remain for implementation. During the midterm review (MTR) tentatively scheduled for March 2023, the project team will assess the representative subprojects' (RSP) implementation progress within each province. Slow or significantly delayed provincial work programs that were not adapted or managed will be addressed through fund reallocation from the slow-moving provinces to the provinces who meet the schedule. If all provinces achieve satisfactory ratings in terms of implementation, additional financing for the project can be requested by the executing agency (EA).

III. PROJECT MANAGEMENT ARRANGEMENTS

G. Project Implementation Organizations: Roles and Responsibilities

Table 5: Project Implementation Responsibilities

Project organization	Management Roles and Responsibilities
Ministry of Finance (MOF)	<ul style="list-style-type: none"> • Establish the Project's advance account, • Provide replenishment reports to ADB, • Provide advances to implementing agencies subaccounts, • Overarching role on financial control.
National Steering Committee (NSC)	<ul style="list-style-type: none"> • Provide guidance to the IAs and MAF on project scope of work, expected performance standards, remedial action. • Ensure cross sector coordination and integration of work plans • Confirm annual performance. • Members: Minister of MAF, Office of Governors of the FNP, Provincial Agriculture and Forestry Offices (PAFO), Provinces' Director Generals (DG), and Deputy Director Generals (DDG) of the Department of Irrigation (DOI).
Ministry of Agriculture and Forestry (MAF) - Executing Agency (EA)	<ul style="list-style-type: none"> • Ensure loan and grant agreements covenants are achieved. • Do internal monitoring of the States' interests.
MAF's Department of Planning and Finance (DOPF)	<ul style="list-style-type: none"> • Define and validate the project management systems to be applied across the program to ensure that government and ADB requirements are met. • Verify all subproject draft procurement (including safeguards) documentation prior to submission to ADB or prior to public advertisement. • Undertake quality control procedures and verify the quarterly and annual reports, ensuring that these are endorsed. • Ensure financial management systems (FMS) are consistent with MAF's requirements. • Ensure that project reporting systems support both Government and ADB requirements. • Provide quality assurance for replenishment and disbursement documentation to be provided to MOF for submission to ADB.
DOI - IA	<ul style="list-style-type: none"> • Support and oversee the Program Governance Team (project management unit) and represents the EA in daily project implementation.

Project organization	Management Roles and Responsibilities
	<ul style="list-style-type: none"> • Provide technical support on irrigation and institutional issues. • Consolidate financial and progress reports for MAF and ADB. • Consolidate and do quality check of all withdrawal applications and replenishment requests to be forwarded to MAF's Department of Planning and Finance (DOPF) for clearance and submission to MOF. • Technical role: design back up upon FNP PPITs' request. Technical deputy's workload: defined by provincial demand with a part-time role to provide input to DOI's program outside the SRIWSM. DOI technical staff to provide technical support and review for single works contracts exceeding \$1 million in total cost or if a contract involves an impoundment embankment in excess of 3 meters in height. • DOI Planning and Finance section to prepare work planning templates based on the output structure and work plan and activities presented in this PAM. • Develop budgets for its own implementation activities based on this PAM. • Procure vehicles, equipment, and consultants after consultation and agreement with each of the FNP Provincial Steering Committees. Prior to procurement, obtain official letters from the Governor's office for the range of vehicles and equipment to be purchased with their specifications.
Program Governance Team (PGT) within the DOI	<ul style="list-style-type: none"> • Primary role: governance oversight of integrity of government and ADB administrative procedures. (i) support establishment of a devolved project management, implementation, and administrative systems dispersed across the FNP IAs, and (ii) provide overall project consolidation function where FNP information and records are consolidated into a single project record. • Overall program management and project coordination. • Arrange for orientation workshops to build awareness of roles and responsibilities within the EA and PAFOs. • Prepare a code of conduct with accountability of individuals, authority and levels of delegated authority, jurisdiction and mandate limits. • Produce a project management manual, with supporting templates, guidelines for planning, budgeting, financial accounts, disbursement, procurement, contract management, reporting, safeguards and audit. • Provide consolidation and quality assurance of the project for all work planning, budgeting and financial management records, replenishment requests, withdrawal applications forwarded to DOPF (MAF). • Conduct assigned procurement of (i) vehicles, (ii) equipment, (iii) loan implementation consultants (LIC), and (iv) other consultants and service providers. • Facilitate the development of provincial contractor's awareness and capability. • Provide technical support for setting up project management systems and templates in the provincial project implementation team (PPIT) and the required capability to operate these systems

Project organization	Management Roles and Responsibilities
	<ul style="list-style-type: none"> • Appoint a gender focal point from MAF's Women Advancement Unit (WAU) to oversee and support implementation of the gender action plan (GAP). • Undertake safeguards screening of proposed subprojects in line with resettlement and ethnic group development framework (REGDF) and environmental assessment and review framework (EARF) to confirm classifications. Subprojects classified as Category A to be excluded. • Ensure safeguard frameworks (REGDF and EARF) are applied in the screening, selection and assessment of subprojects, preparation of safeguard plans, resettlement and ethnic group development plans (REGDPs) and initial environmental examination/environment management plans (IEEs/EMP) at the subproject level, to be reviewed and commented within 30 working days by ADB. • Monitor safeguard requirements implementation as set out in the REGDF/REGDPs and IEEs/EMPs/Environmental Code of Conduct (ECC) during subproject implementation. • Ensure that all subprojects design reports (SDR) clearly demonstrate dry season water availability for the reliable irrigation ensuring environmental minimum flow is sustained. • Assign two qualified safeguards focal points to support program team with implementation of environment and social safeguard requirements, to provide safeguards inputs for quarterly and annual progress reports and to prepare semi-annual safeguards reports for submission to ADB. • In these cases, the PGT will be required to review and comment on the final design prior to approval by the Provincial Steering Committees (PSC) within the 20-working day period. The review will be conducted in parallel with the PAFO review of the DED. Reviews will be completed within 20 working days after which each PPIT and PSC will assume that the design is approved. For design reviews, there is no expectation or need to travel to the province or site as documentation will be exchanged through dropbox cloud links. • Technical contractual position: to be approved if the PGT can provide a detailed rationale based on the workload experience within the first six-months of project implementation. Unless there is evidence-based inputs that exceed the capacity of the DOI, the contracted position will be removed from the project. Should the technical position be justified, the role must be aligned to the function of the technical position with a qualified candidate with sufficient experience to conduct desk-based engineering design reviews. • PGT: (i) has no responsibility for the technical irrigation outputs or approval of technical designs; (ii) has no role in the selection, design or approval of subprojects based on the Irrigation Law (2014 – Article 38).
Provincial Steering Committee (PSC)	<ul style="list-style-type: none"> • Each participating province will establish a provincial steering committee chaired by the Governor. The PSC will include District Governors, Directors General of PAFO, Finance, Planning and Investment, Public Works and Transport Office (PWTO), Plant Protection Center, and Provincial Office of Natural Resources and Environment (PONRE).

Project organization	Management Roles and Responsibilities
	<ul style="list-style-type: none"> • Review annual work plans and provide guidance on project scope and performance standards. • Approve annual work plans and receive regular progress reports • Establish operational memorandum of understanding (MOUs) among PAFO, PONRE, and PWTO. • Approve technical design for irrigation and year-round access roads.
Provincial Procurement Committee (PPC)	<ul style="list-style-type: none"> • In each participating province, the Governor will establish a PPC of which s/he will be the chair, and will comprise of representatives of the Provincial Cabinet, DOF, DPI, PAFO, and other provincial agencies as deemed necessary from time to time. • Manage evaluation of bidding documents, score, and rank bids. • Recommend procurement actions to PSC and PAFO.
Provincial Project Implementation Team within the Provincial Agriculture Forestry Office (PAFO)	<ul style="list-style-type: none"> • Within the PAFO, each provincial government will form a project implementation team (PPIT) aligned to the Provincial Irrigation Section (PIS). • Under the provincial government's jurisdiction, is responsible for irrigation schemes with command areas less than 1,000 ha. • Conduct assigned procurement of equipment and LIC. • Identify implementation focal points at provincial level in the Department of Agriculture and Land Management (DALAM) and DOF to be seconded into the PPIT's project management structure to support activities related to land use planning, catchment management and land registration administration. • Establish a gender focal point from the WAU to ensure that the GAP is implemented and that all stakeholders are fully aware of the GAP and its associated responsibilities • Appoint a safeguards focal point to supervise safeguards requirements implementation, coordinate project specific grievance redress mechanisms, and support provincial program safeguards focal point on periodic safeguards monitoring and reporting. • Establish operational systems with staff assigned who have the capacity to maintain project administration and management systems. • Establish and maintain subproject monitoring and impact assessments using the productive rural infrastructure (PRI) representative subprojects (RSP) as learning sites. • Coordinate ADB-financed activities and integrate these with activities of other donor-financed programs on watershed management. • Provide quarterly, annual reports, and semi-annual safeguards reports based on the templates specified by the PGT. • Based on the latest detailed engineering designs, ensure updating of subproject REGDPs (if any) and IEE/EMPs based on detailed engineering designs, as approved by ADB and disclosed in the ADB website prior to contract awards. <p><u>For the PRI RSPs</u></p> <ul style="list-style-type: none"> • Obtain final approval from the PAFO DG based on the Irrigation Law 2014 - (Article 38). • Obtain environmental compliance certificates from the relevant PONREs prior to award of civil works contracts.

Project organization	Management Roles and Responsibilities
	<ul style="list-style-type: none"> • With support from the PGT, identify local contractors and conduct awareness and capacity building programs to increase inclusiveness of local contracting companies. • Complete land acquisition and compensation based on the REGDF prior to award of civil works contracts. • Contract management during implementation. • Ensure implementation of mitigation and monitoring measures as set out in the EMPs, and any required safeguards corrective actions. • Ensure implementation of the REGDF action plan. • Safeguards monitoring based on the land acquisition and resettlement plans (LARP) and REGDF subproject documents. • Upon project completion, with confirmation by the construction supervision expert of LIC (PG the Project Director (PAFO), conduct a site inspection based on the Public Works and Irrigation Law. • Upon confirmation of contract completion, transfer the assets' operation and maintenance (O&M) to the water user group (WUG). <p><u>For additional PRI subprojects</u></p> <ul style="list-style-type: none"> • Complete preparation of the DED, based on water user needs supported by the due diligence reports and all safeguard concerns (following the above procedure for the PRI RSP). • Mobilize staff for output 1 market-led agriculture, including market assessment reports, market connectivity, farm to farm extension, and grants program. • Mobilize staff for output 2 land use planning teams. <p><u>For WUGs</u></p> <ul style="list-style-type: none"> • Provide awareness and capacity building on project activities, WUG implementation roles and procurement modalities. • Monitor and mentor WUG contracting of in-command area works.
PONRE Land Registration Department	<ul style="list-style-type: none"> • Conduct land registration. • Issue land titles and demarcations.
PONRE Environmental Management Department	<ul style="list-style-type: none"> • Conduct regular environmental monitoring of subprojects with the focal PPIT safeguard person. • Undertake a general program of monitoring environmental parameters (e.g. water quality) at strategic sample locations throughout the province. (Budget provision available for (i) training, (ii) travel, and (iii) field allowances. Training is part of the LIC's terms of reference.)
MAF— Plant Protection Centers	<ul style="list-style-type: none"> • Identify need for pesticide reduction training, crop surveillance and integrated pest management as part of the LAOGAP quality assurance support.
MAF – Department of Agricultural Land Management (DALAM)	<ul style="list-style-type: none"> • Agricultural land use planning guidelines and verification.
PAFO – DALAM	<ul style="list-style-type: none"> • Agricultural land registration survey. • Consults land users in command areas. • Land registration proposal for agricultural land. • Participatory land use planning (PLUP) responsibilities
MAF - Department of Forestry	<ul style="list-style-type: none"> • Trains and leads in ecological service protection issues for land use change programs.

Project organization	Management Roles and Responsibilities
	<ul style="list-style-type: none"> • Forest Land Use Guidelines and quality verification
PAFO - Department of Forestry	<ul style="list-style-type: none"> • Forest Land use zonation and survey demarcation. • Participate in PLUP when requested. • Supervises ADB-funded forestry activities.
Provincial Nutrition Committees	<ul style="list-style-type: none"> • Supervise ADB-funded forestry activities. • Facilitate multi-sectoral coordination for nutrition, coordinating joint baseline and end line surveys to be developed by the National Nutrition Committee (NNC) Secretariat; ensuring alignment with any National Nutrition Advocacy and Communication Strategy and Plan of Action, supporting the Government of Lao PDR – Development Partners Monitoring Missions, etc. • Coordinate implementation and monitoring. • Undertake field monitoring activities. • Receive monitoring reports from districts and subproject communities and provide annual and biannual reports to the NNC. • Provide leadership and support for district nutrition committees (DNC)
District Nutrition committees (DNC)	<ul style="list-style-type: none"> • Facilitate multi-sectoral coordination for nutrition, including identifying priority villages. • Coordinate implementation and monitoring. • Undertake field monitoring activities and provide annual and bi-annual reports to the Provincial Nutrition Committee (PNC).
District Agriculture and Forestry Office (DAFO)	<ul style="list-style-type: none"> • Assign a focal point, at least a DAFO Deputy Head and DNC representative; responsible for planning and oversight of the project's Nutrition Support Advisor's (NSA) activities in the district, discussing monthly and weekly workplans with the assigned technical staff. • Assign one staff member responsible for financial management related to project NSA activities • Assign up to three full-time equivalent technical staff as District Nutrition Team members, with preference for female staff and staff from local ethnic groups. • Permit assigned staff to participate in basic nutrition training and ensure that trained staff remain for the project's duration. • Select priority villages in coordination with the DNC. Primary criterion is the nutrition needs identified by the DNC, considering the completed, ongoing or anticipated NSA interventions. The next criterion will be to give preference to nutrition priority villages in watersheds and command areas of the PRI subprojects. • Collaborate with the Lao Women's Union (LWU) to form nutrition clubs in the selected villages, and provide them with NSA activities using a farmers' nutrition school approach, developing group and/or individual NSA development plans • Provide technical support to facilitate implementation of the development plans.
Asian Development Bank	<ul style="list-style-type: none"> • Finance the project cost through concessional loan and ADB grant • Oversee and monitor compliance with ADB procedures and loan/grant agreements • Monitor project implementation progress • Provide guidance for procurement and consultant recruitment • Monitor disbursement and process withdrawal applications and release of loan/grant funds

Project organization	Management Roles and Responsibilities
	<ul style="list-style-type: none"> Field review missions, a midterm review mission, and a project completion review mission jointly with the Government.

Source: ADB

H. Key Persons Involved in Implementation

Executing Agency

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I. Project Devolution - Overview

9. The project organization is aligned with the Sam-Sang³ policy (three builds) and aims to develop the provincial administrations as strategic units, the districts as comprehensive strengthening units, and the villages as development units. The adoption of provincial implementation arrangements and WUGs is consistent with the policy. The irrigation law assigns the responsibility for irrigation schemes with less than 1,000 ha. to the Provincial administration and the PAFO's Irrigation Section.

10. The national level ministries will define overarching sectoral policies, laws and economic development plans that ensure inter-sectoral coordination. Provincial administrations will develop operational strategies that align with the national institutional framework and local priorities and through their District networks that support the village level development process.

11. Capacity shortfalls exist in all ADB PRI projects. These capacity gaps are addressed by adding contracted non-government staff and consultants to complete functions expected to be delivered through the staff and IAs' systems simply to achieve implementation targets, but in doing so, perpetuate the capacity shortfall. Consequences include (i) high turnover of contracted staff and local consultants as they move from provincial roles back to Vientiane - often into similar roles with other projects or donors, (ii) low quality of consultants due to a limited pool of expertise within which skilled people are targeted into higher paying roles in Vientiane, (iii) an array of project management systems that is difficult for government staff (and consultants) to master and apply,⁴(iv) a resultant shortfall of skills and capacity within Government staff as those employed by Government with skills are attracted into consulting roles.

12. SRIWSM support for devolution, raises issues of the capacity of project IAs with risks to achieving efficient implementation. SRIWSM will take the next step on devolution of building capacity at the provincial level and working through this capacity to institutionalize functions. SRIWSM takes a modest approach to physical targets, provides support for standardizing systems and procedures, providing up-front support to build systems and capacity within FNP and DOI. The SRIWSM will distribute functions, roles, and responsibilities across FNPs and then provide implementation support. The systems and capacity being built will provide the basis for moving to a system of support for a single ADB PRI program through wide adoption of the same project administration and implementation systems for financial management, procurement, monitoring and reporting. SRIWSM intends to build systems and capacity that will increasingly be applied through the Government administrative systems.

13. The transition to devolved systems will constrain the scope of the initial activities and creates additional risks relating to governance and systems integrity. The project design seeks to offset and manage these risks through the EA, DOPF, and DOI that will provide a governance support function including system establishment, mentoring implementation staff and procedures, and providing on-going governance oversight throughout each implementation year. The loan implementation consultant (LIC) team contracted by DOI will provide support and guidance to the governance support function, as well as to the PAFOs, in the devolution process. To build awareness of roles and responsibilities regarding the devolved arrangements a series of orientation workshops will be organized by the EA/LIC during the initial stages of project implementation. An LIC team will also be contracted individually by each provincial IA to provide support and guidance at the provincial level.

³ As defined in the Third Politburo Resolution.

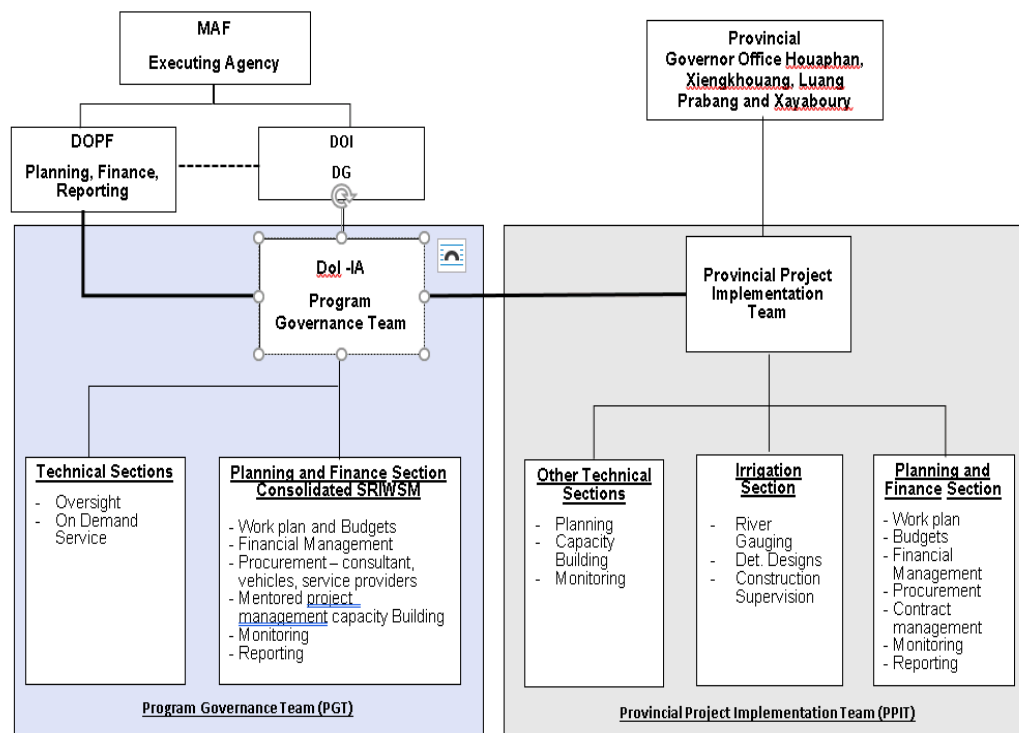
⁴ Including examples of multiple accounting systems, differing reporting systems within one project.

J. Project Organization

14. At the national level, MAF, as the EA, is ultimately responsible for project performance and will, through its Department of Planning and Finance (DOPF), provide oversight for governance integrity and the reporting channel on performance and financial management especially disbursement and replenishment reporting to MOF.

15. The project organization is aligned with the structure of public administration and will be implemented through these, rather than through parallel project management units. MAF, through DOI, will implement the national level functions as defined in the Irrigation Law and other sector and public administration regulations. Daily implementation will be undertaken by each provincial administration wherein implementation has been assigned to the Provincial Agriculture and Forestry Office (PAFO) – see Figure 1.

Figure 1: Project Organization Arrangement



16. The National Steering Committee will be the oversight body and will be chaired by the Minister of MAF. It will be comprised of the Governors of the four provinces (FNP). The Provincial Steering Committees will be chaired by the Governors of the four provinces and will have as members, the representatives of PAFO, Provincial Office of Finance (POF), PONRE, Provincial Public Works and Transport Department, and the representatives of participating districts. MAF will be the executing agency, with DOI as the central implementing agency. A program governance team consisting of government staff will be established within DOI and will be responsible for project supervision and mentoring of provincial staff.

Table 6: Existing DOI Staffing and Structure

		Division	Government Staff	Contracted Staff	
				Existing	SRIWSM
DG	DDG -1	Tech Design and Management	11		
		Operation and Maintenance	2		
	DDG -2	Irrigation Development Division	17		
		Technical Management	15		1
	DDG -3	Gate No:3 Project			
		Planning and Cooperation	15		3
		Administration	65		
		Committee of Irrigation Development	4		
		Overseas Development Assistance and Donor Project Directors		18	
	Total		129	18	4

17. DOI project roles will be assigned to appropriate staff within its existing structure using staff with the mandated roles for irrigation development and public sector administration functions who will be assigned to SRIWSM. There will be no project management unit but rather the SRIWSM will be managed by the existing team - PGT.

18. In line with the government decentralization policy, each of the FNP governor's offices will be an implementing agency and will assign the Provincial Agricultural and Forestry Offices (PAFO) for the daily implementation of consultant recruitment, local procurement, finances, subproject design and approvals through their staff resources.

1. Governance Risks

19. Under devolved project implementation, the high financial management risks will be managed or mitigated through appropriate financial management systems and procedures based on double entry accounting systems. These will include provincial accounting modules linked through cloud-based internet capabilities. It will interface with MAF's accounting system, with oversight from the PGT. Government staff will be trained in project management. Procurement risks are considered moderate as the EA and IAs have experience with ADB procurement using national competitive procedures. Given the limited ability of DOI and the PAFOs in consultant recruitment following ADB procedures, support will initially be provided to DOI and the PAFOs prior to loan effectiveness by the Procurement and Advance Action Specialists under TRTA 9323, and by the Procurement Specialist Start-up Consultant thereafter. ADB's Anticorruption Policy (1988, as amended to date) was discussed with the government, MAF, DOI, and the PAFOs. With increased roles and responsibilities for financial management and procurement at the Province level, there is a need to ensure the integrity of planning, approval and disbursement systems to avoid potential inappropriate activity. The oversight of procedures and systems is essential to ensure that the responsibility of the EA as specified in the loan and grant agreements are adhered to.

20. Compliance integrity is important, however at the same time those with the responsibility for operating and maintaining financial and procurement systems need to have access to (i) underlying systems that support these requirements, (ii) the skills and experience to operate these

systems, and (iii) committed management and staff to ensure that the systems are respected and applied.

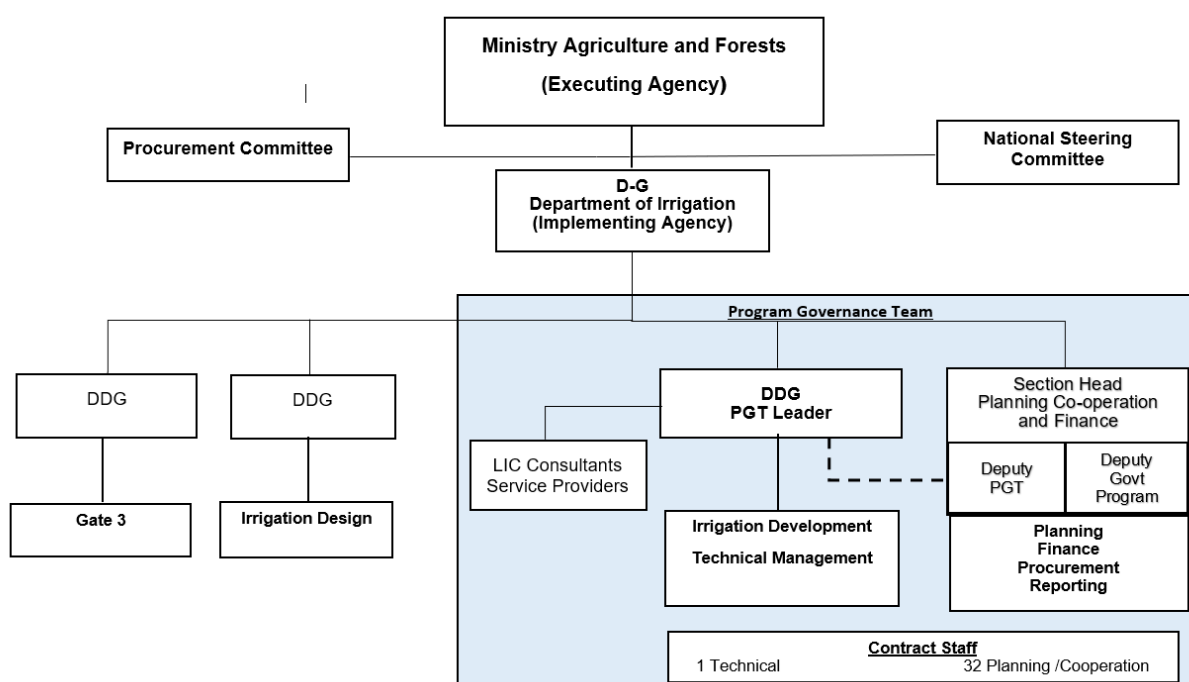
21. A key element of successful devolution of project implementation are the systems to manage governance risk. Risk mitigation and management will adopt consistent systems and supporting capacity to use these systems in tandem. Without both the systems and the capacity to use these systems in a coherent and consistent manner, the governance risk could increase, and controls could easily fail.

2. Project Governance Team

22. The PGT's structure is presented in figure 2 below and includes:

- (i) One (1) Team Leader – at least a DDG (DOI) rank;
- (ii) Two (2) managers - (i) planning and finance deputy head, and (ii) technical irrigation development staff member assigned from DOI government staff. (Both should be full-time government staff and not contracted staff);
- (iii) The six supporting staff positions are: two for procurement, two for safeguards, one for finance, and 1 for planning; and;
- (iv) Up to four administrative support staff.

Figure 2: Organizational Structure for DOI - Program Governance Team



23. The main role for the PGT during establishment will be to define and establish standards for project management such as planning, budgeting, reporting, contract management, financial management and accounting. The PGT will assist each of the FNP to establish its systems, prepare initial work plans and budgets, and thereafter provide capacity support and technical assistance. The central and provincial LIC will be contracted through five QCBS contracts one for

each IA. See Annex 2: Terms of Reference for LIC for detailed terms of reference, posting locations and level of effort.

24. For additional PRI subprojects preparation (around 14 – see Annex 1: Summary of Priority Subproject Shortlist) PGT will contract service providers that support FNP in their preparation of additional subprojects these will include specialists relating to social impact and social safeguards - resettlement and land acquisition requirements.

25. The service providers will be mobilized according to annual planning needs as prepared by each of PPIT teams. The PGT will ensure all safeguards monitoring and reporting is undertaken according to the respective loan and grant agreements using an external independent monitoring contractor. A service provider will be contracted for the translation of the required documentation into English i.e., bid evaluation reports, safeguards and documents requiring approval from ADB. This will enable all PPIT work to be undertaken in the Laos language wherever possible and then professionally translated into English for submission documents.

3. Governance and Administrative Roles

26. The governance and administration roles will be managed by the DDG-1 under the Planning Cooperation Section who will be a government staff member, and who will be assigned to the PGT. In this role, they will have a line control reporting to the head of Planning and Finance Section PAFO, and a staffing role reporting to the Leader of the PGT. Key functions of the Planning and Finance Division:

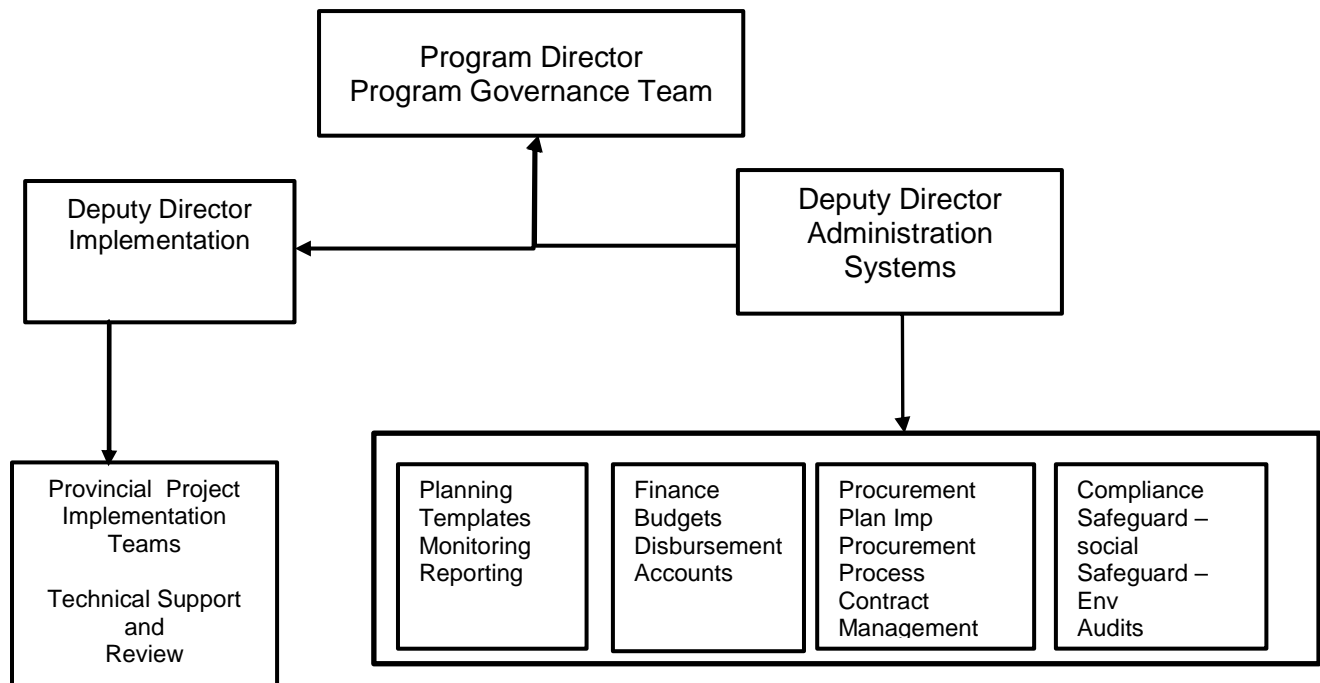
- (i) **Work planning.** The work planning templates will be consistent with government planning formats (for the in-kind contributions) and will have the SRIWSM work plan requirements included. Work plan templates will be developed on (i) a whole of project life work plan at the level of subproject and major tasks to be accomplished, (ii) with a more detailed work plan for the first 12 months prepared on a monthly and quarterly basis. The “whole project” work plan will be updated semi-annually and will be subject to review two months prior to the end of the planning period to identify activities to be carried forward or modified. Work planning will need to account for elapsed times for preparing and procuring services. For example, this will include:
 - Quality and Cost-Based Selection (QCBS) for consultants – more than 10 to 12 months
 - Consultant’s Qualification Selection (CQS) and individual recruitment for consultants – 5 to 12 months
 - Procurement of goods, equipment, and vehicles – tendering 3 months, RFP/Shopping six (6) weeks
 - Design of subprojects
 - Hydrology assessment - 2 weeks
 - Water needs and demand agreement - 3 weeks
 - Design - 5 months
 - Safeguards - 2 months
 - Technical design review - 20 days
 - Detailed subproject design reports - 1 month
 - Government approvals - 4 weeks
 - ADB approvals - 4 weeks
 - Land acquisition and compensation clearance – 3 months

- UXO clearance certification – 12 months for clearance work, and 1 month for certification of areas with existing clearances
- Bidding documentation - 1.5 months
- Bidding - 1.5 months
- Proposal evaluations - 2 months
- Contracting - 2 weeks

Financial Management. Budgets will be developed by each IA using the work planning templates and as defined in the financial management manual (FMM). Budgets will be based on (i) contract award or committed financing basis and prepared along the requirements of government and ADB as appropriate. Monthly cash flows will be prepared. Each IA will need their own work plan and supporting budgets. These will be used to develop contract award and disbursement projections for ongoing and new contracts within each budget cycle.

- (ii) **Procurement systems.** Identified in the procurement plan included in this PAM – see annex 8. It is not envisaged that the DOI – PGT staff will participate in any of the provincial level procurement activities unless specifically instructed to do so by the National or Provincial Steering Committee/s and then only in observer status.

Figure 3: Proposed Planning Cooperation and Finance



K. Provincial Implementation

4. Staff/Human Resources

27. The following tables (Tables 7-10) provide the current staffing and organization structure of each Provincial IA - PAFO. The level of staffing and structures differ significantly between provinces with the contract and volunteer staff roles now being outside the Government Staff positions and funded by donors or other projects. SRIWSM will place two positions into each PAFO as contracted positions. In addition, each PAFO identified a number of additional contracted positions included only those that are essential. Even these roles will need clear justification under the Order no: 33 - 2018. The financial management roles and the procurement roles for the SRIWSM will be led by government staff positions and the in-service financial management professional development training opportunities will be limited to Government Staff.

Table 7: Houaphan PAFO Organization and Staff Structure

Houaphan		Section	Govt	Voluntary Staff	Contract	Required additional contracted staff for SRIWSM
DG	DDG1	PIS	15	5	2	0
		DALAM	8	4	2	0
		Govt Audit	6			
	DDG 2	Livestock	18			
		Rural Dev and Coop	16			
	DDG3	Agriculture section	19			
	Direct Report to DG	Admin & Personnel	15			
		Planning and Finance	10	3	7	3
		Forestry	16	4	1	0
		Forest Inspection	17			
		Forest P&PA Mgt	11			
		A&F Service Center	22			
	SRIWSM -Social Safeguard and Agribusiness					2
			173		12	5

DALAM = Department of Agricultural Land Management, DG = Director General, DDG = Deputy Director General, SRIWSM = Sustainable Rural Infrastructure and Watershed Management Sector Project

Table8: Xiangkhouang PAFO Organization and Staffing Structure

	Deputy	Section	Current Staff	Required additional contracted staff for SRIWSM
			Govt	
DG	DDG1	PIS	19	
		DALAM	12	1
		Govt Audit	7	
	DDG 2	Livestock	19	
		Rural Dev and Coop	31	
	DDG3	Agriculture section	15	
	Direct Report to DG	Personnel	27	
		Planning and Finance	7	7
		Forestry	28	
		Forest Inspection	23	
	SRIWSM Agribusiness and Social Safeguards			2
			188	10

DALAM = Department of Agricultural Land Management, DG = Director General, DDG = Deputy Director General, PIS = provincial irrigation section, SRIWSM = Sustainable Rural Infrastructure and Watershed Management Sector Project.

Table 9: Louangphabang PAFO – Organization and Staffing Structure

Louangphabang				Current		Required additional contracted staff for SRIWSM
			Section	Govt	Contract	
DG	Coordinator	DDG1	Agric Section	16		
			Livestock	22		
			Forestry	24	14	
			Forest Inspection	24		
		DDG2	Rural Development	17		
		DDG3	Irrigation Section	11	1	
			Extension	17	4	
			DALAM	12	3	
		DDG 4	Planning and Finance	9	2	2
		Personnel		17		
		Government Auditing		6		
SRIWSM Agribusiness and Social Safeguards					2	
Total Staff				175	24	4

DALAM = Department of Agricultural Land Management, DG = Director General, DDG = Deputy Director General, SRIWSM = Sustainable Rural Infrastructure and Watershed Management Sector Project

Table 10: Xaignabouli PAFO – Organization and Staffing Structures

Xaignabouli			Current		Required additional contracted staff for SRIWSM
		Section	Govt	Contract	
DG	DDG1	Personnel			
		Govt Audit			
		Planning and finance	11	1	1
		Rural Development and Cooperatives			
	DDG2	Agric Section			
		Livestock			
		DALAM	13	6	
		PIS	14	3	1
	DDG3	Forestry	22	8	
		Forest Inspection			
		Forest Conservation			
	SRIWSM Agribusiness and Social Safeguard				2
1	3		60	18	4

DALAM = Department of Agricultural Land Management, DG = Director General, DDG = Deputy Director General, PIS = provincial irrigation section, SRIWSM = Sustainable Rural Infrastructure and Watershed Management Sector Project.

2. Provincial Project Implementation Team

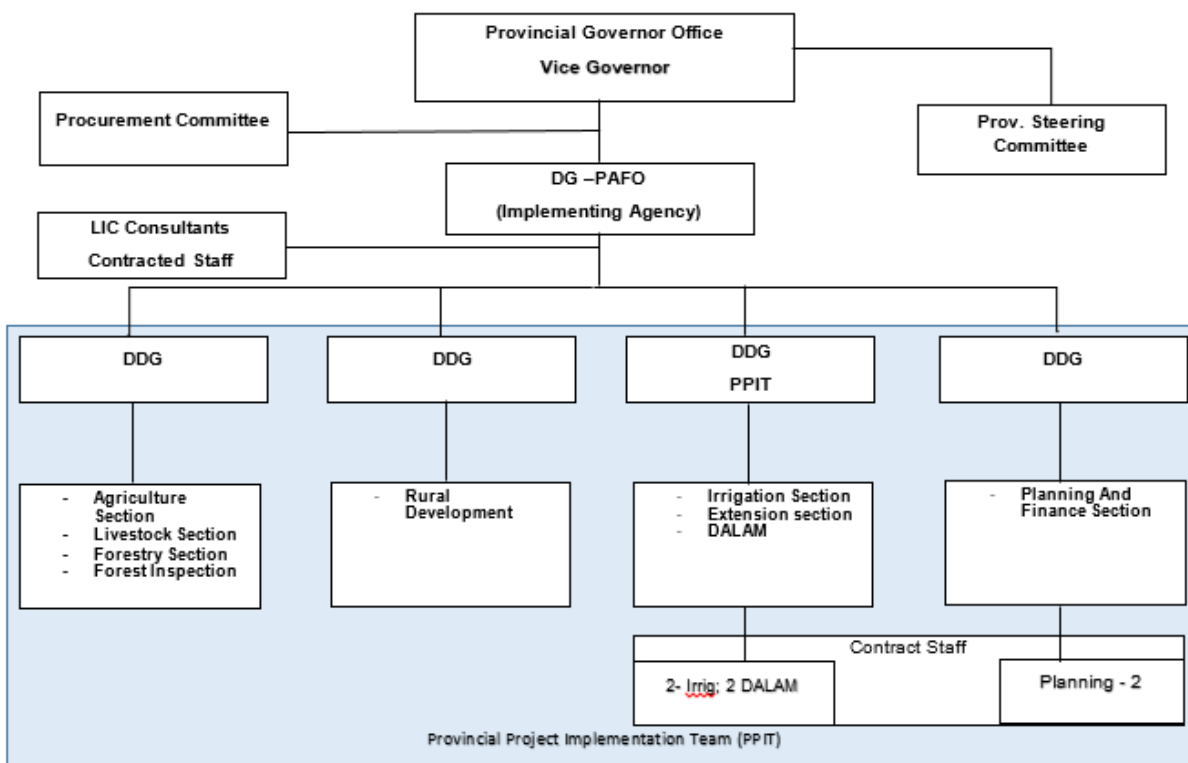
28. Responsibility for Provincial implementation was assigned by the FNP Governor's to PAFO. SRIWSM will be implemented through the existing PAFO structures and staffing under the direction of either the DG or a nominated DDG. The management will receive support from contracted positions (note: these roles will need ratification as part of Order No: 33, 2018 –from Ministry of Home Affairs via MAF) and key technical consultant inputs. The PAFO DDG will be supported with a Project Management adviser that will ensure the day to day functions and actions are completed and that the requirement for the use of standardized project management templates are met. The role will have a declining level of input after the first two years.

29. Within PAFO, the PPIT will comprise of existing staff in their respective functional roles (figure 4) including from the (i) planning and finance section – for work planning, financial management, procurement, monitoring and reporting, (ii) irrigation section – for detailed engineering design and design approvals, construction supervision and commissioning, (iii) DALAM for land titling surveying and registration and for Xiangkhouang province for the PLUP and land use change program monitoring, (iv) inputs from technical units for input to crop and water planning, agricultural technology demonstrations etc. The key element of the approach is that there will be separation between the technical design and the procurement of contractors. The terms of reference for the detailed engineering design is in Annex 3: Terms of Reference for Detailed Engineering Design.

30. The PPIT will report to the Governors' Offices as per existing provincial administrative relationship but with the addition of (i) a Provincial Steering Committee that comprises of a

Governor's office representative of no-less than a Vice-Governor, District governors and representatives of PONRE, Health and Public Works Offices.

Figure 4: Provincial– PAFO Project Implementation Team



31. The specific roles are:

(i) **Work Planning**

- a. The head of the planning and administration section will be responsible for assigning staff to the annual work planning as per usual Government procedures. The SRIWSM work planning will be templated by the PGT to ensure the same format, structure and activity labels are applied by all IAs to enable consolidation of the provincial data and alignment of workplans with the project accounts. The Planning and Finance section will apply these templates along with the procedures outlined in this PAM.
- b. The initial work planning will be undertaken as a project awareness and training session with assistance from the project management adviser, and that this planning would be conducted at the level of monthly inputs including costs, and within a whole of project life timeline. The first 12 months will be planned in detail by output, activity and task with responsibilities assigned to them all. A subproject planning and monitoring template is provided in Annex 4 (Subproject Planning and Monitoring Template) that can be used to monitor the implementation and also ensuring that the elapsed time of the approval processes is adequately addressed in planning.

(ii) **Financial management**

- a. The head of the planning and finance section will assign two staff to the financial management of the project. These individuals were identified during project preparation and have been given exposure to the financial management systems to be used. A common accounting software platform and chart of accounts will be used by all IAs as described in the FMM.
- b. The Planning and Finance section will be responsible for establishing and maintaining the SRIWSM subaccount and its replenishments, as such it will report directly to the DDG PAFO for all matters including inappropriate purchasing, missing documentation etc. this reporting will be logged within the cloud-based management information systems that is linked to PGT, MAF and ADB to ensure transparency and accountability.
- c. The integration of financial reporting and financial projections for contract awards and disbursements into the monthly provincial reporting and the quarterly project reporting will be one of the core management control points and as such, will be submitted by the head of the section to the DDG PAFO and the Project Management Advisor both of whom will be required to confirm the report, add a management response to outstanding issues and then forward the report to the DG PAFO Governor office and the PGT. Issues relating to improper financial management and delayed implementation will be the highlighted issues in the monthly reporting frameworks.

(iii) **Monitoring and Reporting.** Will be the responsibility of the planning and finance section. There is support for develop a monitoring system (a) project implementation efficiency and (b) project effectiveness – (section IX of this PAM). The project manager will ensure these systems are (i) established and (ii) maintained on time and with integrity. The PGT and DOPF will during each year conduct governance audits that will review and disclose to MAF, MOF and ADB any irregularities in the reporting. Failure to establish reporting and the integrity of reporting as described in the Project Management Manual will be addressed at MTR through the movement of funds to the provinces that do comply resulting in the loss of additional subprojects.

(iv) **Environmental Safeguards.**

- a. The procedures within the EARF will be applied to the design and implementation of additional subprojects. For processing additional subprojects, the PGT (through LIC consultants) will provide technical expertise for screening and categorizing the subproject and then preparing the due diligence reports or if required the IEE/EMP. Implementation monitoring of the EMP to PAFO will be the responsibility of PONRE.
- b. The Provincial Steering Committee will ensure that there is a MOU between PAFO and PONRE for this input – the SRIWSM provide the allowances to cover the operating costs of PONRE. PONRE will receive these allowances based on (i) 50% on agreement to conduct the work and (ii) the remainder based on reports submitted. Failure to report will be reported by the PAFO to the PSC seeking an explanation and remedial responses. All such reports will be filed within the dropbox management information systems and shared with PGT who will seek confirmation that the issues have been addressed.

- (v) **Social safeguards monitoring.** Is assigned to a Government staff member of PAFO who will be supported by the PGT based LIC experts. All monitoring will ensure that the provisions of the LARP are identified, confirmed and reported in a timely basis. The monitoring will also conduct confirmation meetings with adversely affected households and the findings of these will be included in the monthly reports. The social safeguard position is a new contract staff position in the PAFO – PPIT that will work closely with the external monitoring team, provide day to day review and input to the project implementation to ensure best practice as defined in the REGDF and LARP are established and applied in the RSPs. A key role of the social safeguard role will be to identify issues and ensure that these are responded to in a timely and correct manner.
- (vi) **Gender.** The PAFO will appoint a gender focal point from the Women's Advancement Unit that will be responsible for ensuring all project stakeholders are fully aware of the GAP and its provisions, ensure that the GAP is implemented and reported accordingly.
- (vii) **Land Acquisition and Compensation.** PAFO will assign a person from DALAM to Land Acquisition and compensation as per the provisions of the REGDF. This role will ensure that the administrative requirements of the LARP are expedited accordingly based on the required procedures and timelines.

32. **To implement Output 4 in Houaphan and Xiangkhouang,** the PAFO will be responsible for the collection and integration of the contractors monitoring data within the SRIWSM quarterly progress reports. The Provincial Steering Committee and PAFO will need to establish the institutional linkages between Output 4 and the respective output 1 through 3 in terms of capacity building and convergence of nutrition sensitive agriculture into the wider Project.

IV. OUTPUT 1 ARRANGEMENTS

33. Under Output 1, the PPIT will have a contracted staff role for agribusiness support. This role will not be an ex-Government staff member but will have commercial and market experience and training. The role shall work closely with the LIC agribusiness experts (within the DOI LIC team) in conducting market assessments, market connectivity, quality assurance programs, farm to farm extension services. The Provincial Plant Protection Center will be responsible for implementation of the promotion of LAOGAP including Pesticide Reduction Training through the MAF Plant Protection Center, and grants administration and award programs as defined in the Project Management Manual and with support from the LIC experts.

34. Output 1 will be implemented through the proposed agribusiness contracted staff positions, and the LIC agribusiness advisors. The output represents a substantial change in the direction of the current thinking and skill sets within PAFO. The design envisages using the SRIWSM as a means of building increased knowledge and linkages between the public sector and the private sector that underpin commercial agriculture. It does not foresee major roles for PAFO in the decision-making of market chains with their role limited to connectivity and quality assurance functions (Supplementary Report – Output 1 Design Document for a detailed description of all activities and implementation details).

35. The proposed investment will develop the market connections between irrigation and upland farmers, and higher value markets for their dry season products. Farmers will be assisted to plan and produce their dry season crops and livestock on the upgraded irrigated schemes based upon better information about market demand, quality requirements, and prices. Better

market connections will consist of: (i) identified market demand with associated producer connections, logistic services, information flows, post-harvest agri-enterprise, trader and retailer relationships; (ii) once opportunities in the market are identified, additional investment is required into on-farm technology, farmer learning about new production technologies, pesticide management including pesticide reduction training and where necessary Integrated Pest Management through the Provincial and District Plant Protection Centers including agrochemical handling and application; (iii) value creation and quality assurance with certification and traceability through LAOGAP.

36. Some investment opportunity may be identified during the output 2 watershed land use planning programs within Houaphan and Xieng Khuang provinces that require a wider subsector or commodity based response that will be addressed through output 1. For example investment in Xingkhounang tea market connections and agribusiness development will concentrate upon developing market connections for better quality wet season produced and processed tea that will be sold at higher prices. Farmers will be assisted to grow, and harvest, a better-quality product, and processing quality will be enhanced through improved techniques using more modern equipment. Tea marketing cooperation and coordination among the Phousan tea agri-enterprises will ensure the tea meets higher quality certified standards and is marketed to higher value markets. Marketing and market development may occur under the proposed Lao Tea brand, or a more specific Phousan mountain tea brand. By building wider market connections and value adding the tea producers in Nam Tong RSP watershed will be able to benefit from reduced market risk and expanded market opportunities.

A. Market-led Strategy

37. The strategy is for a market-led approach for both DSIA products and upland crops encompasses:

- (i) farmers and agri-enterprises supported to strengthen and develop existing market connection and agribusiness relationships;
- (ii) farmers and agri-enterprises have better information about market, and emerging market opportunities;
- (iii) agri-enterprises and small village-based processors are assisted to create value through processing and quality assurance;
- (iv) irrigation farmers are assisted to produce HVC and livestock in response to market demand;
- (v) upland farmers and agri-enterprises partners producing, processing and marketing HVC such as quality tea for the local and export markets; and
- (vi) a clearer direction over market development for the agribusiness sector and functional provincial agencies.

38. For RSPs detailed implementation programs have been prepared (Supplementary report Output 1 - Design Document and has outlined the roles for the additional subprojects). Integration or interfacing with both the proposed collaborative co-financed projects being (i) Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ/GCF) Catchment management and emissions reduction, and the (ii) International Fund for Agriculture Development (IFAD) Partnerships for commercial agriculture will need to be defined and agreed and then incorporated into the PAM as an amendment to the implementation arrangements.

39. Currently it is proposed that ADB finance all output 1 activities for all subprojects. If the timing of the IFAD parallel financing program effectiveness is aligned to the ADB SRIWSM

financing for output 1 and for the water user group capacity building program will switch to IFAD and ADB funds will be reallocated to PRI investments.

40. Output 1 will involve:

- (i) Market assessments for each subproject based on developing (i) existing commodity market chains, (ii) confirming markets for other opportunities identified by growers, DAFO, PAFO or the private sector.
- (ii) Based on the market assessment develop a market-led strategy for the project producers through linking producers to markets either directly or through logistic agents and information platforms
- (iii) Establish a grants program for producers and enterprises that are directly linked to the market opportunities and have supporting business plans prepared with input from the agribusiness advisors.
- (iv) Establish a network of farm to farm, backward linkage and project to project extension programs that support the market-led response of farmers including the use of farm-based demonstrations.
- (v) LAOGAP and quality assurance programs linked to the market assessments and including environmental and social safeguard mitigation programs that manage the risks of agrichemical use in HVC production including pesticide reduction training.
- (vi) Support strategic commodities such as the (i) Phousan tea sector to develop a cohesive marketing strategy with support provided to small holders to link into this strategy through first step processing and value addition, (ii) Livestock for the China and Viet Nam market through the provision of fodder demonstrations, livestock handling and weighing equipment, etc.

B. Grants Program

41. Output 1 will provide a limited number of grants for producers or small enterprises linked to the market assessment and opportunities therein. There are two types of grants: (i) producer and enterprise small grants; and (ii) strategic market chain grants that seek to provide a catalyst to overcome specific market chain bottlenecks or capture opportunities. The following section outlines the procedures for the grant programs.

42. Guidelines for the implementation of the grants will be prepared by the Agribusiness Specialist in the DOI LIC. The guidelines will vary in accordance with needs of the specific commodity or grant purpose. The guidelines will include: (i) selection criteria, (ii) accounting and auditing procedures, and (c) monitoring mechanism of activities. The guidelines will be reviewed and approved by ADB prior to disbursement. The accounting of grant awards will be through the accounting packages established in each Province which already have embedded in the chart of accounts, activities code structure. Disbursement guidelines are based on an initial advance and then the remainder of funds will be released in accordance with the guidelines and will include (i) site visits by the PPIT, (ii) supporting documentation for the purchases, (iii) processing of these by the PAFO financial management team.

43. The eligibility and targeting of grants is outlined in the following table. These criteria and conditions apply for all enterprise level grants within outputs 1 and 2 where required.

44. **General Features:** The PPIT Agribusiness Advisor will develop and implement the grants program for PAFO. The PSC has discretion to exceed the indicated funding limits by 15% based on the proposals received. If the PAFO requires an increase to the maximum amounts, it can seek prior approval with the PGT/ MAF and the ADB with a supporting document that clearly demonstrates the benefits to the Project outcome.

45. **General Grant Conditions:** All grants will be competitive, and all enterprise and producer grant applications must meet the following basic requirement: (i) Business plan that is both feasible and viable and must include: (a) statement of financial assets and liabilities; (b) financial analysis of the proposed investments; (c) cash flow projection for the proposed investment; (d) details of the source of funds contributed by the investor, and financing details for any loans; (e) technical assessment of the proposed investment activity; (f) risk analysis covering market, financial and production risks; (ii) Innovation or market added value contribution may also be included in the business plan. The full format of the business plan for each type of grant is attached as an appendix.

46. The use of a matching grant award system is proposed for all grants. Due to the application nature of the grants the administration of funds will be based on an initial advance of 30% and the remainder on presentation of supporting documentation, have a PPIT staff member confirm the presence and implementation of the grant proceeds that will be notified in writing to the DG PAFO. This will trigger the remaining grant balance to be disbursed from the Provincial subaccount.

47. Preferential support will be provided by the PPIT to female applicants and youth-based applicants especially for non-production grants.

48. Compliance with the government's environmental regulations is a condition. Specific conditions for the Enterprise Grants and the Farm Producer Groups grants are outlined in Table 11.

Table 11: Grant Eligibility Criteria

Conditions	Note
Enterprise Grants	
<p>1. Strategic Market Chain Grants: The purpose of these grants is to encourage investment in multi-user or multiproduct facilities that provide processing, packaging and storage services to a number of over the whole year (multi-purpose pack house model).</p> <p>Grant Amount: up to \$20,000 per investment. Only one (1) grant per business.</p> <p>Conditions: (i) Investor to provide at least 35% of the total planned investment; (ii) Viable business plan that includes the financial returns from the multiple use of the facility; (iii) market plan for the investors product(s) that includes a well-founded market</p>	<p>Farmer cooperatives are included in this category.</p> <p>Women entrepreneurs will be encouraged to apply. Women will also be encouraged to apply for small grants to develop village-based enterprises that provide services linked to value chain activities or are value adding.</p>

Conditions	Note
<p>analysis; (iv) Evidence of formal agreements with sector businesses partners to utilize the facility.</p> <p>Alignment with the regional economic corridors and market chain assessments is required.</p> <p>2. Small enterprise grants: The purpose of these grants is to assist the smaller value chains enterprises that face challenges accessing credit for investment in value adding equipment and for working capital.</p> <p>Grant Amount: Grants up to \$5,500. Only one grant per business entity allowed up to a maximum of 70% of total investment cost.</p> <p>Conditions: (i) Business plan that will follow the conditions outlined above; (ii) marketing plan that includes a market analysis based upon reliable data on product market demand.</p> <p>Non-Mandated: Higher weighing will be given to proposals that; (i) provide evidence of market chain linkages with subproject production systems including small processors, traders and collectors; (ii) include poor households as active chain members.</p>	
Producer Grants	
<p>Total Grant funding package per farmer group is up to a limit of \$5,500 per grant and up to a maximum of 70% of the total investment cost.</p> <p>Eligible categories are:</p> <ul style="list-style-type: none"> • New Irrigation or production technology equipment that offers a significant improvement • Shade or pack houses for out of season production <p>Conditions : (i) Farmer must use shade houses and irrigation equipment within the command areas or linked to command area production systems; (ii) Farmer grant funds are not permitted to be used for upgrading of irrigation canals.</p>	<p>Irrigation technologies include (i) water use efficiency, (ii) water use efficiency information systems, and (iii) labor savings through high technology</p>

Table 12: Roles and Procurement: Output 1 - Producer Group Grants

Activity	Responsibility
Producer Grants procedures drafted	PGT Agribusiness Advisor
Grant application documentation prepared and piloted	PGT Agribusiness Advisor
Producer group application review procedures defined, documented	PGT Agribusiness Advisor, PPIT Agribusiness Staff,

Activity	Responsibility
Producer Group Grant awareness and education program developed and implemented for each priority product group	PPIT Agribusiness Staff
Investment plan produced	PPIT Agribusiness staff
Applications reviewed for completeness	PAFO, Agribusiness Advisor
Producer group grant applications received	PAFO
Application evaluations	PAFO
Successful applications notified and publicly recorded on the web	PPIT Agribusiness Staff
Producer group contract award	PPIT Agribusiness Staff
Producer group members conduct own procurement for the items approved in their investment plan using a shopping modality for 3 quotations	Recipient
Producer group submit procurement invoice and supporting documentation to the PPIT who undertake a site visit to verify items and the quality of purchases or works	Recipient and PPIT Agribusiness staff
PPIT will submit a site visit report with recommendation for reimbursement of expenses to Planning and Finance	PPIT Agribusiness staff

1. **Strategic Enterprise Grants**

49. Output 2 also supports a limited number of larger strategic grants. Existing enterprises will be required to be aligned to the market assessments and product focus within the respective subprojects. PGT Agribusiness Advisor

Table 13: Roles and Responsibilities – Enterprise Viability Gap Grants

Activity	Responsibility	
Strategic Enterprise Grant procedures defined and reported to PSC	PGT Agribusiness Advisor	
Application process outlined, application formats and requirements agreed, and application	PGT Agribusiness Advisor	Not required
submission templates developed, supporting documentation agreed.		
Establish the parameters for range of the use of grants such as forward linkages to markets and backward linkages to suppliers and agents to ensure inclusiveness. Further, ensure the scope of the grants is defined within priority of the market assessment plans.	PGT Agribusiness Advisor	Not Required
Application evaluation systems and criteria defined with detailed procedural records, agreed criteria for ranking of proposals	PGT Agribusiness Advisor	Not required
Form an evaluation committee, provide information and awareness of the grant, its procedures and assessment	PPIT/Agribusiness Advisors	Not Required

Activity	Responsibility	
Conduct a public awareness campaign to potential enterprises of the grant program	PPIT/Agribusiness Advisors and staff	Not Required
Publicize the scope of the program in terms of the timing of applicants, the presence of a help desk service in PPIT for enterprises to contact and obtain technical support	PPIT/Agribusiness Advisors and staff	Not Required
Call of applications	PAFO/Agribusiness Advisors and staff	Not required
Provide a technical support service for applicants	Agribusiness Staff	Not Required
Provide training sessions for potential applicants	Agribusiness Staff	Not Required
Receive and Review applications and copy to the review committee in the forms of a business plan and supporting investment proposal	Agribusiness Staff / PAFO/ PSC	Not required
Review committee results are summarized, and a recommendation provided to the PSC/PAFO	Agribusiness Staff / PAFO	Not required
Successful applicants publicly notified and posted to web	Agribusiness Staff / PAFO	
Applicants negotiate contract with PPIT		
Enterprise applicant proceed with procurement and implementation of business plan proposal using at least RFQ quotations as applicable		Government systems
On completion of works or as per contract the recipient will invoice the HLS/PMU for project share of costs. Note: Applicant must provide necessary transaction record documentation from quotations and purchase order invoices and statements under the name of the supplier, specification of procured goods, works and or services		
Works site inspection Note: Site inspection team will verify expenditure and compliance with business plan, it will ensure that the enterprise has contributed its own resources through a documentation and financial record check. The team will provide a recommendation to the PAFO	PPIT Agribusiness advisor	
Recommendation for reimbursement of cost	PPIT	PAFO provide a recommendation for payment of the enterprise invoice based on the site visit inspection, a review of documentation to ensure compliance with all required supporting documentation

Activity	Responsibility	
		and compliance with conditions of approval.
Payment of invoice	PAFO	Via Sub-account

C. Technology Demonstration Funds

50. SRIWSM will support the demonstration of new and modern technologies as a means of increasing both water and labor productivity within the irrigated agriculture sector.

51. These technologies will be based on (i) digital technologies that reduce labor input, and increase the precision of water user, (ii) support the integration of irrigation with nontraditional cropping systems such as out of season production under shade or rain cover, the use of trickle irrigation of command area margins for high value fruit crops and along irrigation infrastructure to establish permanent land use such as horticultural tree crops as a means to stabilize and protect irrigation canals.

52. Specifically the project is providing support to the four representative subprojects to demonstrate technology relating to:

- (i) phone based control of gates – these may be offtake gates to avoid flood flows, they may be control gates within the command area to management water distribution to reduce the labor cost of scheme operation.
- (ii) Integration of phone based water control (including pipe offtake lines as in Nam Poua or distribution canals as in other RSP) with soil moisture meters to deliver irrigation water that is not surplus to demand
- (iii) The integration of solar pumping, header tanks and trickle/spray irrigation systems with covered out of season production that enables existing HVC producer to extend their production seasons into higher price periods of the year and also to increase quality control functions. The systems here would enable phone based control of irrigation linked to soil moisture meters / tensiometers such that the daily labor requirement for water management is minimized.
- (iv) The use of modern technology (solar pumping and trickle based irrigation to support HVC crops outside of the irrigation command area including the stabilization of land use adjacent to canals and headworks through irrigation of high value perennial or semi-perennial tree crops.

53. Access to these funds is based on water user demand and then the technical support from the SRIWM PAFO teams and LIC. A total of \$275,000 is budgeted for each representative subproject site only.

54. Each demonstration will be discussed and designed with WUGs with the international and national water resource management experts providing oversight and planning of the proposed demonstrations. The design will be provided by PIS in PAFO at no direct cost to the demonstration fund, while any procurement will be undertaken by the PPIT in conjunction with the land user. No land use or labour costs will be financed. The host of the demonstration will have the advantage of regular technical input and access to the potential benefits.

55. A demonstration site will not exceed 0.4 ha and needs to be sized according to labor availability and the need to control technology. O&M input to the demonstration will be by the land owner, according to a detailed demonstration plan agreed with the LIC and PPIT staff. Monitoring and technical support will be provided for the first two years of operation after which the equipment and or facilities will transfer to the land owner. The demonstration sites these must be within the RSP command areas or hydraulically linked to the command area. Each site will develop a land owner agreement, a supporting memorandum of understanding, and detailed implementation plan that is agreed by the water resource management expert, the agribusiness experts, head of PIS and the DDG PAFO.

56. Each site will have a detailed farming systems performance monitoring system that includes biophysical and soil fertility characteristics, costs of capital, water use and soil moisture records from tensiometers for the production season and non-production season, crop productivity, labor demand, and financial performance. All data will be available for sharing with local farming groups either from within the command area or from nearby irrigation systems. PPIT will organise demonstration days during crop establishment, crop growth stages and then at harvest time to introduce the achievements to other farmers.

D. Investment Master Plan Preparation

57. Funds are included for the preparation of a sector master plan with supporting investment program. The SRIWSM will work with the EA to (i) finalise the draft terms of reference appended to the PAM, (ii) contract the required research or diagnostic studies, (iii) support the processes for prioritising options and the structuring of the proposed investment plan. MAF will form a cross subsector working group that will be provide oversight and guidance to the PGT in the conduct of the program. The output will be required to support the proposed financing of a multi-tranche program that addresses the agreed priorities and will in some instances be implemented by agencies other than DOI or even outside of MAF.

58. The master planning will be led by the MAF task force under the coordination of the DOI Planning Unit. SRIWSM will provide support for research and data analysis that will be identified by the MAF task force and then procured through SRIWSM – DOI PGT. The LIC Team Leader will provide technical support to the DOI Planning Unit unless an alternative arrangement is requested by MAF, ADB or the National Steering Committee. The DOI Planning Unit and the LIC Team Leader will ensure that work is completed within 20 months of project effectiveness by ensuring that contracted studies and the supporting processes are maintained and completed according to the timelines in the contracts. Responsibility for the production of the final plan is assigned to the MAF task force attached to the DOI planning unit.

E. GAP Quality Assurance and Farm Extension

59. Instituting quality assurance systems is also part of Output 1. The Project will develop a quality assurance system that is based upon LaoGAP. Implementation of LaoGAP will require PAFO to be assisted by the Department of Agriculture in MAF including the plant protection center for providing training in pesticide reduction and supporting IPM activities if pest surveillance indicates this need. This will include farmer and trader training in LaoGAP and compliance with the regulations. The project is providing \$18,000 per WUA for LAO GAP training over a 3-year period and a further \$27,000 per subproject for support WUGs for farm based extension programs including training.

60. The LIC Agribusiness Advisers will assist PAFO with quality assurance system implementation by working with safe vegetable retailers, and their customers, to recognize and accept LaoGAP as reliable safe food quality standard. These retailers will have been identified in the market assessment.

61. Farmers will be supported to plan their dry season farming to better align with market demand for HVCs. The dry season cropping plans will involve water scheduling plans that will be prepared with the WUG/WUA. The farmers will also be assisted with new technical production techniques and knowledge, and specialized input will be mobilized for this. Included with this will be the need to address the risks arising from intensification and the use of agrichemicals. Under the LaoGAP program there is a requirement for safe food which will mean knowledge of pesticide reduction techniques. LaoGAP is implemented through the Department of Agriculture with the Lao GAP standards approved as part of the ASEAN GAP standards under the ASEAN Economic Community 2015 Agreement. These standards include (i) adoption of food quality standards linked to identified market requirements, (ii) food safety standards including residues and handling, (iii) Environmental protection including agrichemical management and nutrient management systems, and (iv) occupational health and safety requirements.

62. The LIC Agribusiness Advisers, PPIT Agribusiness staff will mobilize resources to support programs for farmers in designing production plans based on market demand and prices. This data will initially be from the market assessment, and then from the Market Information Application and other sources.

63. Farmer-to-farmer extension for production knowledge learning will be supported along with the mobilization of existing programs from the Plant Protection Center for pesticide reduction training. Other short-term technical specialists may also be contacted e.g for in-field irrigation technologies. Farmer skills development will commence in Project Year 2 (2021) and the farmer-to-farmer extension will target the least experienced dry season irrigation farmers. The more experienced DSIA farmers will be provided with more advanced technical advice as required over the subsequent two seasons that if required integrates IPM Farmer Field Schools in their training.

V. OUTPUT 2 ARRANGEMENTS

A. PLUP Planning

64. In Xiangkhouang and Houaphan, the respective PPIT will be responsible for PLUP planning for up to 37 villages in the nine catchments linked to the output 3 subproject command areas. Each PLUP will be funded as a lump-sum of approximately \$3,000 that will cover all costs of staff and the associated processes. Implementation of the land use change programs will be through the usual planning and procurement systems as described in the Procurement Plan. DALAM will be required to monitor the land use change activities on a quarterly basis as an input to the finalization of the community agreements in terms of establishing temporary land use certificates for village land and individual land titles for production land that is maintained. PONRE will issue land titles as part of the wider PONRE MoU that details services and fees for services that PONRE will deliver to SRIWSM.

65. Output 2 will be implemented in Houaphan and Xiangkhouang provinces only and the scope of the investment is defined by the number of PRI subprojects that is currently expected to be nine (see Table 2 for the proposed processing batches and the timing of these and Annex 1 for a summary of each of the screened PRI subprojects). The program seeks to update land use plans for communities within the PRI catchments that will identify areas of land use that are

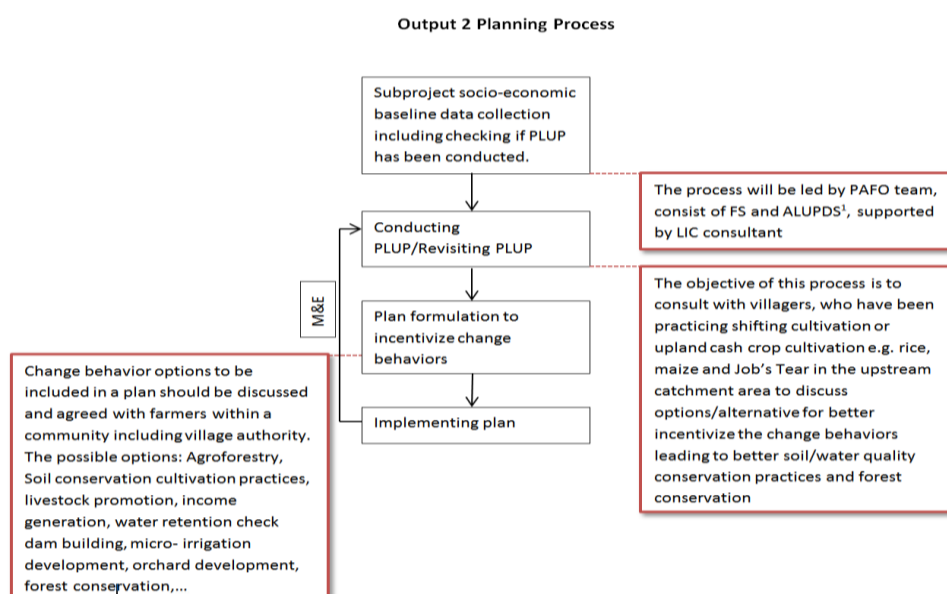
inconsistent with soil and water protection. Through the process of planning, specific land uses that are inconsistent will be identified and options for offsetting or incentivizing land use change will be identified and supported to complete the land use change. The Output 2 description for Nam Tong Catchment is presented in Supplemental Document – Output 2 Design Document.

66. As subprojects are identified and then confirmed within the annual PPIT work plans, the PPIT will also initiate the upper catchment planning process that will be included in the same annual work plan. Within PAFO, the staff of DALAM and Forestry Section and Land Use Planning Department (FSALUPD) will be responsible for the planning of the catchment and its land users. PAFO will be resourced in lump-sum arrangements consistent with current charges for other PLUP planning processes. The funds will be advanced at 70% in advance and 30% on provision of their final report.

67. The process will include the team of trained land use planning staff and addition staff from livestock, forestry, agriculture as required. The land use planning team will initiate socio-economic baseline data survey supported by the LIC consultant to confirm the number of villages, households and population. During the planning process, the planners will work closely with villagers to identify inappropriate land uses, options for offsetting the land use through incentive for land use change including local households and what options that can be identified through a process of household and community/village level negotiations that conclude with a community agreement that identifies who will change, what land use behaviours will change to what preferred options, and the required inputs and how these will be delivered and monitored. A core part of the community agreement is to move land from exploitative use into the revegetating forest category.

68. The PLUP will be the basis to initiate the implementation of this output. Where PLUP already exists, the team will review and update the plan and then extend the planning into the behavioural change program. Where plans do not exist, new plans will be prepared along with the supporting land use change program. The detailed implementation process is presented in Figure 5 below.

Figure 5: PLUP Planning Process



B. Land Use Change Investment

69. The identification of alternative activities that project could support to incentivize the change behaviour is the key question to discuss with villagers. The possible options are agroforestry, soil conservation cultivation practices, livestock promotion, income generation, water retention check dam building, micro-irrigation development, orchard development, forest conservation. Where community agreements are in place and the land use change is successfully implemented along with the proposed changes being maintained, the village is eligible for land use titling as an incentive to maintain their resources. The Project will provide additional technical assistance for land use management and community agreement development within the Xiangkhouang PPIT.

70. Procurement for Output 2 land change activities will be defined on the proposed land use change programs as part of the PLUP approval. The approval process will require PLUP to be ratified by the village leadership, approved by the District Governor, and Provincial PAFO.

71. Once approved, the land use change program will be included in the annual work plan for the project and then implemented. It is important that the PAFO DALAM Land Use Planning teams initiate the PLUP processes for all catchments within the 3rd quarter of Project year 1 such that the above planning system and the required approvals will be completed within 12 months. The land use change programs will not start before project year 3 and will require 3 years to implement. Any PLUP not approved by the end of the 2nd quarter of project year 4 will not be eligible for funding from ADB. All procurement will be through the ADB procedures in the procurement plan mostly using request for quotations systems due to the size of packages. The exception will generally be works packages over about \$100,000 that will use open competitive bidding (OCB).

C. Catchment and Land Use Behavior Change Studies

72. The catchments of Louangphabang and Xaignabouli province subprojects are both large and often involve a complex array of current land uses that are organized within equally complex land use arrangements and institutional settings that are both formal and informal. These complexities add significant challenges to achieving effective land use change and provide challenges far more complex than being addressed through community based land use planning principles within the PLUP process.

73. In Louangphabang and Xaignabouli provinces these catchment issues are increasingly widespread with current policy and regulatory frameworks seemingly unable to address inappropriate land use in an effective manner. The SRIWSM seeks to develop a deeper understanding of these issues with the purpose of informing future policy and investment decisions including the likely costs and trade-offs required to achieve more sustainable land use with sustainable ecological services.

74. Two such catchments – Nam Nan in Louangphabang and Nam Pouy in Xaignabouli will be part of land use research pilot studies. The project has budgeted for the two studies – to be either contracted collectively or individually with a total budget of \$360,000.

75. The purpose of these pilots will be to understand the requirements of achieving a land use behavior change outcome that supports the long term sustainability of land use in the two catchments including:

- (i) Detailed assessment of current land use by season
 - (a) Detailing existing land use by site and season
 - (b) Assessing the appropriateness of land use and its compatibility with sites in the catchment
 - (c) Identifying sites within the catchment where current land use is identified as inappropriate
 - (d) Prioritizing land use change (LUC) in the catchment area
 - (e) Establishing a remote sensing monitoring basis for these sites.
- (ii) Detailed assessment of current land users
 - (a) Identification of landowners – both state, community and private sector through the land registry
 - (b) Identification of local land use right holders
 - (c) Identification of land users – with both formal and informal rights and the natures of the contractual relationships
 - (d) A series of case studies of each land use type within the zones prioritized for LUC
 - (e) A spatial linkage map of land user use of catchment resources and the role of catchment land use in wider household or commercial activity i.e, the linkage of upland and low land systems
 - (f) A clear understanding of labor allocation and use within the catchment by land use type and season
 - (g) Development of commercial returns to land use in the form of gross margins by land use and site, gross margins to be prepared for the land use controller and will include returns to labor and landowners where these are separated by contractual arrangement both formal and informal
 - (h) A typology of land use behavior change strategies ranging from (i) awareness, (ii) community programs including social and economic support programs, (iii) possible direct and indirect incentive systems, (iv) regulation and controls to support (i) to (iv) above.
- (iii) Institutional and Policy Context
 - (a) Consolidate the current institutional framework for land resources, forestry, water and other natural resources
 - (b) Identify relevant regulations and their current status
 - (c) Identify contradictions in current land use with the existing institutional structure
- (iv) Identification of land use change program requirements
 - (a) including combination of strategies,
 - (b) sequencing of activities and
 - (c) the identification of whose behavior, and which of their behavior is to be changed
 - i. note this will be by priority site,
 - ii. may include several disparate or overlapping groups within each priority site
- (v) Proposed Land Use Change Program and Investment Plan
 - (a) The conclusion of the pilot is to define what land use change is envisaged and considered viable. This will include:

- (b) where change is prioritized, how change will be achieved, the risk of not achieving change, the investment required for change, the critical success factors i.e., the need for compliance and monitoring along with incentives etc.

A detailed investment plan along with implementation schedules and monitoring baselines linked to remote sensing.

D. Unexploded Ordinance

76. All subproject sites need to be certified clear of UXO before any project activities can be undertaken. Each Provincial Governors Office will be required to provide a Government declaration to this effect. It is assumed, but not certain, that existing command areas are cleared of UXO, however in Xiangkhouang output 2 for catchment works there will need to be clearance due diligence. All UXO will be the responsibility of the government through the National Regulatory Authority for UXO / Mine Action Sector in Lao (UXONRA). Te UXONRA requires a 12-month planning window for any clearance work and as such each Province should notify the UXONRA before March 2019 that their subproject sites need clearance.

VI. OUTPUT 3 ARRANGEMENTS

77. Under Output 3, PPITs will assign responsibility to PIS for detailed designs and the subproject design report based on the procedures in the terms of reference in Annex 5: Table of Contents for Design Feasibility Report of PAM. PIS will be responsible for designing to the specifications identified by the water resource management experts in terms of water demand for proposed crops. The design team must provide direct evidence that the WUG and water user associations (WUAs) have input to the design requirements prior to the preliminary design and must address (i) within command area access, (ii) water management and control in the command areas that enables the water scheduling to be achieved, (iii) alignments are responsive to existing plot boundaries, residential areas, and other infrastructure, (iv) addition PRI is included in the designs including road upgrades, bridge or access, etc. that is prioritized within the Social Impact Assessment (SIA). If the additional subprojects' SIA priorities are not responded to, the subproject is NOT ELIGIBLE FOR FINANCING. Further, any road access with loose aggregate or laterite surfaces is not to be financed from ADB.

78. Specific attention will be paid to the requirement of women and technologies that save time including access and use of piped irrigation, automated systems for accessing water including the use of phone or internet-based control systems, the inclusion of trickle spray or drip systems that do not require full time presence in the command area when water is available. The PPIT Gender focal point will ensure that the PIS design team respond to the social needs of water users, especially women.

79. PIS will provide the final report for the subproject design and submit this to the PSC for review and approvals. The head of the irrigation section is to be accountable for the completion of the SIA, the IEE and LARP according to the requirements of the loan agreements and this PAM. Subprojects will need to demonstrate detailed operational and maintenance costs and will not be eligible for funding if the Irrigation Service Fee (ISF) cannot support these costs.

E. Subproject Eligibility Criteria

Table 14: PRI Subproject Eligibility Criteria

No.	Eligibility Criteria
1.	National Strategy. Be consistent with Government's strategies and policies.
2.	Socio-economic Relevance. Be consistent with medium and long-term socio-economic development plans at the provincial and district levels.
3.	Effectiveness. Have relatively simple and logical designs within one continuous command area.
4.	<p>Safeguards Compliance. Comply with Government and ADB safeguard guidelines and involve a minimum of negative environmental, IP and resettlement impacts, i.e. only ADB Safeguard Category B or C will be considered.</p> <p>Preference where works are maintained within existing footprint or right of way to minimize land acquisition costs to Government.</p>
5	Location 1: Subprojects must be located in rural areas where the majority of beneficiaries are likely to be dependent upon agriculture for their livelihoods
6	Location 2: The subproject must not be located in any area where a major development, such as a new hydropower scheme, a mine, major land concession, or a Special Economic Zone, is planned.
7	Commitment: There must be demonstrated local commitment to the subproject with confirmation by beneficiaries (inclusive of women and ethnic groups), participating kumbans, and district authorities to that effect, including a confirmed willingness of beneficiaries without adverse impacts to voluntary release land for the project in exchange for the direct benefits the project provides
8	Financial Scale: The estimated cost of the subprojects must be in the range of \$0.7 to \$2.0 million (with any exceptions specifically justified)
9	Financial sustainability: Based upon the estimated O&M costs, irrigation service fees (ISF) will be established which meet the O&M requirements. Members of WUG/WUAs will be required to pay the ISF in accordance to the water consumed by the individual member where metering is possible, or as a group.
10	All proposed subprojects will include more than one type of PRI infrastructure
11	Social Conflict – no significant social conflict in the watershed that will delay investment
12	No Pumped schemes
13	Improved Resource Utilization. Prioritize the sustainability of assets through WUG or Provincial government to commit to support periodic maintenance through written assurance. Existing WUG operating, PAFOs/DAFOs to obtain written agreement of each stakeholder prior to the field visits.

PRIORITIZATION		Ratings
1	Prioritization Criteria	Condition of Scheme. Ranging from: (i) upgrade with repairs and improvements; (ii) major repairs, such as new headwall, sidewall; (iii) reconstruction of a failed structure; and (iv) new construction.
		5 for upgrade 3 for major repair 1 for reconstruction 0 for new construction
		Land use plan established.
		3 for established and partially implemented 1 for established
2		Irrigation Command area >30 ha – potential if not effective
		3 for >75ha, 2 for 50 to 75ha and 1 for <50ha
3		Integrated Approach. Follow an integrated development approach on rehabilitating existing PRI to optimize productivity and increase efficiency while ensuring improved sustainability through catchment management.
		3 for catchment and PRI (>3types) 2 for catchment and PRI 1-3 types 1 for other
		Catchment based risk to infrastructure linked to catchment condition – extent of bare land or deforestation
		3 for catchment with minimal degradation 2 for land conversion 1 for significant deforestation 0 for major social conflicts
4		Improved Access to Markets. Be centred upon irrigation systems, with road, trail and path upgrading that lead to improved access within the command area and connect the command area and villages to the higher order road network.
		3 within 20km of arterial 2 within 20 to 40km 1 >40km
5		Leveraging other investment. Potential to complement other ADB investment projects particularly livestock and tourism projects. Demonstrable productivity gains identified
		For complementary projects valued at: 3 > \$1M 2 > \$0.5M 1 > \$0.1M
6		Water user group (WUG) established and functioning
		3 - have evolved to water user association. 2 – WUG functioning 1 – WUG established but weak

A. Fish Passage

80. All 14 additional subprojects will be assessed for the potential benefits of incorporating fish passes into river weirs and headworks. Where a new weir or headworks is to be constructed (including the replacement of existing structures) all designs will incorporate provision for fish passage. PAFO - Irrigation Section management will ensure that these subprojects are assessed by LARREC which will assess site requirements, local fish species and their passage needs and provide indicative designs to the PIS engineering section for inclusion in their detailed design of structures and cost estimates.

81. ADB will finance (budget provision \$225,000) these incremental costs for site based assessments and needs along with the cost of the fish passage ways for up to nine passages (at an incremental cost of \$25,000 each) structures being two in Louangphabang, three in Xiangkhouang, three in Houaphan, and one in Xaignabouli. If required, additional inputs will be

financed through the additional subproject financing line to be accessed through the detailed engineering design process.

82. To support the institutionalization of fish passage within irrigation and flood river structures the Project will finance the training and mentoring of engineering design staff within the Provincial Irrigation Section of PAFO in the (i) assessment of fisheries needs through instream surveys, community consultation, and wider fisheries data sets, (ii) identification and defining the fish passage needs of local species including the specific design needs to be integrated within a fish passage to increase effectiveness, (iii) engineering design input to fish passage – setting the appropriate standards, and design specifications for specific fishery needs, (iv) construction oversight, (vi) fish passage monitoring.

83. A budget line (USD 240,000) is included specifically for this training that will be organized by PAFO with assistance from the Project Management Advisor to ensure the participation of LARREC and their technical assistance provided by ACIAR. It is envisaged that the project will cost share the training with the Project financing participation, field costs and resource materials. ACIAR will design the course and ideally have the course acknowledged as a formal accreditation. ACIAR participation is envisaged to be provided through their budget but this needs to be confirmed.

B. Proposed Fish Passage Masterclass

1. Proposed Participants

85. This course is designed for biologists, engineers and natural resource managers who are responsible for implementing effective fish passage programs for upstream migrating fish. The course will largely focus on the challenges of providing upstream fish passage at irrigation infrastructure, with particular focus on Laos. The SRIWSM project will support the PIS irrigation engineers to complete the course along with in-field mentoring during planning, design and construction as well as operational efficacy reviews.

2. Learning outcomes

86. After completing the course the PIS engineers are expected to be able to:

- (i) Have an improved understanding of migratory fish ecology
- (ii) Understand the principles of fishway design
- (iii) Develop a range of fishway concepts for a given site
- (iv) Critically select an appropriate entrance location; understanding good and bad designs
- (v) Critically select an appropriate fishway design
- (vi) Understand good and bad construction practices and oversight

3. Main Learning Modules

- (i) Module 1 Introduction: This module will provide a fundamental grounding in what fish passage is and the engineering process to follow, including fish passage ecology and river hydrology.
- (ii) Module 2 Preparing for Fish Passage Design: This module will focus on the two main areas of fishway design; (a) Developing knowledge on target species (b)

Identifying the location of the entrance. There will be a distinct focus on students preparing design specifications for a fishway in their home country.

- (iii) Module 3 Developing Fish Passage Options: This module will focus on the many different fishway types available, their advantages and disadvantages, how to select the right one for a given location and basic criteria methods for sizing them to a site. Students will be required to design their own fishway customized to a site of their choosing.
- (iv) Module 4 Construction: This module will provide a grounding in construction oversight and contractor management. The principles of good construction will be introduced and the importance of inspections, along with the ability to understand how to negotiate variations that do not limit fishway effectiveness

4. Overall goal

87. Upon completion of this masterclass all students will have a grounding in the basic fundamentals of fishway design, the various options available and how to make an effective and efficient design. Additionally, for the sites evaluated in class, students will have selected and performed the initial design of a fishway. Utilizing the information gained in class, students would then use the principles of each module to (1) prepare, (2) design, and (3) construct a fishway in Laos.

C. Representative Subprojects

88. Due diligence and subproject preparation (including detailed engineering design) for four RSPs was completed during project preparation. These include small riparian zone schemes typical of many FNP irrigation schemes being (i) Nam Pua in Houapahn that is an intensively cropped command area of 70ha, partially cropped with high value crops in the dry season using furrow irrigation and plastic mulch, and (ii) Nam Tong Xiangkhouang, a cascaded series of weirs supporting riparian zone command areas that currently produce wet season rice but is mostly own grazed stubble for the dry season. A new command area in Nam Seng Louangphabang that develops an additional 265 ha of irrigation for wet and dry season cropping within an existing undeveloped scheme. Updated command area water control infrastructure on a large wet and dry season cropping irrigation scheme that will provide additional choices to grow new crops including green soyabean in Nam Phieng 1 and 2 Xaignabouli (subproject design reports available on request). Training will be provided on integrated pest management and the application and handling of agrichemicals as appropriate to the crops.

D. Additional Subprojects

89. The following table presents a summary of additional PRI subprojects by province which indicates the number likely to be implemented in each province. Each year, each province is expected to design one additional subproject and implement the subproject designed in the previous year. Details of each subproject are presented in Annex 1 – Summary of Priority Subproject Shortlist.

Table 15: Number of PRI Subprojects by Provincial Implementing Agency

Province	RSP (No.)	ASP (No.)	Est Cost (\$mill)	Command Area (ha)	Villages (No.)	Households (No.)
Houaphan	1	3	3.0	552	23	1,756
Xiangkhouang	1	4	3.1	1,012	14	979
Louangphabang	1	3	4.9	1,111	59	1,683
Xaignabouli	1	4	2.7	1,546	24	1,975
Total	4	14	13.72	4,221	120	6,393

ASP = additional subprojects, RSP = representative subprojects

5. Processing Additional Subprojects

a. Approach

90. The SRIWSM will use a modified detailed design process rather than the previous process of a feasibility study followed by a detailed design process due to (i) the cost, and (ii) the elapsed time to conduct and get approval for both studies and the resultant delays. All engineering design and survey work for the additional subprojects (ASPs) will be provided by the PIS or Provincial Public Works and Transport Department for non-irrigation infrastructure. The project preparation findings are that there is adequate technical engineering capability within each Province. The major gap is the ability to identify needs-based PRI requirements i.e., what is to be designed and the decision process by which this is decided as opposed to technical design input.

91. The preparation of the DED's and supporting subproject feasibility study (FD) will be included in the project annual work plans for the PIS according to the implementation schedule. At the provincial level this schedule will be used to form a work plan for all ASP designs according to the prioritization (see Annex 1). The Head of the PIS will have the responsibility for PRI subproject designs and will report monthly to the PAFO DDG.

92. Processing of ASPs will be undertaken in two batches. Batch one includes the 4 RSPs. Batch two will include 2 ASPs per province to be designed in Project Year 2. For Batch three in Project Year 3 Xiangkhouang and Xaignabouli provinces will have 2 subprojects to process whilst Houaphan and Louangphabang will have 1 ASP to design. All subprojects that are to be financed by ADB need to have approved designs by the end of Project Year 3 if they are to be implemented using ADB financing.

93. The SRIWSM midterm review (MTR) is scheduled in March 2023. If any province is unable to achieve the required time lines, funds assigned for that Provincial program will be recommended for reallocation that will be agreed and documented within the MOU, and any reallocated funds will still require an approved design before mid-year 4.

94. ASP preparation will be undertaken by PAFO staff with the PIS leading the DED for the prioritized list of ASPs (see Annex 1). The design process will be initiated by the DDG – PAFO and the Head of PIS - who will establish a subproject DED and FS team from within PAFO, assigning expertise from the different sections (Annex 3: Terms of Reference for Detailed Engineering Design). An important requirement is to ensure all maps, drawings are georeferenced and include the entire scheme including beyond the command area and that these are integrated with an up to date cadastre map.

95. The first step is to conduct water users interviews and then consult WUGs, the private sector, and agricultural specialists. From these consultations, the agribusiness advisors from the PGT will work with the agribusiness contracted staff position in each PAFO to conduct rapid

market assessments and develop a market linkage plan. Based on the water user consultations and the market assessments, potential farming systems and cropping patterns will be prepared in consultation with WUGs.

96. Concurrently a hydrological assessment will be made including the gathering of supporting meteorological records, flow data, historical irrigated areas, farmer indication of high and low flow records data. A summary hydrological model will be developed and included in the design as part of input to water scheduling to specify available water. Note the specification of Q_{max} is important in terms of a P1 (1 in 100 yr exceedance frequency – based on the historical record) estimate which is used for all in stream structures and canal offtake protection works. Q_{min} or minimum flows are required to ensure the conditions of the EARF and the environmental minimum flow rates are observed.

97. Where the expected off take will result in the environmental flow rates falling below 30%, PONRE must be asked to review the hydrological records. It is important to note that the Q_{min} flow rates may have little relevance to the cropping pattern and water offtake unless the timing of Q_{min} coincides with the irrigation schedule for the crops. In most case minimum flow rate occurs significantly after the last irrigation for the first dry season crop. As such the shape of the recession hydrograph and the timing of the last irrigation within the recession phase is the point at which the minimum environmental flow should be estimated. Crop choices, sowing dates and water deficit irrigation systems can be used to moderate the effects of dry years, and the IWMI flow research suggest a high correlation between the flow rate on November 1st and the likely flow rate through the dry season. All subprojects will be required to have gauge plates installed and monitored in a 14-day sequence for recession phase on the wet season monsoon flow throughout two dry seasons and with a record within 5 days of the November 1 indicator date. Delaying the start of gauging adds a risk that the design will not be completed before the end of year 3 deadline, or subproject delays will be apparent at the MTR risking the loss of capital from the province. Advance actions by the Head of PIS for all provincial subproject is needed.

98. LIC Water Resource Management consultants (two teams one based in each of LPB and XK but covering two provinces each) will work with the PPIT and WUGs to develop a final water use plan, estimate water demand and prepare a minimum requirement for water scheduling during the dry season. These minimum requirements will specify the required operational performance to be addressed by the engineering design team. Should these not be achievable throughout the command area, a design meeting to discuss options will be held with WUGs, the water resource management consultant and the design team to identify options.

99. This will ensure that WUGs, agricultural experts, and water resource expertise are involved in the design process to ensure water needs are clearly established prior to the irrigation design engineers finalizing their design assumptions. The Head of PIS will be responsible to ensure the design responds to modern water user needs according to the agreed water scheduling.

100. Equally important to the design process is the need for safeguard due diligence as outlined in the REMDF, the EARF, and the economic due diligence. The PPIT leader will assign a staff from the PAFO Women's Advancement Unit to the gender focal point role, and other staff for social safeguards and land acquisition roles. Environmental considerations will be assigned to PONRE under an MOU between PAFO and PONRE and ratified by the Provincial Steering Committee. Production of safeguards documentation will use the support of the PGT contracted service providers and the experts in the LIC.

101. The first step in the design process will necessitate PAFO to clearly establish water availability and current water use and to define the flow rates available for the proposed subprojects to ensure a feasible subproject can be designed. The hydrological summary will need to be signed off by DDG PAFO and PONRE. Where water is limited in the dry season, a clear estimate of the area to be irrigated is required.

102. The water user needs for each additional subproject will then be used by the DDG PAFO as the scope of technical work for the Head of PIS and the DED teams. Once water user needs are established, the Head of PIS will establish and negotiate a work plan for the DED based on the required consultation process included in the terms of reference (Annex 3: Terms of Reference for Detailed Engineering Design). WUG member consultations including both men and women from each household, a combined PIS – Water Users command area walk-through to identify access and needs for water control structures, topographic and cadaster mapping overlaid with the design layouts will be carried out. The DED team is required to reflect WUG needs in their preliminary designs and obtain a WUG sign-off of the preliminary design through a consultation process. Without this sign-off, ADB will not endorse the design or finance the subproject.

103. All subprojects that work on in stream headwork structures that impound flow will be required to include fish passages within the design. Examples of fish passage design have been prepared and included in the Xiangkhouang representative subproject design. Where necessary, PAFO will obtain technical input and review of fish passages from LARAC who will participate in the design and the construction process to ensure the integrity and appropriateness of structures.

104. The irrigation staff have the skills sets to complete DEDs, although additional equipment for survey and flow rate assessments is necessary. PRI Subproject FS reports will necessitate inputs from (a) social assessment survey teams, (b) LIC environmental specialists will screen the additional subprojects, confirm environmental classification and prepare the necessary safeguard documents, IEE/EMP for Category B subprojects and due diligence report and Environmental Code of Conduct for Category C subprojects, (c) PGT contracted SIA and resettlement and land acquisition contractor, and an (d) LIC economist (Annex 2: Terms of Reference for Loan Implementation Consultant).

105. DED (drawings) and contract documents will be in Lao language to suit the local contracting industry. The requirement for English documentation while reduced within the OCB procurement system is retained for safeguard documentation, and procurement evaluation reports and, also project progress reporting. Past projects have used local English speakers to address language issues, however, the volume of work and the technical nature of the language in safeguards and procurement is problematic. To overcome this, SRIWM will procure a project-wide service provider for translation services for all PPITs. Where prior review or post review (sampling) is required, this facility will be essential as all bidding and contract documentation will need to be translated into English for ADB review. While the cost of this may be higher in direct terms, the saved costs of reduced delays from repeated editorial comments prior to approvals justify.

106. PAFO, via the PPIT, will receive a lumpsum payment for each DED amounting to USD16,000 which will include all costs of field work, staff allowances, drawings, bill of quantity and cost estimates, associated administration, approvals and fees. The fee will be disbursed 50% in advance, and 50% on receipt of the approved and final design with supporting safeguards, hydrology and economic assessments.

107. The project would if needed provide additional resources to the irrigation section (a) equipment for field survey and hydrological measurement, (b) higher capacity laptops while cost of operations is covered by the PPIT operational budgets.

6. Subproject approval

108. Subproject approvals processes will involve the following steps:

- (i) PONRE review of the hydrological assessment when the environmental flows decline below 30%.
- (ii) PONRE review and approve IEE and EMP and issue environmental compliance certificate.
- (iii) ADB Approve of IEE and EMMP within 20 working days.
- (iv) PAFO review and approval of LARP.
- (v) ADB approval of LARP within 20 working days.
- (vi) ADB no objection of the DED report.
- (vii) DED report with supporting due diligence reviewed PAFO, Provincial Technical Departments, and DOI PGT technical deputy (within 20 working days).
- (viii) PAFO submit the design report to the Provincial Steering Committee for approval.
- (ix) Public Disclosure of the LARP and IEE on ADB website in Lao and local languages and on the village information Boards.
- (x) PSC approves the subproject design.
- (xi) PAFO proceeds with procurement of contractor.

7. Procurement

109. The procurement will be undertaken by the procurement team established within the planning and finance section of PAFO with responsibility assigned to two staff assigned to the PPIT that have participated in the project preparation training. No PIS staff are eligible to work with or inside the procurement teams.

110. Two staff have been identified within PAFO during project preparation and these have been trained and mentored in the preparation of the Procurement Plan and supporting bidding documents. These staff should have had exposure and ideally some experience. It is recognized that staff in PAFO at this stage do not have extensive experience in procurement, therefore technical support will be provided in the form of training and mentored learning by doing, starting with the RSP procurement planning and documentation preparation using the project readiness support program. Ongoing technical support will be required through the PGT and the LICs.

111. The procurement team will be responsible for implementation of the procurement plan as per the PAM which will include packaging for ASPs, preparation of all procurement documentation for approval by the DG PAFO. The positions need to be government staff. Contract staff or consultants will not be used for these roles as neither has been proven to be successful at building the capability required for the proposed move into a programmatic approach.

112. The steps include:

- (i) Preparation of bidding documents by the Procurement staff.
- (ii) Review of bidding documents by PPIT and PGT procurement experts.
- (iii) Preparation of the RFP and submission of bidding documents and RFP to the Provincial Procurement Committee (PPC).
- (iv) Advertising of the RFP by the PPIT.
- (v) Receipt of proposals by the PPIT.
- (vi) Meeting of the Evaluation sub-committee of the PPC
- (vii) Final Evaluation results reviewed by the PSC
- (viii) Contract negotiation and award by the PPC
- (ix) Contract signing (PAFO DG)

8. Construction Supervision

113. Construction supervision for all PRI works will be assigned to the PIS who will appoint staff; refer Annex 6: Construction Supervision Guidelines. Staff allowances, etc. are included in the construction supervision budgets which will be disbursed based on the provision of the agreed reports with supporting photographic evidence of the log books during each visit.

114. The government cost norm of 2% capital value is not applied for government staff as this cost norm assumes a private contractor, whereas under the SRIWSM, all Government staff salaries etc. are paid by Government. For the first three construction seasons, LIC will mobilize a construction supervision expert to audit and oversee the supervision works. Supervision by PIS will also include the completion of environmental and LARP monitoring checklists. Supervision shortfalls and failures will be addressed with urgency, and if they persist, the allowances will be withdrawn, a private sector contractor procured with the cost being deducted from the PPIT budgets.

E. Water User Associations

1. Status of WUA and WUG

115. There is a mix of WUAs and WUGs among the four RSPs. Nam Pieng 1 and 2, have a well-established WUA. Nam Tong, Nam Seng and Nam Pua have WUGs that operate on a variable basis. The Nam Pieng 1 & 2 WUAs were formed under the Decentralized Irrigation Development and Management project. Nam Tong, Nam Pua, and Nam Seng have WUGs, but they perform a limited role in irrigation scheme management. The farmers on the additional Nam Seng irrigated area (SC1) are not members of the Nam Seng WUG.

116. Assessment of the Nam Tong irrigation scheme found that the WUGs exist in name only, and the main irrigation tasks are managed by the Village Authority that are located in the different scheme sectors. The main role performed by the WUG, or the Village Authority, is nominally collecting ISF, coordinating some scheme maintenance and some scheme repairs. Water management in Nam Tong is limited as the main use of irrigation water is for wet season rice.

117. Nam Pua has a WUG that was reformed in 2014 and the water management activities are managed on a village basis. There is no WUG formed for the Nam Seng SC1 area - it will be included in the scheme after upgrading.

118. While collection of ISF (in a variety of forms) for Nam Pua, Nam Tong, and Nam Seng is undertaken the adequacy of the fees to operate and maintain the schemes infrastructure is constrained due to the low income generated by wet season rice and the small areas of dry season cropping on some schemes.

119. WUAs in Nam Pieng 1 & 2 are assessed as being competent. They collect fees from the farmers and operate bank accounts. Nam Pieng 1 & 2, however, face the same challenge of inadequate funds for scheme operations and maintenance as the other three RSPs.

120. The Project investment in upgrading the irrigation schemes can only be justified if the ISF fund the operations and maintenance of the upgraded schemes. The opportunity to increase incomes through DSIA, mainly HVCs, will be provided by the Project. There must be, fully functional WUAs that will gather ISF from the farmers and manage the scheme O&M.

121. WUG are not sufficient legal entities to open bank account and perform fiducial tasks. Each scheme must have a WUA that is approved by the district authorities before it is eligible to open and operate a bank account.

122. The WUA must also upgrade their services to the farmers especially water delivery and scheduling for dry season crop and livestock stock production. Profitable DSIA activities require much more precise water delivery and scheduling than for wet season, or even dry season, rice. WUAs must also ensure that there is regular and ongoing dialogue with the farmers over their water requirements and scheme maintenance.

2. WUG Strengthening Program

123. Functional WUAs will be developed for all subprojects. ISF fee collection will be instituted on for each of the upgraded schemes and will be set at levels to recover the O&M costs of each scheme including maintenance and repairs. Collection and management of the ISF will be the responsibility of the WUAs and WUGs. ISF collection and fund management will require a bank account and suitable financial records to account for the use of the ISF. To open and operate a bank account a WUG needs to be a formal legal entity which requires their scheme to have a WUA. Experience from other projects is that formation of a WUA may take up to three years.

a. Functional WUA

124. Each scheme will be assisted to form one WUA. These WUAs will not replace the WUGs that already exist but will be overarching agency that will coordinate and manage irrigation activities on each subproject. The WUGs must continue to operate once the WUA are formed as the WUGs are responsible for the specific irrigation sectors on each scheme. These sectors are linked to villages or to specific areas of schemes served by a canal or headworks.

125. The first priority in the transition from WUGs to one WUA is to register the WUA with the district authority. Registration requires that the WUA demonstrates the capacity to operate as a competent agency and able perform its main functions. Once registered the newly constituted WUA will open bank account. The main financial management task for the initial WUGs will be the collection of the ISF, banking the fees, and managing the use of the funds. This may include

the contracting of some service. An interim banking arrangement may need to be instituted. One interim option is that the ISF funds are banked in the respective Village Authority bank accounts until the WUA is formally established.

126. One of the reasons for the slow establishment of the WUAs is their capacity to manage the WUA tasks as defined in the WUA regulations. Capacity development will be provided by the Project to better address the capacity issues in a more timely and efficient way.

127. There are four main functions that the WUAs must perform: (i) O&M of the water delivery; (ii) Maintenance; (iii) Repairs, (iv) ISF Collection and Administration. The Maintenance, Repairs, and Administration functions are nominally performed now for the schemes and the irrigation farmer community and the Village Administration are aware of them. Operations on the upgraded schemes will become a critical function to ensure that the farmers have adequate and timely delivery of dry season water for their HVCs. Farmers often consider the delivery of dry season water to be a high risk, and this will influence their decision whether to grow crops over the dry season. Flood irrigation is suitable for rice, but vegetable and fruit crops require a more controlled and precise irrigation regime to produce good quality products.

128. There is some experience in Lao PDR with WUAs that have business functions and provide business services to the farmers. WUAs in the SRIWSM, however, must only undertake the four functions outlined above. The reason for this is that the WUAs must concentrate on their role as the scheme's irrigation water management agency. The poor WUG performance in past years highlights that the WUAs (once they are formed) should concentrate on the essential functions related to their water management role. The WUGs will be assisted with farm business planning, market connections and marketing and with farm production technical advice by the Project. Moreover, these services will be developed so that they can be provided to the WUGs on a sustainable basis from sector service providers.

b. WUA Main Functions

i. Operations

129. WUA operations on the upgraded schemes will concentrate upon dry season water scheduling and delivery. This is a new operational task for the WUGs and WUAs. Farmers will require irrigation water on a schedule that meets the water demand of their crops. Upgrading of the schemes has been planned to be able provide water on regular schedule over the dry season. But the WUAs for the schemes will be required to manage the delivery of the water on schedule. Water scheduling based upon crop demand is not well understood by the PAFO PIS staff and by the farmers. Capacity development by the Project will be targeted at the WUA, and the farmers learning about water scheduling. The Project will provide technical extension services that will enable farmers to learn about the irrigation water demand of their crops, and the optimal times for watering.

130. Water planning and scheduling must be done based upon the water demand of the crops and any forages that will be grown over the dry season. Close coordination between dry season farm planning by the farmers (and their Project technical advisers) and the irrigation scheduling that the WUA will be responsible for must occur. The LIC will facilitate this process for the first two dry seasons.

ii. Maintenance

131. Scheme maintenance is usually performed by the scheme farmers under the direction of the WUG, WUA or the Village Authority. The farmers are proactive with maintenance and will clean the main canals prior to the main wet season irrigation. The community will continue to provide this maintenance service after scheme upgrading and WUA formation. The Nam Tong farmers said they would prefer to continue to carry out regular maintenance on a voluntary basis to keep the ISF down.

iii. Repairs

132. Scheme repairs and upgrading will be undertaken by the schemes' farmers, and by contractors for bigger construction or repair tasks. Farmers will be able to manage some repair tasks, and this will reduce the ISF.

iv. ISF Collection and Administration

133. Collection of IFS in the past has been weak and is commonly through a standard rice contribution. Each WUA will be required to establish annual budget and workplan based on the projected O&M costs, and then from this, determine the required ISF. Without an agreement for the higher ISF, no capital investment will be approved. Higher ISF will be phased in once the schemes have been upgraded and formally handed over. Farmers will be levied on an irrigated land area basis by season of water availability not water use. Implementing an ISF collection system will be a major task for the WUA.

134. The WUA will institute financial management and operational procedures that will provide the basis for the WUA to efficiently execute its main functions. This will include setting up the WUA bank account, suitable financial management recording systems, and administrative systems. Project support will be provided to assist the WUA become operational and this will include training for the WUA manager and the accounting staff. Main tasks are:

- (i) Definition of annual operational water schedules
- (ii) Assignment of responsibility for operating the water schedules
- (iii) Define the cost of such services
- (iv) Identify expected repairs and maintenance requirements and include in planning
- (v) Define the costs of Repair and Maintenance
- (vi) Prepare an annual operational plan, supporting budget and agreed ISF
- (vii) Monitor and report work programs to membership

3. WUA Organizational Structure

135. Staffing of the WUA will be on a part-time basis, and some of the positions may be filled in by Village Authority staff for specialist tasks such as accounting. WUA employment of staff must be matched by the work demand, which will vary from scheme to scheme. This applies to the number of staff and the time they are employed. WUA work demand will vary between schemes and the WUGs on each scheme will also perform some irrigation management tasks

136. The main WUA positions are outlined below and the main tasks for each position are also included. It is emphasized that there is no standardized WUA staffing structure and positions, and this will vary from scheme to scheme. All WUA positions will be part-time.

- (i) WUA Manager – this is an elected position and the Manager will oversee the WUA functions and activities. Important responsibilities will be managing the ISF collection, management of the ISF funds, especially their use to repair, maintain and operate the scheme. Scheme maintenance, repairs, and new investment will be another responsibility. Ensuring efficient water delivery and scheduling for the dry season will be new and important tasks. Dialogue with the farmers will be an important task and must occur on a regular basis. The WUA must adopt and follow a client services attitude.
- (ii) Accountant – financial recording tasks, and preparation of monthly reports on WUA financial position and financial transactions. Banking of ISF and any other income.
- (iii) Secretary Administrator -support the WUA Manager and Accountant.
- (iv) Water Delivery Operational staff – responsible for ensuring that the farmers have their irrigation water delivered to their farms on schedule (based on the agreed water delivery plan). For the dry season this is critical role. These staff will maintain regular contact with the farmers and monitor delivery and identify any delivery and scheduling issues that arise.
- (v) Repairs and Maintenance staff – responsible scheme maintenance and repairs. These tasks may be done on a volunteer basis for the scheme maintenance, and small-scale repairs. Larger repairs may need to be contracted.

4. Inputs

137. Proposed Project investments for WUA development are: (i) project meetings with the farmers groups to form and reactivate the WUGs; (ii) WUA office equipment and systems; (iii) capacity development for WUA staff.

5. Implementation

138. Timing of the implementation of WUA formation and capacity development is critical to ensure that the WUAs (and WUGs) manage and deliver ISF for the first irrigated dry season on the upgraded schemes.

a. Activity 1: WUG and WUA Guidelines and Regulation

139. **Task 1:** The LIC WUA Group Management Adviser, with support from the International Water Resources Adviser and the National Water Resources Adviser, will prepare the WUG regulations that will cover the period until the WUAs are legally formed and operational. This task will use existing regulations and revise them to match the needs of the Project. After the WUAs are legally formed the WUGs will still operate and represent the scheme sectors (based on villages or irrigation areas). Preparation of the WUG regulations must recognize that the ongoing role of WUGs, as well their interim role until the WUAs are formed. This is a priority task as it provides the basis for WUG formation, reactivation and subsequent operation (Output Activity 2). It must occur soon after the LIC is mobilized in Project Year 2.

140. **Task 2:** Preparation of the WUA regulations for each subproject by the LIC WUA Group Management Adviser and will utilize the experience from other WUAs already operating in Laos. These must be consistent with the Laos Irrigation Law (2013) and comply with any other relevant Laos laws. The WUA regulations for the two existing WUAs will be reviewed and modified as required. Regulations for the RSP schemes must include the financial requirements for ISF collection at the level set for each scheme by the Project, and water delivery and scheduling operations. Regulations that enable the WUA to be formed and operate a bank account must be prioritised.

141. The Nam Phieng 1 & 2 WUA regulations may need to be revised to align with the Project's requirements for ISF collection and for water delivery operations. ISF collection, the management

of the funds, financial reporting, and the utilization of the funds must be consistent for the WUAs in all subprojects.

b. Activity 2: WUG and WUA Formation

142. Formation or reactivation of the WUGs that will transition into WUAs must commence at the beginning of Project Year 2. This will be concurrent with the preparation of the WUG regulations (Output Activity 1 above). Because of the different operational status of the WUGs in each scheme the WUG formation and development work will vary. The International and National Water Resources Advisers will lead this activity with the PPIT for each subproject.

143. **Task 1:** Formation of the WUGs will involve a series of community meetings with the RSP irrigation scheme farmers where the role of functions of the WUGs and WUAs are presented and discussed with the farmers. The discussion must feature the differences between the purpose of the Project supported WUGs and WUAs, and the WUGs and WUAs that currently exist and may operate in each subproject. The financial aspects of scheme management including fee collection, and the dry season operations functions must be highlighted at these meetings. The irrigation farmers will elect the WUG leader, if required, at the community meeting.

144. **Task 2:** Once the WUGs in each subproject are formed (or reactivated) they will be assisted to develop and undertake their main operations. The initial WUG formation and development program will be spread over nine months and will be completed immediately prior to the first dry season of irrigation on the upgraded schemes in early Project Year 3. WUG performance after the first season will be reviewed and the program of support for subsequent years determined at that stage.

145. The WUGs must be ready to start their initial operations by mid Project Year 2. Main areas of support for the WUGs by the LIC WUA Management Adviser will be: (i) to understand the WUG regulations; (ii) appointment of the WUG staff members – this may be only required for Nam Tong; (iii) to prepare and implement an annual operational plan; (iv) establish (or further develop) their financial management systems, including the financial records, reporting and the fee collection mechanism; (v) to develop water delivery and water scheduling operations – this must be a priority leading into the first dry season irrigation activity; and (vi) maintenance and repairs.

146. **Task 3:** Although some Nam Phieng 1 & 2 WUAs are more advanced than the WUGs in other subprojects, they must be assisted to prepare their irrigation services for the first dry season of irrigation activity on the upgraded schemes. The LIC WUA Management Adviser will assess the operational status and capacity of the two Nam Pieng schemes during the LIC Inception. Using the LIC assessment the program for the Nam Pieng 1 & 2 will be prepared and implemented.

147. **Task 4:** WUAs will be established based upon the existing and interim WUGs. Experience from the formation of other WUAs should be used to make the WUA formation process more efficient. The LIC WUA Management Adviser will identify the main constraints to WUA establishment and undertake measures that will speed up the establish process. Shadow WUAs for each scheme will be formed, and they will have no legal status. They will be supported to assume the main WUA functional tasks, involving ongoing coordination with the WUGs. Over the WUA formation process, the Project will provide a WUG and WUA capacity development program that will build the skills and knowledge of the WUG staff, and the Village Authority staff to be involved in the WUA (Activity 3 below).

148. **Task 5:** Once the district authorities approve the legal status of the WUAs, they will formally assume the responsibility managing the irrigation scheme. A WUA bank account will be established, and the WUA will assume responsibility for the main functions and tasks outlined the WUA regulations. It is expected that this will be an easy transition as the shadow WUA will have operated for at least one year, and the WUGs will have all extensive operational support and capacity development from the Project. The WUA Management Adviser and other LIC consultants will provide support for the WUAs for at least one Project year after formal WUA approval.

c. Activity 3: WUG and WUA Capacity Development

149. Capacity development will be closely aligned with the institutional and operational development of the WUGs, and WUAs. Capacity development needs will be undertaken by the LIC inception team, and the Water Management Adviser will coordinate the capacity development program that will consist of four phases over a three-year period (from mid-Project year 2 to mid-Project Year 5). There will be four main capacity development target groups: (i) WUG and WUA Managers (leaders); (ii) Accounting and Finance staff; (iii) Technical Operations staff; and (iv) Farmers. Water planning and scheduling training for farmers is included, as this must be integrated with the WUA and WUG operations.

150. **Phase 1** of the capacity development will concentrate in the Nam Tong, Nam Seng and Nam Pua WUGs to develop the basic skills for the WUG to manage the upgraded scheme operations (Nam Pieng can be included based on needs). Phase 1 will occur at the end of Project year 2 in the two months immediately when the upgraded schemes have their first irrigated dry season (at the start of Project Year 3). Water management, including water delivery and scheduling will be a priority training topic. The training must include both the WUG and WUA water operations staff. The training must also align with the water planning and scheduling training provided to the farmers that will grow dry season crops on all subprojects. (Training Task 4 in the Implementation Schedule). Timeliness of this first irrigation water delivery and scheduling training is critical and must occur in the weeks leading to the first irrigated dry season on the upgraded RSPs.

151. The **second phase** of WUG and WUA capacity development will occur after the first irrigated dry season leading up to the second irrigated dry season on the RSPs and subsequent subprojects. Capacity development over this phase will include leadership and management training, finance and accounting, as well as continuing the water management operations skills and knowledge development. Training for the WUGs will focus on building their capacity to develop into a fully functioning WUA. The WUA training will be more targeted at specific skills to improve WUA performance.

152. **Phase 3** of the capacity building will follow a similar pattern to Phase 2, based on the review of WUG and WUA performance and application of skills and knowledge. There will be an assessment of capacity development prior to the commencement of each phase. WUG and WUA performance review will not be formal and will consist of on-the-job assessment by the LIC team members and some self-assessment of ongoing training needs by the WUA and WUG staff.

153. **Phase 4** will be the last period of capacity development activity. It will occur following the completion of the third dry season irrigation (Project Year 5). It is expected that the WUA will be officially operational by this stage and the capacity development will concentrate upon ensuring the WUA staff are competently performing their main tasks. ISF collection, financial management, and planning and implementation of maintenance and any repairs will be more prominent roles

by this stage. More farmers will be using the dry season water and water planning and scheduling will also be important training topics.

154. The capacity development program will not be predetermined and prescriptive and will be based upon the learning needs of the WUG and WUA staff. The LIC WUA Management Adviser and the International Water Resources specialist will be responsible for the assessment of the main learning needs. They will also monitor what has been learned and applied by the WUG and WUA staff.

155. Learning and training activities must also be practical and applied, consisting of a mix of teaching and learning methods such as on-the-job training, mentoring. There should be limited formal teaching. Adult learning principles followed especially not delivering the learning activity more than six weeks in advance of the staff using the skill or knowledge in their work. All training and learning activities will meet the time availability of the WUA and WUG staff, especially the women staff.

VII. OUTPUT 4 ARRANGEMENTS

156. Output 4 is funded through an ADB administered EU grant. The project will use the existing nutrition coordination process to identify nutrition-priority villages in each of the 6 districts and will scale-up existing tried and tested methods promoted under the NNSPA, by forming nutrition clubs, providing Social Behavior Change Communication (SBCC) and nutrition training, and supporting club and individual development plans designed to increase the production and year-round consumption of diverse and nutritious foods. It will work with Output 1 to ensure that a proportion of the vegetable production from the irrigation schemes will be readily accessible to people in surrounding areas where fresh produce is currently not widely available.

157. The output will be implemented in approximately 100 villages and will use methods already successfully piloted in Houaphan province. The implementation will be contracted to the existing service provider that has trained staff, existing resources material etc. and will upscale their work through the 6 Project Districts by delivering the following Interventions:

- (i) Formation and capacity development of district nutrition teams (DNT). The district nutrition committees will coordinate the formation of these teams that will include 2-3 personnel from each of the District Department of Health, DAFO and LWU.
- (ii) Formation and capacity development of village nutrition teams comprising volunteers associated with LWU, DAFO and, if available Health. These teams will be the main conduit for implementation of activities and will ensure the sustainability of the project in the long term.
- (iii) Baseline and formative research undertaken by the DNTs and village nutrition teams. The formative research, including Knowledge, Attitudes, Perceptions, Practices (KAPP) will identify the nutrition-related practices that need to be supported and promoted at the household level. From the offset, village nutrition related data will be shared with the communities to instill ownership.
- (iv) Convergence triggering session: DNTs and project staff will mobilize the communities for this initial activity, to be informed by the KAPP. Emphasis will be on the relation between nutrition and the well-being of all household members, how poor nutrition during the critical years can affect every child's education and lifetime achievements, and the importance for each child to eat a diversity of food to enable

him/her to grow and develop. A “triggering tool” is used to prompt discussion and raise awareness.

- (v) Preparation of Village Convergence Poster, which includes the number of key nutrition indicators, such as the number and diversity of crops produced, number and percentage of latrines, nutrition knowledge and hygiene concepts, percentage of children with malnutrition and the dietary diversity for different members of the households.
- (vi) LANN (Linking Agriculture to Nutrition and Natural Resources) activities. LANN is an approach to address malnutrition that was developed by development partners in Laos and is particularly suited to upland areas. It includes multiple flexible tools (i.e. cards, games, training materials) and activities related to nutrition, WASH, agriculture and natural resource management.
- (vii) Development of Convergence Actions Plans with targets for the enhancement of indicators shown on the posters. LANN is a process that follows a seasonal calendar. However early in the process, it is possible to facilitate the development of Convergence Action Plans. These have proven to give effective guidance to village members on doable actions to improve their nutrition situation. Examples include increasing the variety of crops grown and consumed, establishment of vegetable gardens, planting more fruit trees, cooking meals with more diverse foods. These activities will be supported (technical advice, training, inputs) by the DNTs. Bi-annual participatory monitoring enables the villagers to update their Convergence Posters

158. SBCC centered around the promotion of a number of key behaviors related to the 1,000 days (maternal nutrition, exclusive breastfeeding, complementary feeding) and adolescent nutrition, hygiene practices and gender social roles and norms, distribution of household tasks, and awareness of women’s and men’s roles in nutrition. SBCC activities need to be aligned closely with activities in agriculture and WASH that aim to improve the food and sanitation environment. For example, cooking demonstrations that include foods available in that season, the proper use of irrigation water for domestic purposes, the use of income from cash crops for household food, etc. and mass media campaign using community radio.

VIII. COSTS AND FINANCING

159. The project is estimated to cost \$51.46 million including taxes and duties, and the Government of Lao PDR’s in-kind contributions. The Government has requested: (i) a concessional loan of \$40 million from ADB’s ordinary capital resources with a 32-year term, a 8-year grace period, with an interest rate of 1% per annum during the grace period and 1.5% per annum thereafter; (ii) a grant of \$5 million from ADB’s Disaster Risk Reduction Fund; and (iii) a grant of Euro 4 million, equivalent to \$4.46 million from the European Union to be fully administered by ADB. The European Union grant will finance all costs of Output 4 including taxes and duties. Both ADB and EU funds will be disbursed using ADB procedures and in accordance with the agreed allocation table. The details of various aspects of project costing are presented in the tables which follow (Tables 23-29).

A. Cost Estimates Preparation and Revisions

160. Cost estimates have been prepared for the seven-year implementation period of the Project. The RSP designs and civil works components are based upon DED with the costs estimated reflecting current prices for materials, equipment and civil works in Laos. Cost

estimates for all training, technical assistance and support activities are also based on current costs prevailing in Laos as of 15 March 2019.

B. Key Assumptions

161. The following key assumptions underpin the cost estimates and financing plan:

- (i) Exchange rate: KN8583.76 = \$1.00 (19 March 2019). The exchange rate for conversion of EUR to USD was taken from euro info as of September 2018 at USD 0.8969: EUR 1 (24/05/2019) and will be updated at the time of confirmation from the EU and again prior to loan negotiations and ADB Board circulation.
- (ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

Table 16: Escalation Rates for Price contingency

Item		2019	2020	2021	2022	2023	2024	2025-2027	Ave
Foreign rate of price inflation		1.5%	1.5%	1.6%	1.6%	1.6%	1.6%	1.6%	1.57%
Domestic rate of price inflation		3.1%	3.00%	3.00%	3.50%	3.50%	3.50%	3.50%	3.3%

Source(s): ADB SERD; Foreign - World Bank MUV Index, Apr 2014; Domestic - ADB SERD-DCEF, inflation forecast 2018 – 2022.

- (iii) In-kind contributions were calculated based on or using government staff salaries and allowances as specified in the Government Order. The farm gate costs are applied to all farm inputs, and provincial construction cost norms for civil works costs based on industry specific norms and crossed referenced to local market rates.

C. Detailed Cost Estimates by Expenditure Category

Table 17: Cost Estimates by Expenditure Category

Item	LAK Billion ^{a,b}		Total	\$ Million ^{a,b}		Total	% of Base Costs
	Local	Foreign		Local	Foreign		
A. Base Costs^c							
1. Civil Works (RSPs)	34.86	22.07	56.92	4.09	2.59	6.68	14%
2. Civil Works (ASPs)	56.20	18.73	74.93	6.60	2.20	8.80	18%
3. Civil Works (WASH Infrastructure)	8.18	2.04	10.22	0.96	0.24	1.20	3%
4. Vehicles & Equipment	10.65	17.87	28.52	1.25	2.10	3.35	7%
5. Land Acquisition and Compensation	0.44	-	0.44	0.05	-	0.05	0%
6. Nutrition Development & WASH Infrastructure	14.66	21.99	36.65	1.72	2.58	4.30	9%
7. Training & Capacity Development	21.90	1.15	23.05	2.57	0.14	2.71	6%
8. Masterplan and Investment Planning	5.79	1.45	7.24	0.68	0.17	0.85	2%
9. Matching Grants	1.23	0.31	1.53	0.14	0.04	0.18	0%
10. Consulting Services	18.09	41.17	59.26	2.12	4.83	6.96	15%
11. Environmental and Social Mitigation	0.53	0.03	0.56	0.06	0.00	0.07	0%
12. Project Implementation Support	17.58	1.89	19.48	2.06	0.22	2.29	5%
13. Output Land Use Change Program	48.42	16.14	64.56	5.68	1.89	7.58	16%
14. Unallocated funds (EU)	0.53	0.80	1.34	0.06	0.09	0.16	0%
15. Government salaries and facilities	23.02	-	23.02	2.70	-	2.70	6%
Total Base Costs	262.07	145.64	407.71	30.77	17.10	47.87	100%
B. Contingencies^c							
Physical	3.46	2.90	6.36	0.41	0.34	0.75	2%
Price	5.27	12.77	18.04	0.62	0.70	1.32	3%
Subtotal (B)	8.73	15.66	24.40	1.03	1.04	2.07	4%
Total Project Costs (A+B)	270.80	161.30	432.11	31.80	18.14	49.94	104%
D. Financing Charges During Implementation^d (FCDI)							
Interest during construction	0.00	0.00	0.00	0.00	1.52	1.52	3%
Subtotal (C)	0.00	0.00	0.00	0.00	1.52	1.52	3%
Total Project Costs (A+B+C+D)	270.80	161.30	432.11	31.80	19.66	51.46	107%

^a Includes taxes and duties of \$3.88 million to be financed by the Asian Development Bank and the European Union.

^b In prices as of 15 March 2019.

^c Physical contingencies computed at 10% for civil works, vehicles and equipment, land acquisition, and environmental mitigation; 7.5% for design and supervision consultants and project management unit operating costs; and 5% for project management unit staff. Price contingencies computed at 1.5% from 2018 to 2020, and 1.6% thereafter for foreign currency costs; and 2.5% in 2018, 3.1% in 2019, 3.0% in 2020 and 2021, and 3.5% thereafter for local currency costs; conversion between currencies assumes purchasing power parity.

^d Interest during construction for the concessional loan has been computed for 7 years (2019-2026) based on 1%.

Source: Asian Development Bank estimates.

D. Allocation and Withdrawal of Loan and Grant Proceeds

Table 18: Allocation and Withdrawal of ADB Concessional Loan Proceeds

Item	Expense Category	Loan Proceeds (\$)	Percentage of Financing
1	Works for RSPs	2,316,170	34.7% of total expenditure claimed
2	Other Costs -Civil Works (ASPs) -Civil Works WASH infrastructure Other Subproject costs - Vehicles & Equipment, - Land Acquisition & Compensation, - Training & Capacity Development, - Consulting Services, - Environmental & Social Safeguards - Project Management - Land Use Change program Output 2	33,696,275	100% of total expenditure claimed
3	Matching Grant*	180,000	100% of total expenditure claimed
4	Interest Charge	1,523,445	100% of amounts due
5	Unallocated	2,284,110	
	Total	40,000,000	

*Subject to the condition for withdrawal described in paragraph 6 of Schedule 3.

Table 19: Allocation and Withdrawal of ADB Special Funds Resources Grant Proceeds

Item	Expense Category	Grant Proceeds (\$)	Percentage of Financing
1	Works for RSPs	4,367,351	65.3% of total expenditure claimed
2	Unallocated	632,649	
	Total	5,000,000	

Table 20: Allocation and Withdrawal of European Union Grant Proceeds

Item	Expense Category	Grant Proceeds (\$)	Percentage of Financing
1	Nutrition Improvement Program	4,303,100	100% of total expenditure claimed
2	Unallocated ^a	156,900	
	Total	4,460,000	

^a This amount also serves as a reserve for (i) currency fluctuations; and (ii) payment of ADB's administration fees and bank charges or other charges pursuant to the Cofinancing Agreement.

E. Detailed Cost Estimates by Financier

Table 21: Detailed Cost Estimates by Financier

Item	ADB COL		EU Grant		ADB Grant		Government of Lao PDR		Total	
	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
A. Base Costs										
1. Civil Works (RSPs)	2.32	34.7%	0.00	0.0%	4.37	65.3%	0.00	0.0%	6.68	13.0%
2. Civil Works (ASPs)	8.80	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	8.80	17.1%
3. Civil Works (WASH Infrastructure)	1.20	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	1.20	2.3%
4. Vehicles & Equipment	3.35	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	3.35	6.5%
5. Land Acquisition and Compensation	0.05	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.05	0.1%
6. Nutrition Development & WASH Infrastructure	0.00	0.0%	4.30	100.0%	0.00	0.0%	0.00	0.0%	4.30	8.4%
7. Training & Capacity Development	2.71	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	2.71	5.3%
8. Masterplan and Investment Planning	0.85	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.85	1.7%
9. Matching Grants	0.18	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.18	0.3%
10. Consulting Services	6.96	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	6.96	13.5%
11. Environmental and Social Mitigation	0.07	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.07	0.1%
12. Project Implementation Support	2.29	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	2.29	4.4%
13. Output Land Use Change Program	7.58	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	7.58	14.7%
14. Unallocated funds (EU)	0.00	0.0%	0.16	100.0%	0.00	0.0%	0.00	0.0%	0.16	0.3%
15. Government salaries and facilities	0.70	26.0%	0.00	0.0%	0.00	0.0%	2.00	74.0%	2.70	5.3%
Total Base Costs	37.04	77.4%	4.46	9.3%	4.37	9.1%	2.00	4.2%	47.87	93.0%
B. Contingencies										
Physical	0.32	43.0%	0.00	0.0%	0.43	57.0%	0.00	0.0%	0.75	1.5%
Price	1.11	84.3%	0.00	0.0%	0.21	15.7%	0.00	0.0%	1.32	2.6%
Subtotal (B)	1.43	69.4%	0.00	0.0%	0.63	30.6%	0.00	0.0%	2.07	4.0%
Total Project Costs (A+B)	38.48		4.46		5.00		2.00	4.0%	49.94	97.0%
C. Financing Charges During Implementation (FCDI)										
Interest during construction	1.52	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	1.52	3.0%
Subtotal (C)	1.52	100.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	1.52	3.0%
Total Project Costs (A+B+C)	40.00	77.7%	4.46	8.7%	5.00	9.7%	2.00	3.9%	51.46	100.0%
Share of Tax	3.08	79.3%	0.41	10.4%	0.40	10.2%	0.00	0.0%	3.88	100.0%

Note: Total may not sum up due to rounding.

\$0.16 million of EU expenditure is assumed to be unallocated funds for ADB overhead and visibility costs.

Source: Asian Development Bank estimates.

Table 22: Detailed Cost Estimates by Outputs and/or Components

Item	1. Market-Oriented Agricultural Production Increased		2. Watershed Ecological Services Protected		3. Command Area Irrigation Reliability Improved		4. Nutrition Awareness and Facilities Improved		Project Management		Total cost
	Amount	% of cost category	Amount	% of cost category	Amount	% of cost category	Amount	% of cost category	Amount	% of cost category	Amount
A. Base Costs											
1. Civil Works (RSPs)	0.00	0%	0.72	11%	5.96	89%	0.00	0%	0.00	0%	6.68
2. Civil Works (ASPs)	0.00	0%	0.00	0%	8.80	100%	0.00	0%	0.00	0%	8.80
3. Civil Works (WASH Infrastructure)	0.00	0%	-	0%	-	0%	1.20	100%	-	0%	1.20
4. Vehicles & Equipment	0.00	0%	0.08	2%	1.11	33%	0.00	0%	2.16	65%	3.35
5. Land Acquisition and Compensation	0.00	0%	0.00	0%	0.05	100%	0.00	0%	0.00	0%	0.05
6. Nutrition Development & WASH Infrastructure	0.00	0%	0.00	0%	0.00	0%	4.30	100%	0.00	0%	4.30
7. Training & Capacity Development	2.22	82%	0.38	14%	0.08	3%	0.00	0%	0.03	1%	2.71
8. Masterplan and Investment Planning	0.85	100%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.85
9. Matching Grants	0.18	100%	0.00	0%	0.00	0%	0.00	0%	0.00	0%	0.18
10. Consulting Services	0.58	8%	0.36	5%	2.75	40%	0.00	0%	3.27	47%	6.96
11. Environmental and Social Mitigation	0.00	0%	0.00	0%	0.07	100%	0.00	0%	0.00	0%	0.07
12. Project Implementation Support	0.13	6%	0.00	0%	0.00	0%	0.00	0%	2.15	94%	2.29
13. Output Land Use Change Program	0.00	0%	7.58	100%	0.00	0%	0.00	0%	0.00	0%	7.58
14. Unallocated funds (EU)	0.00	0%	0.00	0%	0.00	0%	0.16	100%	0.00	0%	0.16
15. Government salaries and facilities	0.00	0%	0.00	0%	0.00	0%	0.00	0%	2.70	100%	2.70
Total Base Costs	3.96	8%	9.12	19%	18.81	39%	5.66	12%	10.31	22%	47.87
B. Contingencies											
Physical	0.00	0%	0.08	10%	0.67	90%	0.00	0%	0.00	0%	0.75
Price	0.23	17%	0.08	6%	0.50	38%	0.09	6%	0.43	33%	1.32
Subtotal (B)	0.23	11%	0.16	8%	1.17	56%	0.09	4%	0.43	21%	2.07
Total Project Costs (A+B)	4.19	8%	9.28	19%	19.98	40%	5.75	12%	10.74	22%	49.94
C. Financing Charges During Implementation (FCDI)											
Interest during construction	0.13	8%	0.29	19%	0.45	29%	0.04	3%	0.62	41%	1.52
Subtotal (C)	0.13	8%	0.29	19%	0.45	29%	0.04	3%	0.62	41%	1.52
Total Project Costs (A+B+C)	4.32	8%	9.57	19%	20.43	40%	5.78	11%	11.36	22%	51.46

Source: Asian Development Bank estimates.

F. Detailed Cost Estimates by Year

Table 23: Cost Estimate by Year (\$ million)

Item	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	Total
A. Base Costs								
1. Civil Works (RSPs)	0.00	4.61	2.03	0.04	0.00	0.00	0.00	6.68
2. Civil Works (ASPs)	0.00	0.09	3.34	2.98	2.39	0.00	0.00	8.80
3. Civil Works (WASH Infrastructure)	0.00	0.00	0.40	0.40	0.40	0.00	0.00	1.20
4. Vehicles & Equipment	2.14	0.04	0.58	0.57	0.01	0.00	0.00	3.35
5. Land Acquisition and Compensation	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.05
6. Nutrition Development & WASH Infrastru	0.00	0.00	0.86	1.72	1.72	0.00	0.00	4.30
7. Training & Capacity Development	0.01	0.25	0.80	0.77	0.65	0.22	0.00	2.71
8. Masterplan and Investment Planning	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.85
9. Matching Grants	0.00	0.02	0.12	0.04	0.00	0.00	0.00	0.18
10. Consulting Services	1.41	1.97	1.66	1.00	0.56	0.24	0.13	6.96
11. Environmental and Social Mitigation	0.00	0.01	0.02	0.02	0.01	0.01	0.00	0.07
12. Project Implementation Support	0.33	0.36	0.36	0.35	0.34	0.30	0.24	2.29
13. Output Land Use Change Program	0.00	0.00	0.00	2.31	2.63	2.63	0.00	7.58
14. Unallocated funds (EU)	0.00	0.00	0.03	0.06	0.06	0.00	0.00	0.16
15. Government salaries and facilities	0.26	0.41	0.51	0.41	0.41	0.41	0.28	2.70
Total Base Costs	5.00	7.81	10.73	10.67	9.19	3.81	0.65	47.87
B. Contingencies								
Physical	0.00	0.43	0.26	0.06	0.00	0.00	0.00	0.75
Price	0.11	0.30	0.34	0.24	0.18	0.09	0.06	1.32
Subtotal (B)	0.11	0.73	0.60	0.30	0.18	0.09	0.06	2.07
Total Project Costs (A+B)	5.11	8.54	11.33	10.97	9.38	3.91	0.71	49.94
C. Financing Charges During Implementation (FCDI)								
Interest during construction	0.01	0.06	0.13	0.23	0.33	0.37	0.39	1.52
Subtotal (C)	0.01	0.06	0.13	0.23	0.33	0.37	0.39	1.52
Total Project Costs (A+B+C)	5.13	8.59	11.46	11.20	9.70	4.28	1.09	51.46

Source: Asian Development Bank estimates.

G. Contract and Disbursement S-Curve

Figure 6: Project Contract Award and Disbursement Curve

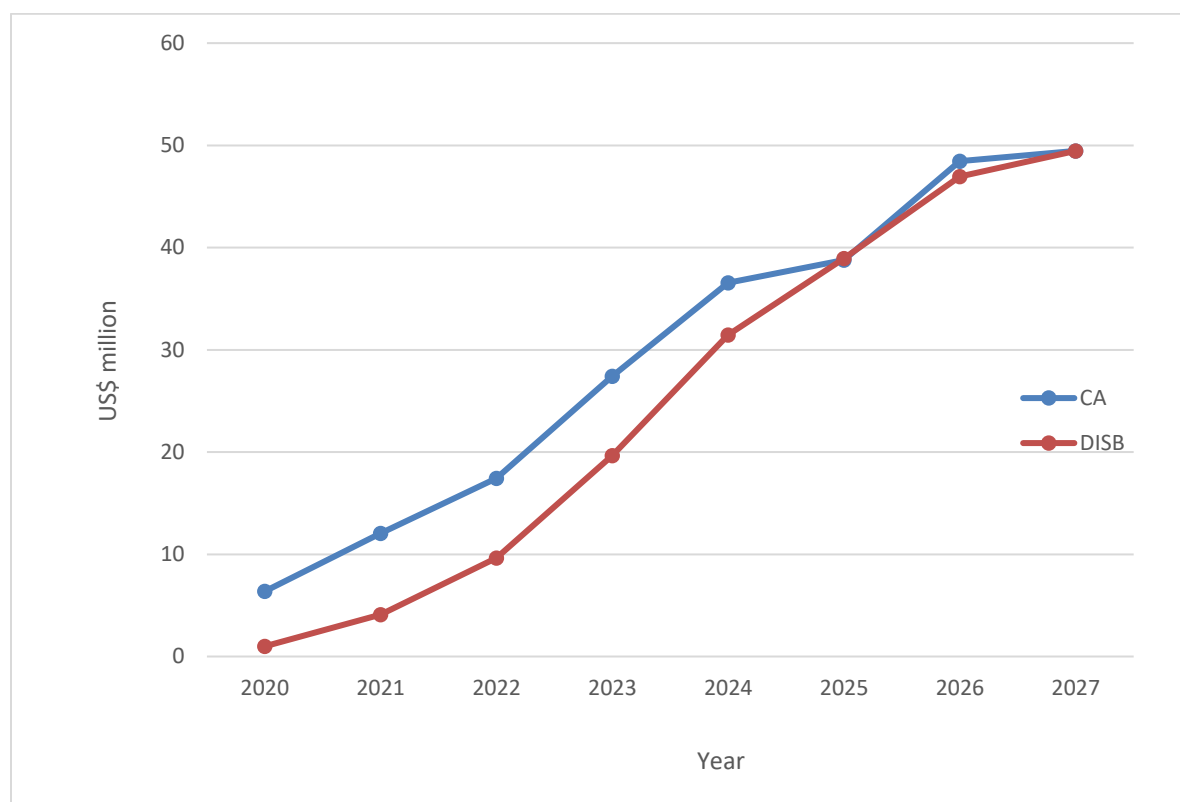


Table 24: Contract Awards and Disbursement Projections

Total Loan and Grants

	Contract Awards (in USD million)					Disbursements (in USD million)				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2020	0.0000	0.0000	0.0000	6.3811	6.3811	0.0000	0.0000	1.0000	0.0000	1.0000
2021	0.0000	1.0000	1.0000	3.6845	5.6845	0.0000	0.0000	1.0500	2.0500	3.1000
2022	0.0000	0.6829	1.2904	3.4027	5.3760	0.1344	0.7477	0.4401	4.2127	5.5349
2023	0.2347	0.2548	1.1951	8.3006	9.9852	0.3275	0.6734	1.3903	7.6349	10.0261
2024	0.2552	0.6699	1.5361	6.6741	9.1353	0.6334	1.1177	1.2605	8.7819	11.7935
2025	0.2347	0.2451	1.0873	0.6637	2.2308	0.5627	0.8832	1.2565	4.8755	7.5779
2026	1.1094	2.6447	2.6447	3.2683	9.6671	0.5731	1.1863	1.3552	4.5959	7.7105
2027	0.5000	0.5000	0.0000	0.0000	1.0000	0.3331	0.5280	0.8280	1.0280	2.7171
	Total Contract Awards				49.4600	Total Disbursements				49.4600

ADB Concessional Loan

	Contract Awards (in USD million)					Disbursements (in USD million)				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2020	0.0000	0.0000	0.0000	6.2811	6.2811	0.0000	0.0000	1.0000	0.0000	1.0000
2021	0.0000	1.0000	1.0000	3.0845	5.0845	0.0000	0.0000	1.0000	2.0000	3.0000
2022	0.0000	0.4482	0.4557	3.1680	4.0719	0.1344	0.3130	0.0054	3.7780	4.2308
2023	0.0000	0.0201	0.4604	7.4657	7.9462	0.0928	0.2387	0.9556	7.2000	8.4871
2024	0.0205	0.4352	0.8014	5.5392	6.7963	0.3987	0.6830	0.8258	8.3470	10.2545
2025	0.0000	0.0104	0.2526	0.4288	0.6918	0.3280	0.3485	0.7218	4.2406	5.6389
2026	0.8747	2.4100	2.4100	2.4335	8.1282	0.3384	0.7516	0.9205	4.0611	6.0716
2027	0.5000	0.5000	0.0000	0.0000	1.0000	0.3331	0.3280	0.3280	0.3280	1.3171
	Total Contract Awards				40.0000	Total Disbursements				40.0000

ADB Special Fund Resources Grant

	Contract Awards (in USD million)					Disbursements (in USD million)				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2020	0.0000	0.0000	0.0000	0.1000	0.1000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.6000	0.6000	0.0000	0.0000	0.0500	0.0500	0.1000
2022	0.0000	0.0000	0.6000	0.0000	0.6000	0.0000	0.2000	0.2000	0.2000	0.6000
2023	0.0000	0.0000	0.5000	0.6000	1.1000	0.0000	0.2000	0.2000	0.2000	0.6000
2024	0.0000	0.0000	0.5000	0.9000	1.4000	0.0000	0.2000	0.2000	0.2000	0.6000
2025	0.0000	0.0000	0.6000	0.0000	0.6000	0.0000	0.3000	0.3000	0.4000	1.0000
2026	0.0000	0.0000	0.0000	0.6000	0.6000	0.0000	0.2000	0.2000	0.3000	0.7000
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2000	0.5000	0.7000	1.4000
	Total Contract Awards				5.0000	Total Disbursements				5.0000

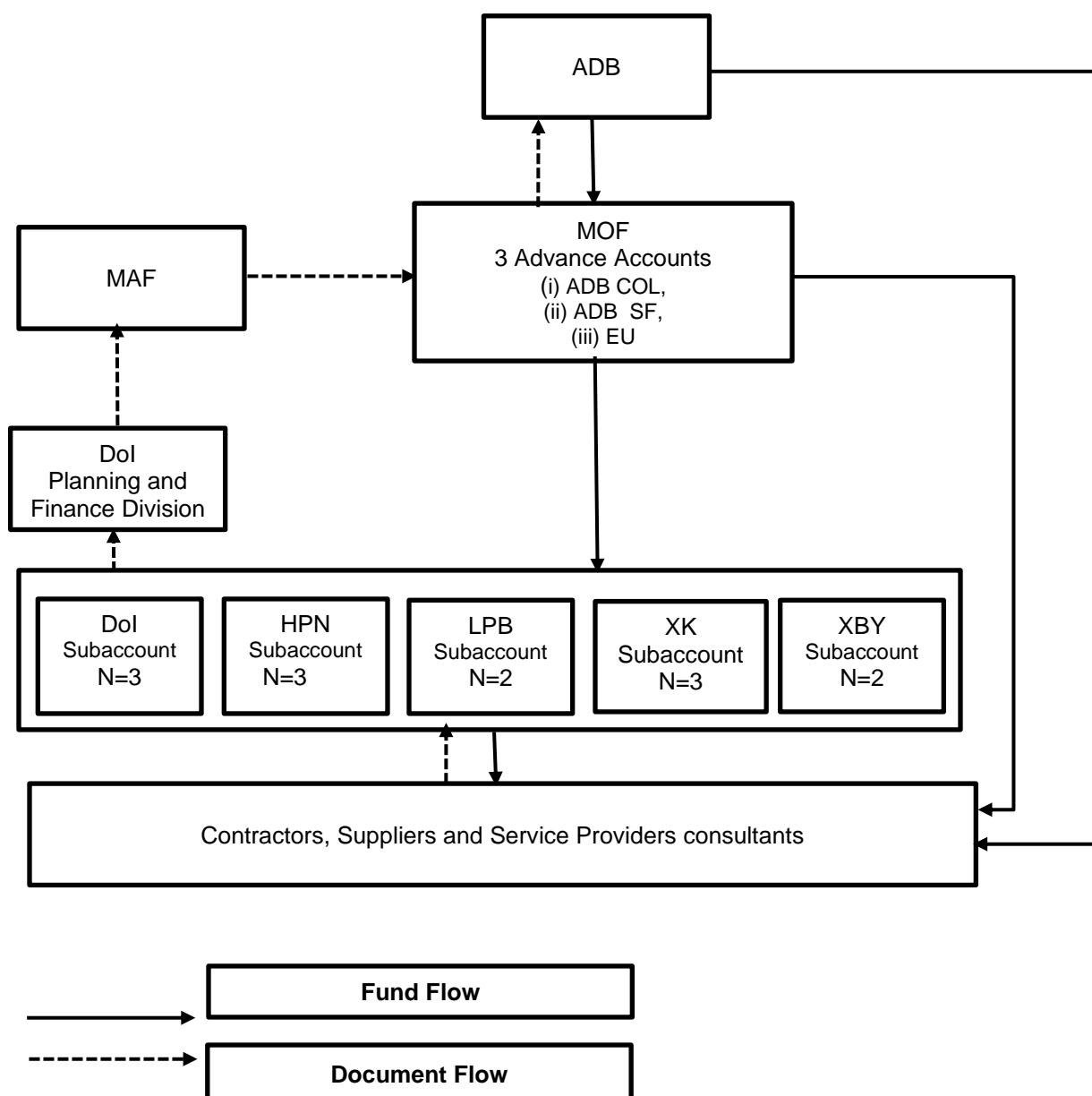
ADB Administered European Union Grant

	Contract Awards (in USD million)					Disbursements (in USD million)				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2022	0.0000	0.2347	0.2347	0.2347	0.7041	0.0000	0.2347	0.2347	0.2347	0.7041
2023	0.2347	0.2347	0.2347	0.2349	0.9390	0.2347	0.2347	0.2347	0.2349	0.9390
2024	0.2347	0.2347	0.2347	0.2349	0.9390	0.2347	0.2347	0.2347	0.2349	0.9390
2025	0.2347	0.2347	0.2347	0.2349	0.9390	0.2347	0.2347	0.2347	0.2349	0.9390
2026	0.2347	0.2347	0.2347	0.2348	0.9389	0.2347	0.2347	0.2347	0.2348	0.9389
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total Contract Awards				4.4600	Total Disbursements				4.4600

H. Fund Flow Diagram

162. The following figure provides the flow of funds for SRIWSM and is based on the government procedure of all Advance Accounts held by the Ministry of Finance, that release funds based on workplan approval. Subaccounts will be held by each IA including DOI and the FNP DOFs.

Figure 7: Flow of Funds



Notes:

1. Direct Payments – more than US\$ 100,000; fund flow from ADB direct to Consultant etc; document flow, as per PAFO Sub-accounts.
2. If payment less than US\$ 100,000, but not paid from Sub-account – fund flow is from MOF Advance Account to Consultant etc.
3. DOI Sub accounts- include ADB COL, ADB SF, and EU
4. Provincial IA sub accounts – include ADB COL and ADB SF for all four provinces and an additional subaccount for EU grant funds for Houaphan and Xiangkhouang Provinces

Abbreviations: ADB – Asian Development Bank, COL – concessional loan, DoI – Department of Irrigation, HPN- Houaphan, LPB – Louangphabang, MOF – Ministry of Finance, MAF – Ministry of Agriculture and Forests, SF – special fund resources grant XBY – Xaignabouli, XK- Xiangkhouang.

Table 25: Expenditures to be Supported from Sub-Accounts

SUB-ACCOUNTS	EXPENDITURES TO BE SUPPORTED
A. DOI	(i) DOI LIC consulting contracts including the service provider contracts (ii) EU Service provider contract (iii) Vehicle procurement (iv) Incremental oversight and mentoring operating costs of DOI – PGT costs
B. Xaignabouli, Louangphabang	(i) Provincial LIC consulting service contracts (ii) Incremental operating costs for PAFO (iii) DED cost for additional subprojects (iv) Construction supervision costs of PAFO (v) PONRE and DONRE costs for subproject monitoring (vi) PGT – Office and field equipment (vii) Any output 3 small contractor payments where contractor does not request direct payment from ADB (viii) All output 1 matching grants, market study, water user group payments and capacity building payments
C. Houaphan	(i) Provincial LIC consulting service contract (ii) Incremental operating costs for PAFO (iii) DED cost for additional subprojects (iv) Construction supervision costs of PAFO (v) PONRE and DONRE costs for subproject monitoring (vi) PGT – Office and field equipment (vii) Any small contractor payments where contractor does not request direct payment from ADB (viii) All output 1 matching grants, market study, water user group payments and capacity building payments (ix) Visibility payments for output 4 based on EU grant financing disbursed in Houaphan Province
D. Xiangkhouang	(i) Provincial LIC consulting service contract (ii) Incremental operating costs for PAFO (iii) DED cost for additional subprojects (iv) Construction supervision costs of PAFO (v) PONRE and DONRE costs for subproject monitoring (vi) PGT – Office and field equipment (vii) Any small contractor payments where contractor does not request direct payment from ADB (viii) All output 1 matching grants, market study, water user group payments and capacity building payments

SUB-ACCOUNTS	EXPENDITURES TO BE SUPPORTED
	(ix) All output 2 procurement and disbursement including local or national consultants (x) Visibility payments for output 4 based on EU grant financing disbursed in XK Province

163. The cofinancing agreement between ADB and the EU under the project shall be in accordance with ADB's Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and staff instructions.

IX. FINANCIAL MANAGEMENT

A. Financial Management Assessment

164. The financial management assessment (FMA) was conducted in June 2018 in accordance with ADB's Guidelines for the Financial Management and Analysis of Projects and the Financial Due Diligence: A Methodology Note.⁵ The FMA considered the capacity of MAF and its two departments - the Department of Planning and Finance (DOPF), and the Department of Irrigation (DOI) - which is also an implementing agency (IA). Additional assessments were conducted for each provincial IA, Provincial Agriculture and Forestry Office (PAFO) in Houaphan, Xiangkhouang, Louangphabang, and Xaignabouli provinces. The assessment also reviewed the funds flow arrangements, staffing, accounting and financial reporting systems, financial information systems, and internal and external auditing arrangements. Based on the assessment, the key financial management risks identified are: (i) serious issues shown in the annual audit reports of the provincial entities related to financial governance with unclear procedures on contract and asset management; (ii) inadequate financial management systems and controls of the IAs; (iii) unavailability and lack of technical capacity of government staff for the project; (iv) incomplete, unclear, and inconsistent financial management systems and procedures for ADB projects; (v) lack of an acceptable computerized accounting system; (vi) lack of effective internal auditing by IAs; (vii) incomplete project audit reports in the implementing agencies and which are not based on international standards; and (viii) incomplete project management information leading to inaccurate project reporting. It is concluded that the overall pre-mitigation financial management risk of MAF and the IAs is high. MOF though has the capacity to administer the advance fund and implement SOE procedures. The Government of Lao, MAF and the IAs have agreed to implement an action plan as key measures to address the deficiencies. MAF, the executing agency has broad experience in the implementation of past and ongoing ADB projects and has agreed to oversee the implementation of the action plan. Consultants under the TRTA project readiness activities are supporting MAF and the IAS in implementing the action plan ahead of the project start up, and this will be further supported by the Loan Implementation Consultants after project start up.

165. The FMA found IAs to have inadequate internal audit arrangements including both systems and staffing resulting in internal audit reports being unavailable. The risk is that this situation will weaken financial management controls. These project risks are mitigated through: (i) Project FMM detailing the financial management systems and procedures, including accounting software based on an internationally-accepted double-entry book keeping and accounting system and financial reporting to meet project management and donor requirements. (ii) Monitoring and oversight from the Department of Irrigation's Program Governance Team and

⁵ Financial Management Assessment (accessible from the list of linked documents in Appendix 2 of the RRP).

the Ministry of Agriculture and Forestry's Department of Planning and Finance. The project is providing consultant support to these roles. (iii) External audits to be conducted by a private audit firm; (iv) Ongoing training of IA staff.

166. The FMM, accounting software, and IA training is being implemented by the TRTA team, as part of project readiness, is ready to go by end of August 2019. The expert and software company are available as soon as required. IA training, as well as monitoring and oversight and systems updates based on initial experience, will be implemented at project start up, including transitional consultant support arrangements if necessary prior to the engagement of the LIC.

B. Financial Management Action Plan

167. The financial management action plan is in Table 26.

Table 26: Financial Management Action Plan

Weakness	Mitigation Actions	Responsibility	Timeframe
Issues regarding the entities' governance, systems and capacity.	Standardized and comprehensive FMM for all DOI projects Supplementary FMM specific to SRIWMP (iii) IA FMM training. (iv) Establish final FM arrangements. (v) Monitor FM implementation.	(i) – (iii) TRTA consultants, MAF and MOF. (iv) MAF and consultants. (v) MAF and consultants.	(i) Prior to the effectiveness. (ii)-(iii) (iv) During first three months of implementation. (v) During first one to two years of implementation
Inconsistent and inadequate projects' FM systems and procedures.	Standardized and comprehensive FMM for all DOI projects, plus project-specific supplements.	TRTA consultants, MAF and consultants.	Standardized FMM prior to the effectiveness. Application to all DOI projects during first three months of implementation.
Insufficient government staff made available.	Financing Agreement and PAM to stipulate staffing requirements.	Government and ADB.	Prior to the effectiveness.
Lack of capacity of government staff	(i) At least 2 FM staff appointed that have completed TRTA FM training. (ii) Standardized FM systems and procedures; on-the-job training; monitoring. (iii) Accounting scholarships for selected IA staff.	(i) TRTA consultants, MAF, IAs and MOF. (ii) MAF and consultants. MAF	(i) Prior to the effectiveness. (ii) – (iii) During first year of implementation.
Lack of Internal Audit	(i) Project FM manual detailing the FM systems and procedures, (ii) use of one accounting software based on an internationally-accepted double-entry book keeping and accounting system and financial reporting to meet project management and	(i) TRTA (iia) TRTA complete development and provide installation and training support. (iib) LIC FM	(i) prior to loan negotiations (iia) TRTA before loan negotiations (iib) Qtr 3 PY 1 based on first

	donor requirements. (iii) Monitoring and oversight from the Department of Irrigation's Program Governance Team and the Ministry of Agriculture and Forestry's Department of Planning and Finance. The project is providing consultant support to these roles. (iv) External audits to be conducted by a private audit firm; (v) Assignment and ongoing training of IA staff.	consultant to operationalize (iii) DOI PGT and MAF (iv) Contractor mobilized by EA (v) MAF / DOI / Provincial IAs	half transactions (iii) DOI PGT – every quarter MAF Planning and finance every 6 months (iv) Within 15 months (v) Prior to loan effectiveness
Project external audit reports that are not in accordance with international standards	Engage private audit firm to conduct external audits.	MAF	Within first six months of implementation.

DOI = Department of Irrigation, FM = financial management, FMM = financial management manual, IA = implementing agencies, MOF = Ministry of Finance, PAM = project administration manual, SRIWMP = Sustainable Rural Infrastructure and Watershed Management Project, TRTA = transactional technical assistance.

Source: ADB

C. Disbursement

1. Disbursement Arrangements for ADB and ADB-administered Cofinancier Funds

168. The loan and grant proceeds including ADB administered co-financier funds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time),⁶ and detailed arrangements agreed upon between the government and ADB. Online training for project staff on disbursement policies and procedures is available.⁷ Project staff will be required to avail of this training to help ensure efficient disbursement and fiduciary control.

169. **Advance fund procedure.** Three separate advance accounts will be established and maintained by MOF for each of the three funding sources. Three separate sub-accounts will be opened for DOI and the Houaphan and Xiangkhouang provincial PAFOs whilst the remaining two provinces of Louangphabang and Xaignabouli provinces will have subaccounts for the ADB COL and ADB Special Funds Resources. The currency of the advance accounts is US dollar. The advance accounts are to be used exclusively for ADB's and ADB-administered co-financier funds share of eligible expenditures. MOF, who administers the advance accounts, is accountable and responsible for proper use of advances to the advance accounts including advances to sub-accounts.

170. Direct payments by ADB that are agreed in negotiated contracts will be disbursed based on documentation submitted by the contractor to the IA. Each IA will review documentation and submit this to DOI, and then to MAF (Finance and Planning) for review of documentation. Once cleared by MAF, the documentation will be reviewed by MOF for approval of disbursement of Project funds by ADB directly to the contractor.

⁶ The handbook is available electronically from the ADB website (<http://www.adb.org/documents/loan-disbursement-handbook>)

⁷ Disbursement eLearning. http://wpqr4.adb.org/disbursement_elearning

171. The total outstanding advances to the respective advance account should not exceed the estimate of the respective ADB's share of expenditures to be paid through the respective advance account for the forthcoming 6 months. MOF may request for initial and additional advances to the respective advance account based on an Estimate of Expenditure Sheet⁸ setting out the estimated expenditures to be financed through the respective account for the forthcoming 6 months. Supporting documents should be submitted to ADB or retained by the respective executing and implementing agencies in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time) when liquidating or replenishing the the respective advance account.

172. **Statement of expenditure (SOE) procedure.**⁹ The SOE procedure may be used to reimburse eligible payments or to liquidate advances to the respective advance account. The ceiling of the SOE procedure is the equivalent of \$100,000 per individual payment. Supporting documents and records for the expenditures claimed under the SOE should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit. The IAs under the coordination of the PGT will be responsible to ensure SOEs are operated in accordance with ADB requirements. Reimbursement and liquidation of individual payments in excess of the SOE ceiling should be supported by full documentation when submitting the withdrawal application to ADB.

173. Before the submission of the first withdrawal application (WA), the borrower should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the government, together with the authenticated specimen signatures of each authorized person. The minimum value per WA is stipulated in the *Loan Disbursement Handbook* (2017, as amended from time to time). Individual payments below such amount should be paid (i) by the IAs and subsequently claimed to ADB through reimbursement, or (ii) through the advance fund procedure, unless otherwise accepted by ADB. The borrower should ensure sufficient category and contract balances before requesting disbursements.

2. Disbursement Arrangements for Counterpart Fund

174. Counterpart funds are only used for (i) staff costs and (ii) obtaining the UXO certification prior to subproject implementation. Arrangement for counterpart funds needs to be incorporated into the annual workplan and budget cycle for all IAs and MAF. This will require each provincial IA and the DOI to prepare workplans and supporting budgets in May to June the year prior to the funds being required. In the case of the UXO funding which will be taken from the government's UXO trust fund and implemented through their work plan, a one-year advance notice is required from each IA to the UXO program manager. Once approved, funds are disbursed through the annual appropriation to each Ministry and the respective Departments. For provincial staff costs, these are provided through the provincial governor's budget appropriation.

175. The in-kind government contribution will be expressed in quarterly and annual reports based on the actual cost to Government budget, for salaries and associated social costs these will be identified from the time allocation in annual work planning, office and utilities costs will be

⁸ Estimate of Expenditure sheet is available in Appendix 8A of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time),

⁹ SOE forms are available in Appendix 7B and 7D of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

assigned based on a prorate of total annual costs per staff member. Non-financed participation costs will be included based on cost records from each provincial project implementation team.

D. Accounting

176. The PGT - DOI and each provincial IA will maintain separate books and records by funding source for all expenditures incurred on the project following International Public Sector Accounting Standards for cash-based accounting or its national equivalent. The Provincial administration will be responsible for account and report on these accounts in accordance with government's accounting laws. The compiled accounts for the project will be maintained by DoI on behalf of the executing agency^[1] and will include reconciliation of the payments made from the Advance Account and direct payment by ADB to contractors as is currently practiced by other sector projects in Lao PDR.

E. Auditing and Public Disclosure

177. The MAF will cause the detailed consolidated project financial statements to be audited in accordance with International Standards on Auditing by an independent auditor acceptable to ADB. The audited project financial statements together with the auditor's opinion will be presented in the English language to ADB within 6 months from the end of the fiscal year by the MAF.

1786. The audit report for the project financial statements will include a management letter and auditor's opinions, covering the following: (i) that the project financial statements present an accurate and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting standards; (ii) that the proceeds of the loan and grant were used only for the purposes of the project; and (iii) that the borrower or executing agency was in compliance with the financial covenants contained in the legal agreements (where applicable). Six audited financial reports will be submitted for this Project.

179. The PGT - DOI and each provincial IA will cause the audit of their respective financial statements in accordance with acceptable standards on audit or its national equivalent by independent auditors acceptable to ADB. In addition, the MOF will cause the audit of the Advance Account in accordance with International Standards on Auditing or its national equivalent, by an independent auditor acceptable to ADB. The audited project financial reports shall be compiled by PGT-DOI and submitted to ADB within 6 months from the close of the fiscal year.

180. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor; refer Annex 7: Terms of Reference for Independent Project Audit of Project Financial Statements.

181. The government, MAF, DOI and Provincial PAFOs have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.¹⁰ ADB reserves the right to require a change in the

^[1] Whilst the EA has no direct control over the Provincial Financial Management – all direct payments, withdrawal application and replenishments are processed by the EA (through DoI to MAF (Planning and Finance) who are accountable for overall coordination and review of day to day financial management.)

¹⁰ ADB's approach and procedures regarding delayed submission of audited project financial statements:

(i) When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (a) the audit documents are overdue; and (b) if they are not received within the next 6

auditor (in a manner consistent with the constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

182. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's Public Communications Policy 2011.¹¹ After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter, additional auditor's opinions, and audited entity financial statements will not be disclosed.¹²

X. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting

183. All advance contracting will be undertaken in conformity with ADB's Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and staff instructions. The issuance of invitations to bid under advance contracting will be subject to ADB approval. The borrower, MAF, DA, PAFOs in Houaphan, Xiangkhouang, Louangphabang, and Xaignabouli Provinces (IAs) have been advised that approval of advance contracting does not commit ADB to finance the project. Contracts can only be signed after the project is declared effective.

184. **Advance contracting.** Advance actions will apply to the (i) consulting services, (ii) vehicle and equipment and (iii) works contracts, for which bidding documents is being prepared by ADB TRTA consultants. Bidding documents for the first few packages will be ready for advertisement before loan/grant effectiveness. Invitations for expressions of interest for individual start-up consultants will be advertised and their contracts will be ready for signing by loan/grant effectiveness.

185. For consulting services, the required advance actions up to loan effectiveness will include (i) Consultant Management System (CMS) listing and request for expressions of interest for the loan implementation consulting firms (LIC, QCBS, 95:5), short-listing, request for proposals and evaluation of proposals and overall ranking, all to be supported by the TRTA; (ii) CMS listing and request for expression of interest for the start-up specialist (ICS), evaluation and recommendation of candidate; (iii) CMS listing and request for expressions of interest for the independent safeguard monitoring consultant (CQS); (iv) CMS listing and request for expressions of interest for the social impact assessment and resettlement consultant (CQS); (v) CMS listing and request

months, requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.

- (ii) When audited project financial statements are not received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (a) inform the executing agency of ADB's actions; and (b) advise that the loan may be suspended if the audit documents are not received within the next 6 months.

- (iii) When audited project financial statements are not received within 12 months after the due date, ADB may suspend the loan.

¹¹ Public Communications Policy: <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

¹² This type of information would generally fall under public communications policy exceptions to disclosure. ADB. 2011. *Public Communications Policy*. Paragraph 97(iv) and/or 97(v).

for expressions of interest for translation services (CQS); and (vi) CMS listing and request for expressions of interest for external audit services. The contract with the start-up consultant will be signed immediately following loan effectiveness and will then continue to support PGT and PAFOs with the procurement of LIC consulting services packages until their appointment in late-2020. Following mobilization of the LICs, the procurement of the remaining consulting services will proceed with the aim of signing all contracts by the end of 2020. Procurement of the consultant for the preparation of the investment master plan will be initiated by DOI LIC following contract signing.

186. For goods, equipment, and vehicles contracts, DOI and PAFO will have confirmed the specifications for office and field equipment, and have these approved by relevant government entities, final tender documentation is reviewed and approved by government, and ready for tendering at loan signing.

187. For works contracts related to the four representative subprojects (RSP), the bidding documents have been prepared and will be approved by the EA and supporting agencies prior to Loan signing. Works contract tender documentation will be updated and ready for advertising by Loan effectiveness and when land acquisition completion is confirmed.

B. Procurement of Goods, Works, and Consulting Services

188. All procurement of goods and works will be undertaken in accordance with ADB's Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and staff instructions.

189. Before the start of any procurement, ADB and the government will review the public procurement laws of the central and state governments to ensure consistency with ADB's Procurement Policy (2017, as amended from time to time). The Harmonized Standard Bidding Documents for the Procurement of Goods and Works of the Lao PDR will be used for small contracts through shopping and nationally-advertised open competitive bidding (OCB) duly following the NCB annex in the procurement plan.

190. The 18-month procurement plan, which is in Annex 8 Procurement Plan (Updated), indicates the goods, works, and consulting service contract packages, review and bidding procedures.

191. All consultants and nongovernment organizations (NGO) will be recruited according to ADB's Procurement Policy 2017. The terms of reference for all consulting services are detailed in Section C.

C. Consultant's Terms of Reference

192. The detailed consultant's terms of reference are provided in Annexes 2, 9, 10, 15, 16, 17 and 18. The project implementation will be supported by the following consultant services packages:

- (i) Start Up Consultants (package OP5-CS011/1; Annex 13: Terms of Reference for International Project Management Start-Up Consultant and National Start-up Procurement Specialist)
 - a) An international project management start-up consultant for 12 person-months recruited using individual consultant selection (ICS) who has

experience in project management, procurement and project management systems, preferably at least ten years. The role will work closely with PGT and the respective PPITs in each province to advance the start-up through building project implementation teams, ensuring all are staff as agreed, ensure all are fully aware of the project, roles and responsibilities and the systems that will be established in the first two quarters of the project calendar.

- (ii) A National Procurement Specialist. (package OP5CS011/2; Annex 13: Terms of Reference for International Project Management Start-up Specialist and National Start-up Procurement Specialist)

- a) National Start-up Procurement Specialist for 15 months to be recruited as individual consultant selection (ICS) according to ADB CMS and procurement procedures (2017). The consultant will work closely with the DOI PGT to prepare and oversee the contracting of the LIC teams for the Provinces plus the supporting service provider contracts.

Both start up consultants will be eligible for roles in the DOI Loan Implementation Consultant team should the respective bidders (firm) and the individual agree on terms. This eligibility is included to encourage continuity that will reduce the risks of delays during the handover during the DOI LIC mobilization.

- (iii) DOI LIC (package OP5-CS01; Annex 2: Terms of Reference for Loan Implementation Consultant (Updated)). Recruited as a firm using ADB's CMS and QCBS procedures with a full technical proposal due to the range of expertise being contracted (mostly project management and governance support) reflecting the changes to Project Governance and administration, and for technical innovation in terms of dry season irrigation, commercial agribusiness and market led high value crop systems necessitates quality technical inputs to ensure project effectiveness and sustainability. The team will be based in DOI, Vientiane, however, it will also support each of the Provincial IA with project management governance systems by working through the PGT in DOI.

- a) The DOI team will comprise (i) project management, (ii) financial management, (iii) procurement, (iv) monitoring expertise, along with project safeguards support for social safeguards, environmental safeguards, and gender advancement. Technical skills for agribusiness will also be provided through the DOI LIC team. Technical engineering skills are not included in the DOI team as technical input is the responsibility of each province

- (iv) Provincial IA (PAFO) LIC

Recruited as a national company using ADB's CMS and QCBS procedures based on a simplified technical proposal. Each provincial IA will be supported by their own LIC team of consultants, however contracting of these teams will be undertaken centrally due to the lack of experience of each PAFO in the contracting of consulting services (See PRAMP survey findings). While contracted centrally, the Provincial IAs team will be co-located with the PAFO PIT and will report to the Director of the PIT and PAFO management. For each Provincial team the core role

is a Project Management role to support the PAFOs in overall planning and implementation of the SRIWSM. In addition, water resource management roles (one international and one national) are included in the Louangphabang and Xiangkhouang teams with these roles supporting water resource management and planning in two provinces per team. Additional technical roles are provided for watershed management planning and implementation in Xiangkhouang and Houaphan provinces.

- a) The Provincial LIC team is based on project management support and social safeguards, water management expertise for supporting the planning of water use and irrigation scheme operation are included in Louangphabang and Xiangkhouang provinces that each provide support for subproject planning in two provinces for each team.
- b) Each Provincial LIC will be led by a long-term program management advisor that will report to the assigned DDG of DOI and will work closely to ensure that project implementation efficiency is actively managed by both IAs and EAs.
- c) The Houaphan and Xiangkhouang LIC teams include specialist support (unallocated in the ASP) but in Xiangkhouang RSP Nam Tong includes tea and livestock sector experts. The unallocated person-months are provided to support technical inputs as cropping systems and markets are prioritized.

Table 33: Loan Implementation Consultant (for National and Provinces)

Loan Implementation Consultant Team									
		Quantities (Person Months)							
Position	Posting	Pyr 1	Pyr2	Pyr3	Pyr4	Pyr5	Pyr6	Pyr7	Total
A: DOI LIC Team									
Project Management Expert (Intl) -TL, Key expert	VTE	6	12	6	2	2	2	2	32
Financial Management Specialist (Intl), Key expert	VTE	6	0	0	0	0	0	0	6
Financial Management Expert (Nat), Key expert	VTE	5	4	4	2	0	0	0	15
Financial Management Expert (Nat), Key Expert	VTE	5	4	0	0	0	0	0	9
Procurement Specialist (Intl), Key expert	VTE	4	5	0	0	0	0	0	9
Procurement Expert (Nat), Key expert	VTE	6	12	6	0	0	0	0	24
Agri Market Linkage Specialist (Intl), Key expert	VTE	2	8	6	1	1	0	0	18
Agri Market Linkage Expert (Nat), Key expert	VTE	2	11	11	6	6	0	0	36
Monitoring & Evaluation Expert (Nat)	VTE	6	4	4	2	2	2	0	20
Safeguard - Social Specialist (Intl)	VTE	3	2	2	2	0	0	0	9
Safeguard Social Expert (Nat)	VTE	6	10	10	4	2	2	0	34
Safeguard -IEE Specialist (Intl)	VTE	0	3	3	3	0	0	0	9
Safeguard -IEE Expert (Nat)	VTE	0	4	4	4	3	2	0	17
Construction Supervision Oversight expert (Nat)	VTE	4	6	4	2	0	0	0	16
Agricultural Economist (Nat)	VTE	3	3	2	0	0	0	0	8
Gender Expert	VTE	2	2	2	2	2	0	0	10
Subtotal		60	90	64	30	18	8	2	272
B: LPB LIC Team									
Irrigation/water Mgmt Specialist (Intl), Key expert	LPB	6	4	2	0	0	0	0	12
Irrigation/water Management Expert (Nat), Key expert	LPB	6	6	4	4	2	0	0	22
Project Management Advisor, Key expert	LPB	6	12	9	6	3	0	0	36
Unallocated	LPB	0	2	3	1	1	0	0	7
Subtotal		18	24	18	11	6	0	0	77
C: XK LIC Team									
Irrigation/water Management Specialist (Intl), Key expe	XK	6	4	2	0	0	0	0	12
Irrigation/water Management Expert (Nat), Key expert	XK	6	6	4	4	2	0	0	22
Project Management Advisor, Key expert	XK	6	9	9	6	3	3	0	36
Land Use Management Advisor	XK	2	4	4	0	0	0	0	10
Tea Sector Marketing Specialist	XK	0	6	6	4	1	0	0	16
Livestock (cattle) advisor	XK	7	6	4	4	0	0	0	21
Unallocated	XK	0	2	3	1	1	0	0	7
Subtotal		27	37	32	19	7	3	0	124
D: HPN LIC Team									
Project Management Advisor, Key expert	HPN	6	9	9	6	3	3	0	36
PLUP & catchment Landuse Expert	HPN	0	2	4	6	4	0	0	16
Technical support for Landuse change	HPN	0	2	4	6	4	0	0	16
Unallocated	HPN	0	2	3	1	1	0	0	7
Subtotal		6	15	20	19	12	3	0	75
E: Xayaboury LIC Team									
Project Management Advisor, Key expert	XBY	6	9	9	6	3	3	0	36
Unallocated	XBY	0	2	3	1	1	0	0	7
Subtotal		6	11	12	7	4	3	0	43
Grant Total (person months)		117	177	146	86	47	17	2	591
International									107
National									484

DOI = Department of Irrigation, HPN = Houaphan, IEE = initial environmental examination, Intl = international, LIC = loan implementation consultants, Nat = national, PLUP = participatory land use planning, Pyr = project year, TL = team leader, XK = Xiangkhouang

Source: ADB estimates.

- (v) Social Safeguards External Monitoring contractor (package OP5-CS06; Annex 9:) To be contracted using CQS and will be responsible for ensuring the RSP safeguards processes develop and apply best practice and that once undertaken the provisions of the REGDF will be ratified in a minimum of 20% of selected households. The contract will be awarded prior to the procurement of the first works contract and will operate for the duration of the project. It is expected that the firm would mobilize a minimum of two persons, one of which will need to be an international safeguards expert. The terms of reference are in Annex 9.

In addition to the above, the following will be recruited and awarded:

- (i) Surveys: Social impact assessment and resettlement. (package OP5-CS07; Annex 10: Surveys). It is expected to be a local firm that may recruit international expertise to conduct the field surveys required for the development and approval of additional subprojects, as such the scope of the contract will need to provide for eight subprojects in total. The assignment will include two thematic teams (i) social impact assessments and (ii) the development of Land Acquisition and Resettlement plans with supporting DMS, IOL and SESA field work. The contract will require enough capacity to support four design processes per annum for up to and possibly including Project Three. The recruitment will use CQS to ensure quality of technical support and services provided for safeguards.
- (ii) A translation service provider (package OP5-CS08; Annex 14) based in Vientiane will provide translation service of all documents into English, and thereby allow all project implementation roles to work in the Laos language. Recruitment using CQS with a time-based contract.
- (iii) Water Resource Master Plan. (package OP5-CS09; Annex 15) The consultant will prepare the water resources management plan with supporting investment plan.
- (iv) A national Information Technology Support and Service Provision. (package OP5-CS10; Annex 17). To be recruited through direct contracting procedures to provide technical support for establishing cloud-based management information and internet systems.
- (v) External audit firm. (package OP5-CS012; Annex 7).
- (vi) Catchment Studies. (package OP5-CS013 and 14; Annex 16)

XI. SAFEGUARDS

A. Safeguards

193. **ADB safeguard classifications and documents.** All safeguard documents have been prepared in accordance with ADB SPS (2009).¹³ The safeguard classifications are B for environment, involuntary resettlement and indigenous peoples. MAF/Department of Irrigation are committed to implementing safeguard plans and adhering to ADB and the government's safeguard policies.

194. The screening of the long list of proposed subprojects removed any known significant resettlement risk. Only category B and C PRI subprojects will be eligible for financing under the overall project. Most civil works will involve rehabilitation of existing irrigation facilities, and construction work will be carried out within the existing rights-of-way.

195. **Public disclosure and consultation.** The draft IEEs and EMPs were disclosed on ADB website in June 2019, before Board approval. The REGDF, EARF and EMPs will be translated into Laos language, and provided to the PPITs to be made available to interested stakeholders on request. The updated IEE/EMPs for RSPs and the IEE/EMPs, LARPs and/or due diligence reports for additional subprojects will be disclosed on ADB website prior to civil works contract awards. Semi-annual safeguard monitoring reports will be disclosed following review. Consultation with affected persons and key stakeholders has been carried out during project preparation and will be ongoing during implementation as described in the safeguard documents. Consultation will include individual and focus group discussions to ensure the affected households are informed about: (a) resettlement impacts, asset valuation/RCS, entitlements and compensation payment modalities with time lines, (b) rehabilitation and income restoration measures suggested for the project affected persons, (c) environmental impacts and mitigation measures; and (d) project grievance redress mechanism. See section IX. Performance Monitoring, Evaluation, Reporting and Communication for safeguard monitoring and reporting requirements.

196. During implementation, there should be regular liaison with affected persons and community, consultation meetings with communities in the project area of influence and with project affected persons, including women and vulnerable groups, to ensure project related information is regularly shared.

197. **Project safeguards grievance redress mechanism.** ADB SPS requires that Government establishes and maintains a project-specific grievance redress mechanism (GRM) to receive and facilitate resolution of affected peoples' concerns about project social and environmental performance. PGT and PPITs will establish the GRM, as detailed in safeguard plans within 60 days of the loan effectiveness date, or before implementation of land acquisition activities, whichever is the earliest. The GRM comprises a set of clear procedures to receive, record, and address concerns or complaints raised about project safeguard issues at village, district and provincial level. GRM Focal Points from the PGT, PPITs, contractor teams and districts will be identified. Contact details will be disclosed at construction sites and contractor camps and each affected village. Affected persons will have the option of seeking redress through the existing country system or through the project GRM. The PPIT will report monthly on the GRM to the

¹³ Available at: <http://www.adb.org/documents/safeguard-policy-statement>

PGT. The PGT will monitor and report on GRM to ADB in quarterly project progress reports and semi-annual safeguards monitoring reports.

198. **Prohibited investment activities.** Pursuant to ADB's Safeguard Policy Statement (2009), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the Safeguard Policy Statement (2009).

B. Environmental Safeguards

199. **Environment assessments.** Four RSPs have been assessed, three (Louangphabang, Xiangkhouang and Houaphan) were classified as category B for environment and IEEs and EMPs have been prepared. The fourth RSP (Xaignabouli) was classified as category C for environment, a review of implications and an Environmental Code of Conduct was prepared. Proposed works under the project are mostly rehabilitation of existing schemes, anticipated environmental impacts are mostly minor and short-term and limited to the construction phase. These impacts can be readily addressed through effective implementation of measures specified in the EMP.

200. An EARF was agreed with the Government which provides guidance on future subproject selection, screening, assessment and implementation. The EARF will be applied to additional subprojects under Output 3 and any other civil works proposed under other outputs. Additional subprojects under Output 3 have already been screened and determined eligible for financing. If new subprojects are introduced to the long list, pre-screening will be undertaken by a consultant acceptable to ADB to ensure conformity with PRI subproject eligibility criteria at the cost of the Government. Any subprojects classified as Category A will not be eligible and will be excluded from financing. Environmental Compliance Certificates will be obtained from the relevant Provincial Department of Natural Resources and Environment prior to civil works.

201. The key environmental issues to be addressed during detailed design of RSPs and additional subprojects are: (1) sustainable water use to ensure that volume of offtake does not have an adverse impact on downstream users and riparian ecosystems; and (2) ensuring that agrichemical inputs are used in accordance with good agriculture practice. Detailed engineering design will assess permissible quantities of water offtake during the dry season that maintain adequate flow for downstream users and environmental flows and takes into account potential climate change impacts on water availability. The project will also support the capacity development of WUAs and WUGs and integrated pest management approaches. The introduction of land zoning in catchment areas of reservoirs will minimize inappropriate land use activities within the catchment and reduce the risk of siltation of streams while assuring dry season.

202. The LIC safeguard Specialists will provide safeguards capacity development training for PGT, PPIT, LIC, Contractors and GRM focal points on safeguard mitigation and monitoring measures, Contractor EMP preparation, templates for environmental monitoring and report. LIC safeguard specialists will screen and assess additional subprojects proposed under Output 3 and any other infrastructure requiring civil works under other outputs and prepare the safeguards reports and ensure that RSP safeguard reports are updated based on detailed engineering design.

203. The Contractor will be required to develop a site-specific Construction Environmental Management Plan (CEMP) in accordance with the IEE/EMP and designate an environmental health and safety (EHS) Officer to supervise and train workers on occupational and community health and safety practices and to monitor and report on implementation of EMP/CEMP and corrective actions. A GRM focal point/community liaison officer should also be designated to

ensure public disclosure of planned construction to affected persons and monitoring and reporting on GRM. Each works Contractor EHS Officer will prepare a monthly report on EMP/CEMP and GRM implementation for submission to PPIT, PGT and LIC.

204. The construction supervision consultants (CSC) will ensure a CEMP is prepared for each Category B subproject and an Environmental Code of Conduct for each Category C subproject. The CSC will be responsible for day to day monitoring of implementation of health and safety and EMP/Code of Conduct requirements and issuing instructions for corrective actions, as needed.

C. Social Safeguards

205. **Involuntary resettlement (Category B).** MAF and ADB have agreed upon a combined resettlement and ethnic group development framework (REGDF), through which two Land Acquisition and Resettlement Plans and two Due Diligence Plans were prepared for the four RSPs and publicly disclosed.¹⁴ The plans are supported by public consultation and disclosure, with minor impacts of land acquisition and compensation for roadside trees, crops, or small structures within the right-of-way for which compensation, allowances, surveys, monitoring, and reporting will be financed from ADB loan proceeds. The impacts will be monitored, evaluated, and reported semiannually to ADB by MAF.

206. **Indigenous peoples (category B).** Impacts on indigenous peoples, referred to as ethnic groups in Lao PDR, are overwhelmingly positive as they are fully integrated into the subproject communities and will share in the project benefits. The project will not cause physical displacement from traditional or customary lands, nor will it negatively impact the identity, culture, or customary livelihood systems of the ethnic groups. The combined resettlement and ethnic group development framework will be used to prepare resettlement and ethnic group development plans that include mitigation measures to address impacts, institutional capacity development programs, a grievance redress mechanism, and compliance with ADB's information disclosure and consultation requirements.

207. The REGDF which includes a community participation framework and a resettlement framework provides guidance on future subproject selection, screening, assessment and implementation. The REGDF will be applied to additional subprojects under Output 3 and any other civil works proposed under other outputs. Additional subprojects under Output 3 have already been screened and determined eligible for financing. If new subprojects are introduced to the long list, pre-screening will be undertaken by a consultant acceptable to ADB to ensure conformity with PRI subproject eligibility criteria at the cost of the Government. Any subprojects classified as Category A will not be eligible and will be excluded from financing.

208. Voluntary land donation and negotiated settlement are accepted through the community participation framework. Specific conditions for direct beneficiaries of the project are provided within the REGDF that limit donations to 9% of the affected plot and that severely affected households and households identified to be economically vulnerable are not eligible for donation.

209. The most likely resettlement issue will come from relocation of delivery canals to improve water utilization efficiency. The REGDF outlines specific requirements for the management of such instances, within an overall requirement that the affected households that experience impacts shall be supported through mitigation, livelihood restoration, or compensation options

¹⁴ Resettlement Framework: Resettlement and Ethnic Group Development Framework (accessible from the list of linked documents in Appendix 2).

through a community participation framework or a resettlement framework. Most impacts are expected to be minor in nature.

210. The REGDF was applied to the four RSPs. The results were:

- (i) A total of 10,296 m² of agricultural land, 1,372 m² of residential land and 3,370 m² of forest land will be impacted by the project. (b) 52 households hold a total of 60 land parcels identified in the DMS as being affected by the irrigation project. Of these 60 plots affected, 31 are eligible for compensation through the Community Participation Framework and 29 are eligible for compensation through the Resettlement Framework. (c) The project has identified 5 vulnerable AHHs. Twenty-nine severely affected HHs are eligible to participate in livelihood and income restoration activities under Output 1. (d) No secondary structures, trees or crops are affected (no dry season cropping along access road). There will be no dismantling of residential structures, or impact on graves or businesses. (e) A Land Acquisition and Resettlement Plan was prepared. (f) The village in the project area comprise of two ethnic groups: 89% are of Phuan and 11% are Hmong. Special measures, to ensure equitable access to information and opportunities provided by the project, such as improved consultation materials and approaches shall be utilized for all ethnic groups within the project area.
- (ii) RSP Nam Seng: (a) The total number of affected households (AHH) is 106 consisting of 6032 affected people (AP). Of these 106 HH, 93 Households have land plots eligible for compensation through the Community Participation Framework and 33 Households have land plots eligible for compensation through the Resettlement Framework. Note that several households have multiple plots affected. This includes 9 AHH affected on their residential land (691m²). (b) The project has 10 vulnerable AHHs (64 APs). 33 severely affected HHs are eligible to participate in livelihood and income restoration activities under Output 1. (c) The total area of agricultural land affected by the project is 38,007 m². Two (2 AHHs) secondary structures (toilets) are affected. There is no dismantling of residential structures, or impact on graves or businesses. 523 trees are affected in the project area of which most are Teak trees aged 6 years or more. (d) A Land Acquisition and Resettlement Plan was prepared. (e) 8. 57.2% of the AHHs are of Lao-Tai, 19.8% are Hmong, 26% are Khmu,, 4.2% are Prai and 1% are Nyouan. Special measures, to ensure equitable access to information and opportunities provided by the project, such as improved consultation materials and approaches shall be utilize for all ethnic groups within the project area.
- (iii) RSP Nam Poua: (a) A total of 22 households consisting of 122 affected people (AP) have 24 land plots impacted. Of these 24 plots affected, 17 are eligible for compensation through the Community Participation Frameworks and 7 are eligible for compensation through the Resettlement Framework. 7 severely affected HHs are eligible to participate in livelihood and income restoration activities under Output 1. (b) A total of 4,071 m² of agricultural land will be impacted by the sub-project. Within the 24 parcels of the existing irrigation in 4 villages, 16 are used as garden land and 8 as paddy fields. One garden in Houaphan has 25 small orange trees on it. (c) No houses or permanent structures are affected therefore there is no need for any relocation. (d) The location of the bridges has been confirmed and, the approaches to the bridges will connect to the existing roads via communal land which is reserved for this purpose. Validation of land ownership will be undertaken

during implementation. (e) A Land Acquisition and Resettlement Plan was prepared. (f) There are 4 Hmong, 1 Lu-Mien and 17 Lao-Tai affected households. Special measures, to ensure equitable access to information and opportunities provided by the project, such as improved consultation materials and approaches shall be utilized for all ethnic groups within the project area.

- (iv) RSP Phieng 1 and 2. Was found to have no land acquisition and no issues with ethnic groups and was categorized C for IR and IP. A DDR has been prepared.

211. **Institutional arrangements for implementation of safeguards.** The PGT will appoint qualified safeguards officers to supervise and coordinate implementation of social and environmental safeguard requirements with support and capacity building as needed from the LIC International and National Safeguard Specialists. The PGT Project Director will be responsible for submitting safeguard reports to ADB for clearance and disclosure. They will also carry out regular monitoring during implementation and prepare a summary of progress of the safeguard measures and GRM implementation for the quarterly project progress reports. They will participate in ADB loan review missions, ensure that semi-annual safeguards monitoring reports are submitted to ADB on time and follow-up on agreed actions. The LIC will provide capacity-building orientation and skills training, as needed, to concerned personnel of the PPIT and other agencies that may be involved in resettlement implementation.

212. Each PPIT will nominate a social and environmental safeguards focal point to support LIC Environment Specialists and PGT with co-ordination at the province and district level. The PPIT safeguards focal points will undertake joint site visits with subproject Supervision Consultants and Contractors to review implementation of safeguard plans and GRM and report issues to PGT and LIC. PPIT will co-ordinate environmental quality monitoring with PONRE and invite PONRE to join site visits and ADB loan review missions.

213. The preparation of LARPs will be overseen by the LIC and will work with the PGT service provider for surveys such as SESA, DMS, IOL. The requirements for these are detailed in the REGDF, and it is expected that each PAFO will assign a staff member as a focal point to work with the resettlement teams and to monitor the day to day implementation of each LARP. The PPIT safeguards focals will assist in preparing and updating the LACPs in a participatory and transparent way and consistent with the project resettlement policy. Once approved by DONRE and reviewed and concurred by ADB, the LIC will provide technical advice in the implementation of the approved LARP and provide sufficient information regarding the completion of compensation and the provision of livelihood income restoration support. The PGT will contract an external monitor for resettlement and the LARP implementation.

214. ADB will visit project sites and review project performance against the safeguard plans and legal agreements and as documented in periodic safeguard monitoring reports submitted by the PGT. If any of the safeguard requirements that are covenanted in the legal agreements are found not to be satisfactorily met, ADB will require the PGT to develop and implement an appropriate corrective action plan (CAP) agreed upon with ADB. If unanticipated safeguard impacts become apparent during project implementation, ADB will require the PGT with support of LIC to (i) assess the significance of such unanticipated impacts; (ii) evaluate the options available to address them; and (iii) prepare or update the safeguard plans.

In case of any discrepancy through independent verification, direct meetings with AHHs or the GRM (at project level or directly to ADB), on the voluntary nature of the donations by the EA,

External Monitor or the ADB, this option will be withdrawn from this REGDF and eminent domain shall be applied as per the entitlement matrix for all cases without exclusion.

215. **Safeguard responsibilities and roles.** These will lie with PGT for the establishment of safeguard systems based on the respective REGDF and EARF. For the REGDF each PGT will be responsible for the completion and the approval of the safeguard documentation required for the approval of each subproject. Once approved, the implementation of safeguards will be overseen by the PGT – this will include (i) LIC support, (ii) an external monitor to ensure that the provision on each LARP have been applied. Ultimately the EA is responsible for the safeguard requirements in the project and for ensuring these are implemented correctly. As such, PGT will need to ensure that its systems and reviews are closely aligned to the respective safeguard frameworks. As no subproject can be approved without a safeguard approval if the safeguards are not completed on time severe delays may arise. In this respect, the ADB review of safeguard documentation will be provided within 20 working days of document submission. Government decision-making also needs to be expedited, however, delayed decisions comes at its own cost, so it is not specified.

216. **Climate and disaster risk.** The project is classified as being at medium risk from climate change impacts, flood, landslide, tropical cyclones and depressions. A climate vulnerability and disaster risk assessment has been prepared and makes recommendations on parameters for engineering design and for agricultural systems and PLUPs to improve climate and disaster resilience of subproject infrastructure and target upland catchments. These requirements have been integrated in the TORs and specifications for detailed design.

XII. GENDER AND SOCIAL DIMENSIONS

A. Gender

217. The overall project aims to improve agriculture productivity in the FNP through provision of infrastructure and associated initiatives. The overall project is classified as 'Gender Equity (GEN)' under the ADB guidelines of March 2010.

218. The overall project can provide women in target communities with improved infrastructure that will increase productivity and incomes, improve mobility, empower women by creating opportunities to participate in decision-making, lessen women's work burdens and save time. Further benefits are identified through the nutrition program of output 4, and the increased access to HVC markets and time saving technologies within the irrigation schemes. To ensure these results, appropriate actions need to be undertaken, though gender mainstreaming knowledge and skills are lacking across implementing agencies.

219. The PGT leader will ensure that staff are assigned to the Project from the Women's Advancement Unit of MAF to oversee and implement the GAP (section VIII). The gender focal points across all IAs will be existing personnel from the Women's Advancement Unit's at the respective level of the Government Administration.

Table 34: Gender Action Plan

Project outcome and outputs	Gender activities/actions	Performance indicators/targets ^a	Responsible agencies
Outcome			
Gender Objective: High value agricultural production, natural resources management, status of women and community nutrition improved	1. Both husband and wife register for producing HVC crops and livestock groups.	3,200 women producing HVC crops and livestock (2018 bl: 570 women).	
	2. Awareness raising of nutrition and hygiene conducted in all subprojects	60% of women of reproductive age meet minimum dietary diversity. (2017 bl: 40%)	
Output 1: Market-oriented agricultural production increased			
Gender Objective: Provide women producers and small business operators access to HVC market opportunities	1.1 LWU ensure women fully participate in market connection training forums.	Each of the 18 subprojects will develop market plans around which training, and capacity building will be provided. 45% of trainees will be women (2018 bl: 0) of whom 3,200 will produce HVC crops and livestock according to market demand. (2018 bl: 570)	Agribusiness Advisors and PAFO Staff including GFP from the PAFO Women's Advancement Office
	1.2 Awareness and access to technologies to produce HVC crops and livestock provided.		
	1.3 Provide farmer to farmer learning and extension services to female dry season irrigators		
	1.4 Trainings at time and place that is convenient to women.		
	1.5 Provide business planning support / training to enable women to access matching grants.	At least 50 (of 200) matching grants are awarded to women producers and entrepreneurs (2018 bl: 0)	
Output 2: Watershed ecological services protected			
Gender Objective: Increase women's legal rights to land ownership and control of land use.	2.1 Women participation in PLUP planning meetings.	45% of participants are women. (2018 bl: 0).	PAFO and GFP
	2.2 LWU work with women and families to ensure land titles in husband's and wife's names.	100% of new land titles financed by the project are issued in both names. (2018 bl: 0)	
Output 3: Command area irrigation reliability improved			
Gender Objective: Enhance women's participation in decision making and promote economic empowerment of women.	3.1 Invitations to join WUG/WUA and meetings for planning and implementing works for irrigation modernization to both men and women with prior notice.	14 WCS plans implemented involving 120 WUGs whose members comprised of 50% women. (2018 bl: 2 WUGs)	PAFO and GFP
	3.2 14 WUAs established encouraging women involvement in WUA management level.	WUAs have 25% women management in collaboration with village LWU.	
	3.3 Contractors are required to provide equal opportunities and equal pay for women for unskilled labor.	All (at least 14) contractors receive instruction prior to commencement of works on the necessity of providing	

Project outcome and outputs	Gender activities/actions	Performance indicators/targets ^a	Responsible agencies
		equal opportunities and pay for women. (2018 bl: 0)	
	3.4 All information and communication will be conducted in a gender sensitive manner.	All project training materials will be reviewed for gender and ethnic group inclusivity by GFP prior to implementation and conducted by at least 25% female trainers of whom at least 50% will be from ethnic groups (2018 bl: 0)	
	3.5 Gender sensitive training is provided to contractors.		
	3.6 Irrigation management training provided to 120 WUG.	All (90%) of women in WUG members trained. (2018 bl:0)	
Output 4: Nutrition awareness and facilities improved			
Increased awareness of nutrition and nutritional needs.	4.1. Six district nutrition committees formed in Xiangkhouang and Houaphan.	At least 25% participation of women in district nutrition committees. (2018 bl: 0)	PAFO, DAFO and GFP
	4.2 PAFO's agriculture and livestock divisions train nutrition sensitive agriculture in the six districts.	GFP will identify at least four needs of women producers and entrepreneurs for PAFO training (2018 bl: 0)	
	4.3 100 village nutrition schools operational targeting nutritional needs of adolescent girls and women of reproductive age.	In each village 60% of women of reproductive age meet minimum dietary diversity (2018 bl: 0)	
	4.4 In the two provinces WASH program implemented.	Communities in nine PRI subprojects have WASH programs. (2018 bl: 0)	
Project management/institutional gender related activities			
Objective: Gender is mainstreamed throughout project activities.	1. Gender awareness raising and GAP training for each subproject.	GFP trains 90% of project PPIT and PAFO staff by Q3 2020. (2018 bl: 0)	PAFO and GFP
	2. In each province, one PAFO's Women Advancement Unit staff assigned to be GFP.	GAP implemented. (2018 bl: 0)	PAFO
	3. TOR for team leader indicate overall responsibility for gender mainstreaming and successful implementation of the GAP.	GAP progress reports included in all review missions and project progress reports (2018 bl: 0)	
	4. Sex and ethnic disaggregated data collected and analyzed in project M&E.	All reports/documents include disaggregated data. (2018 bl: 0)	PPIT reader

bl = baseline, DAFO = district agriculture and forestry office, GAP = gender action plan, GFP = gender focal point, HVC = high-value crop, LWU = Lao Women's Union, M&E = monitoring and evaluation, PAFO = Provincial Agriculture and Forestry Office, PGT= Program governance team, PLUP = participatory land use plan, PPIT = Provincial Project

Implementation Team, TOR = terms of reference, WASH = water, sanitation and hygiene, WUA = water user association, WUG = water user group.

^a Most indicators are informed by: Government of Lao PDR, Ministry of Agriculture and Forestry. 2017. Vision of year 2030 Gender Equity Strategy of Agriculture Forestry and Rural Development Sector from 2016 to 2025.

220. **Implementation arrangement.** Each IA will have gender focal points from their respective Women's Advancement Units that will ensure awareness of all project stakeholders of the GAP and its requirements. They will also oversee activities to ensure women are included in the processes and benefits. The project has funded a whole output that targets women's nutrition and WASH infrastructure deficits to a value of \$6 million. Further GAP support is provided under output 1 to ensure women's participation in market access and connectivity programs.

XIII. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION

A. Design and Monitoring Framework

Impacts the Project is Aligned with market-driven and safe agricultural products developed, and rural areas integrated into the national economy (8 th Five-Year National Socio-Economic Development Plan, 2016–2020); Agriculture Development Strategy to 2025 and Vision to the Year 2030 Central Party's Resolution on Land; Forestry Strategy to the Year 2020); and National Nutrition Strategy and Plan of Action, 2016-2020) ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
Outcome: High value agricultural production, natural resources management, status of women and community nutrition improved.	By 2028 a. In modernized subproject areas: (i) average agriculture profitability increased to \$1,060/ha (2018 baseline: \$494/ha); and (ii) 50% increase in average household income levels from HVC and livestock production (2018 baseline: \$5,070/yr) b. 3,200 women producing HVC and livestock (2018 baseline: 570 women) c. Land area of 223,000 ha rehabilitated. (2018 baseline: 0) d. In target areas, 60% of women of reproductive age meet minimum dietary diversity. (2018 baseline: 40%)	a.- b. Provincial and district reports on key commercial crop production and PPMS. c. PPMS d. Social Surveys results	Government specified production targets override farmer cropping choices.
Outputs			
1. Market-oriented agricultural production increased.	By 2027 1a. Implementation of 18 market plans - one for each subproject, with at least 45% women's participation in the market plan consultations and implementation. (2018 baseline: 0)	1a. – 1c. PPMS	Extreme weather (droughts) limits agricultural production and cropping options.

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	<p>1b. Up to 200 matching grants for producers and entrepreneurs awarded, including at least 50 grants to women (2018 baseline: 0)</p> <p>1c. Irrigated dry season HVC produced on 4,200 ha (2018 baseline: 1,623 ha)</p>		
2. Watershed ecological services protected	<p>By 2027</p> <p>2a. 18 PLUPs implemented. (2018 baseline: 0)</p> <p>2b. 100% of new household land titles issued in both wife and husband names. (2018 baseline: 0)</p>	2a-2b. PPMS	<p>Outside interests inhibit land use change.</p> <p>Commodity price shocks incentivize upland cropping overriding PLUPs.</p>
3. Command area irrigation reliability improved	<p>By 2027</p> <p>3a. 18 subprojects modernized with: (i) dry season irrigated agriculture on 4,200 ha (2018 baseline: 2,242 ha); (ii) 4,200 ha of WSIA (2018 baseline 3,646 ha); and (iii) 100 km of year-round access roads. (2018 baseline: 30 km)</p> <p>3b. Plans implemented for water control systems involving 120 WUGs with WUGs comprising both husband and wife (2018 baseline: 2 WUGs)</p> <p>3c. 18 WUAs, with 25% of management consisting of females established (2018 baseline: 0)</p>	3a. – 3c. PPMS	Extreme weather events (floods) disrupt implementation.
Output 4: Nutrition awareness and facilities improved	<p>By 2027</p> <p>4. NNSPA program implemented: (i) six district nutrition committees with at least 25% women's participation; (ii) 100 village nutrition schools operational and targeted to adolescent girls and women; and (iii) water, sanitation and hygiene program operational for women and men in eight subproject communities. (2018 baseline: 0)</p>	4. PPMS	
Key Activities with Milestones			
Output 1 Market oriented agricultural production increased			
1.1 Update and confirm market demand assessments for the Batch 1 subprojects (Q3 2021)			
1.2 Prepare market demand assessments for Batch 2 (Q1 2022) and Batch 3 subprojects (Q4 2022)			
1.3 Confirm enterprise grant procedures and implementation arrangements (Q4 2021) and complete awards			

(Q4 2023)

1.4 Make operational market produce quality assurances systems. (Q4 2022)

Output 2 Watershed ecological services protected

1.1 Prepare PLUPs for catchments in Houaphan and Xiangkhouang subprojects. (Q4 2023)

2.2 Prepare PLUP-associated behavioral change with supporting community agreements, including 45% female participation. (Q4 2022)

2.3 Implement PLUPs (Q1 2026)

Output 3 Command area irrigation reliability improved

3.1 Batch 1: Contract four RSP works (Q1 2021) and complete with handover (Q1 2022).

3.2 Batch 2: Design and contract eight additional subprojects (Q2 2022) and complete with handover (Q4 2024)

3.3 Batch 3: Design and contract six additional subprojects (Q2 2023) and complete with handover (Q4 2026).

3.4 Form WUGs and WUAs with 50% participation by women, and with women in positions of management in 25% of the WUGs and WUAs (Q3 2020).

3.5 Organize four RSP subproject WUGs into four WUAs. (Q3 2021)

3.6 Implement four RSP farm-to-farm extensions (Q3 2022)

Output 4. Nutrition awareness and facilities improved

4.1 Form and make operational district nutrition committees (Q4 2022).

4.2 Implement village nutrition schools (Q4 2024).

4.3 Implement water, sanitation, and hygiene facilities implemented in targeted villages (Q1 2024)

Project Management Activities

Loan implementation consultants in place. (Q3 2020)

Program governance team staffed. (Q2 2020)

Provincial project implementation team staffed. (Q2 2020)

Project performance monitoring systems operational. (Q4 2020)

Financial systems operational. (Q2 2020)

Midterm evaluation and report. (Q2 2023)

Project completion report completed. (Q1 2027)

ADB = Asian Development Bank, DSIA = dry season irrigated agriculture, ha = hectare, HVC = high value crops, MAF = Ministry of Agriculture and Forestry, Action Plan 2016-2020, NNSPA = National Nutrition Strategy to 2025 and Plan of Action 2016-2020, O&M = operation and maintenance, PAFO = provincial agriculture and forestry office, PPMS = project performance management system, PRI = productive rural infrastructure, PLUP = participatory land use planning, RSP = representative subproject, WCS = water control system, WSIA = wet season irrigated agriculture, WUA = water user association, WUG = water user group, yr = year.

^a Government of Lao PDR, Ministry of Agriculture and Forestry. 2015. *Agriculture Development Strategy to 2025 and Vision to the Year 2030*. Vientiane, Government of Lao PDR. 2017. *Central Party's Resolution on Land*. Vientiane, Government of Lao PDR. 2014. *Forestry Strategy to the Year 2020*. Vientiane, and Government of Lao PDR. 2015. *National Nutrition Strategy and Plan of Action 2016-2020*. Vientiane.

Source: Asian Development Bank

B. Monitoring

1. Monitoring Framework

221. The M&E system will be implemented to report progress against timelines, budgets, and project outputs as well as the impact of these outputs on the stated project outcome. The M&E is structured around the two objectives, being:

- (i) Project Implementation Efficiency - the need for IA management and their superiors to track implementation is critical, given their responsibility and accountability for implementation and given the additional risks that derive from decentralization that SRIWSM applies. The different risks and their dispersed nature from decentralization also means that both the EA (MAF) and ADB require accurate and timely information on these risks. The early identification of risks arising from delays, failings or external events will use a variance reporting model where actual achievement and planned implementation (i.e., workplan,

budget and cashflow projections including contract awards and disbursement, procurement plan implementation, contract management, safeguard monitoring and management plans, GAP action plans) are compared and reported. Performance reports will show planned start and completion dates for activities, and slippage in meeting these dates, by duration, activity and institution. Effectiveness monitoring will be built on monthly reporting within the IAs as required by the Government.

- (ii) Project Effectiveness – on the extent that the outputs being achieved contribute to the stated outcome within the DMF. Effectiveness reporting seeks to build longitudinal data series that enable behavioral change to be identified and tracked along with the impact of these changes. Effectiveness will be measured on a range of specified indicators – mostly quantitative but supported with qualitative reporting. This will provide a longitudinal basis for measuring project effectiveness throughout the project implementation period. The effectiveness monitoring will be built on a bi-annual reporting system to align with the completion of one growing season with understanding the plans for the upcoming season. Effectiveness reporting will be structured around project outputs within each of the IAs with data aggregated at both subproject, district and provincial levels.

222. Project progress and performance will be assessed using data to report on the indicators and targets shown in the DMF (see above).

C. Project Efficiency – Implementation

223. Within project implementation, efficiency, monitoring, and reporting will be completed for the following: (i) implementation progress monitoring; (ii) safeguard monitoring; and (v) loan agreement covenant monitoring.

1. Implementation progress

224. **Implementation progress monitoring** will be the responsibility of each IA that will establish a contract monitoring system in the Planning and Finance Section of PAFO through the PPIT. A staff member will be assigned to the role and will be the focal point for monitoring. The role will need to work closely with all PPIT with implementation roles to develop, implement and report the implementation progress. To establish the baseline for the variance reporting the monitoring staff member will work closely with the planning and financial staff members and the LIC Provincial Project Management Advisor to ensure the tasks and timing of these tasks are clearly defined within the annual work plans and then included as reporting baselines.

225. The PGT Project Start-Up advisor will establish planning templates for each output and the specific subprojects within these templates will be used across all IAs/PPIT's. The PGT will manage the consolidation of the work plans and the reporting of implementation progress. At the subproject, district and output level the work planning templates will be consolidated into a Provincial Performance Monitoring System (PPMS) PPMS and at the national level into a Project wide PPMS by the PGT - DOI.

226. The PPMS will be managed by the PPIT – PAFO who will (i) maintain the data and reporting archive for Government and ADB reviews, and (ii) report updated progress according to the requirements of Provincial Government (monthly), and (iii) report to National Government and ADB on a quarterly basis. A consolidated project PPMS will be managed by the PGT - DOI where the overall project archive will be maintained. Data and reporting archives are expected to be included in the cloud base data systems with viewer access to DOPF, MAF and ADB.

227. Operational efficiency implementation, monitoring, and reporting will be linked to the Provincial Government's monthly reporting cycle, where PAFO/DAFO staff or consultants with work plan implementation responsibilities will be required to report their work progress to the PPIT monitoring focal point who, with the project management advisor, will assemble the data and monthly reports. This will include financial management staff who will generate financial reporting data from the Project accounting system as per the Financial Management Manual (Section V). The reporting monthly will be through the Project Management advisor to the DG-PAFO and from there to each Provincial Governors Office. Quarterly financial reports will aggregate the 3 monthly cash flow variance reports, contract award and disbursement reports, and contract management reports into a single report with all variances, and management response to variances reported. These will be combined with the operational efficiency reports.

228. The PPMS will monitor implementation progress including activities by subproject and output in the respective provinces. To augment information collected during SRIWSM design, additional data will be collated from the additional subproject DED studies that will baseline datasets for both efficiency and effectiveness monitoring purposes. This will define (i) activities, (ii) the implementation timelines and milestones, (iii) output delivery progress, (iv) final output, and (v) expected contribution of each subproject output to the outcome indicators. This information will first enter the monitoring system through the annual work plan forecasts and then through the monthly and quarterly reporting programs. The efficiency implementation monitoring will not directly assess the contribution to the project impact.

229. Each subproject will have monthly reports and a contract completion report prepared by the construction supervision consultant that will include details of (i) contract implementation progress, (ii) implementation delays or issues and the resolution or ongoing status of these issues, (iii) completed outputs after road completion. Where a variance has persisted without management response, these will be flagged as red (Part IX.D below). The quarterly reports are transmitted per the monthly reports, with inclusion of the PGT DOI as in the Governor's office. The PPIT monitoring staff member will collate this into provincial level reports and submit this through the DG PAFO to the PGT-DOI who will consolidate these into an overall Project Performance data base and reporting system that can be used for post evaluation purposes.

230. The scope of work for the efficiency implementation monitoring will include (i) annual work plan, (ii) the annual budget and cashflow forecast, (iii) procurement planning, (iv) contract management and completion progress, (v) land acquisition and compensation plan implementation, (vi) environmental management and monitoring plans, and (vii) the GAP implementation plan.

2. Safeguard Monitoring

231. Each IA will have (i) staff responsible for environment and social safeguards and GRM monitoring, and (ii) a memorandum of understanding with the Provincial Office of Natural Resources and Environment (PONRE) for environmental quality monitoring. The PPIT environmental focal point and the Program Management Advisor to the PGT will ensure monitoring are completed and reported in a timely manner based on an MOU established between PAFO and PONRE through the Governors' Office. All issues whether resolved or outstanding will be reported within the month of identification. Issues remaining unresolved for more than one month will be elevated to the DG PAFO, and the PGT monitoring advisor.

232. Safeguards monitoring systems and associated grievance redress mechanisms will be developed to ensure that the required policies, procedures and plans for: (i) resettlement including

land acquisition and compensation; (ii) ethnic minority peoples' specific actions are implemented and achieve their expected outcomes during subproject preparation, implementation and operation; and (iii) EMP plan implementation.

233. The PGT with support from the LIC will be responsible for internal monitoring of the LACP implementation. Resettlement monitoring reports will include progress on the status of the LACP implementation, information on location and number of people affected, land acquisition and compensation status, and assistance provided to displaced people and vulnerable people. This should include georeferenced information of each household, linked to household level documents such as the inventory of loss, detailed measurement surveys and any other household level document generated. All data collected should be included within a database. The ADB review missions will monitor and assess the resettlement activities during the project implementation period.

234. Internal monitoring will be carried out by PPIT safeguard focal with support from the LIC. The PPIT safeguard focal will conduct internal monitoring by (i) regular meetings with the representatives of the affected people; (ii) holding group discussions with all or representatives of severely affected households; (iii) meeting with marginally affected households; and (iv) meeting with all or representatives of the ethnic minority groups.

235. The principal indicators for monitoring of resettlement activities include:

- a. timely and complete disbursement of compensation to affected households according to the compensation policy agreed in the REGDP,
- b. timely income restoration and rehabilitation allowances and measures,
- c. allocation of replacement land,
- d. public information dissemination and consultation procedures,
- e. adherence to grievance procedures and identification of outstanding issues that require further attention and resolution,
- f. attention given to the priorities of affected households regarding the compensation options offered,
- g. completion of resettlement activities required by start of civil works,
- h. record participation of poor and vulnerable households throughout the consultation process, and
- i. restoration and improvement of socioeconomic conditions of affected households.

236. Adequate mapping and documentation is required to support the resettlement implementation. The principal requirements are as follows:

- a. Geo referenced maps and/or gps readings tagged with unique identifiers (household numbers).
- b. Maps along alignment that shows land to be acquired, land remaining for AH (if any), structures to be impacted (either through gps readings or on google earth map) and corridor of impact.
- c. Photos of each affected household (preferably with all persons present) to be taken in front of their abode, with their household ID (unique identifier). Consent should be sought prior to photo taking and should the household refuse, a signed letter declining the photo is to be provided.
- d. All documents (IoL, DMS, SESAH, compensation forms, grievances, family books etc) should include household IDs (unique identifier) both on the document and on e-files.

- e. All documents are compiled into a database for ease of reference and access to data.

237. The focus of internal monitoring will be as follows:

- a. confirmation on the number of severely affected households due to the loss of productive agricultural land;
- b. confirmation on the number of severely affected households due to the loss of residential structures;
- c. confirmation on the number of permanent loss of land and assets and temporary impacts;
- d. impact on vulnerable household;
- e. report on the methodology and approach utilized to determine compensation unit rates endorsed and approved by provincial authorities;
- f. reaching agreement with the affected households on compensation rates and issuance of summary compensation forms;
- g. documentation of affected people preference on rehabilitation measures;
- h. detailed breakdown of resettlement expenses;
- i. progress in the disbursement of compensation and other assistance in accordance with the implementation schedule and entitlement matrix;
- j. issuance of notice to harvest the crops, remove rubber trees and vacate the land as per schedule;
- k. information dissemination and public participation: (a) the number of public consultation meetings held during the preparation of the detailed compensation plan, (b) the number of affected households that participated, and (c) comments, suggestions, and concerns of the affected households and how these were addressed;
- l. progress in the implementation of the LACPs: progress in planning and implementation of income rehabilitation measures including skill training;
- m. smooth transition period between the payment of compensation and assistance to affected people and clearing of area prior to start of civil works;
- n. grievance redress: the number of affected people with complaints, nature of the complaints, status of the resolution of the complaints, assessment of efficiency of the grievance redress mechanism (GRM); and
- o. gender concerns: participation of women in meetings and in the implementation of resettlement, concerns of women in connection with their resettlement and resolution of their grievances.

238. During subsequent monitoring periods, the PMU will look into the issues and problems identified in the preceding reports and actions taken to address the problems in a timely manner.

239. External monitoring is required as the project has triggered both IR and IP safeguards policy and a qualified independent social safeguards expert or an institution/agency will be recruited.

240. General objective of the external monitoring is to provide an independent verification of the Borrower's monitoring information through the conducting of a periodic review and assessment of (i) achievement of resettlement objectives; (ii) changes in living standards and livelihoods; (iii) restoration of the economic and social base of the affected people; (iii) effectiveness, impact, and sustainability of entitlements; and (iv) need for further mitigation measures if any. Based on such reviews and assessments, strategic lessons for future policy

formulation and planning will be formulated. Project authorities will responsible for contracting a competent independent external monitoring agency (EMA), or an independent consultant, to carry out external monitoring of resettlement implementation in the project.

241. Specific objectives of external monitoring include:

- a. to provide project management with an effective tool for assessing LACP implementation at various stages;
- b. to examine whether or not the implementation of the LACP is carried out as planned and in compliance with the approved LACP, and identify the strengths and weaknesses of the present LACP;
- c. to identify problem areas and recommend immediately remedial measures for efficient implementation of the policy;
- d. to provide inputs for future LACP formulation and implementation;
- e. to assess the timely delivery of resettlement implementation and the effectiveness of income restoration and other rehabilitation measures for affected households, and whether the affected people, including vulnerable households, the ethnic groups have been able to improve, or at least restore their livelihood and standard of living to pre-project level; and
- f. to assess effectiveness of the GRM established for the project, identify specific problems if any, and suggest improvement of the GRM.

242. The monitoring of LACP implementation is intended to (i) ensure that the standard of living of affected persons are restored or improved, (ii) determine that the resettlement objectives are being met, (iii) assess that rehabilitation and compensation elements are sufficient, (v) identify problems and risks, and (vi) where gaps are identified, come up with adequate measures to mitigate resettlement problems.

243. Consequently the range of activities and issues that need to be recorded and verified include: (i) compensation, allowance payments, and delivery of assistance measures; (ii) re-establishment of displaced person settlements and livelihoods; (iii) reaction of displaced persons to resettlement and compensation packages; and (iv) re-establishment of income levels.

244. For resettlement and land acquisition plan implementation, an external monitoring contractor will be retained by the PGT. The external monitoring contractor will (i) work closely with the land acquisition and resettlement implementation teams to ensure that the integrity of work and the adoption of a best practice approach is established early in the project, and (ii) will validate the completeness of the LARP implementation to ensure all cases are appropriately addressed. The external monitoring contractor will report directly to the PGT, EA and ADB simultaneously on all findings.

3. Compliance monitoring

245. The government and IAs have agreed with ADB on certain covenants for the project, set forth in the loan agreement, which includes the following:

- (i) That each irrigation scheme in the Project will no longer be included in the provincial or national register of required rice production areas for the dry season.
- (ii) The irrigation schemes in the Project must have completed irrigation management transfer (IMT) processes with both WUG and WUAs established prior to the award of any works contract and shall formally identify the required ISF to enable operation and maintenance of the irrigation command area.

- (iii) The use of the irrigation service fee (ISF) collected by WUAs in the Project irrigation schemes shall be limited to the operation and maintenance requirement of the scheme until such time where the WUAs bank account has a year-end balance of at least two years operational and maintenance requirements. At which stage, the WUAs, based on majority member, will distribute to village or district officials any funds in excess of this amount; and
- (iv) The government will ensure that a grievance redress mechanism established in RPs/REMDPs for affected people in the participating districts will be implemented effectively and satisfactorily.

246. ADB will monitor compliance with all covenants throughout implementation via regular review missions, quarterly progress reports submitted by the IAs through the PGT, and review of project accounts and procurement procedures. Compliance reporting will be implemented by the Independent Safeguards monitoring contractor, the independent auditor, by each PPIT, and the PGT.

4. Gender and social dimensions monitoring

247. Each PAFO shall assign a gender focal point for gender mainstreaming and reporting, and these roles will be supported through the LIC National Gender specialist. Each IA (including PAFO and DOI) will appoint a gender focal point from the PAFO Women's Advancement Unit or the MAF Women's Advancement Unit, who will ensure that all Project staff and contractors are fully versed in gender requirements, that the project stakeholders are aware of gender equity and the GAP options, and to report the progress of the GAP implementation with recommendations for further strengthening as lessons are learned. The detailed terms of reference for the gender specialist and gender focal point are in Annex 18.

248. The IA gender focal point will monitor and report on GAP implementation and outcomes through the PGT to ADB as part of each 2nd quarter report using the ADB GAP monitoring template. All data on process participation and beneficiaries will be disaggregated by sex and sensible¹⁵ ethnic groups. Routine monitoring by the Project will focus on assessing progress against GAP activities and targets, identifying constraints and developing remedial actions to effectively address these. Monitoring results will be included in at least every second quarterly progress reports, and assessment/evaluations of the GAP will be an essential element of all reviews.

A. Project Effectiveness

1. Overview

249. Project effectiveness monitoring seeks to build data sets that demonstrate what changes are adopted by farmers for both the wet and dry season water use and agricultural production in terms of: output 1 – Irrigated and upland farmers with income increased from HVC and livestock; output 2 - catchment watershed ecological service protected in Xiangkhouang through the adoption of improved soil, water, and use of perennial vegetation and non-destructive forest practices; output 3 - PRI upgraded to be climate resilient, efficient, and sustainable that will report the completion of modernized irrigation systems and their management by WUG; and output 4 Improved nutrition status of targeted communities. Findings or changes will be interpreted into

¹⁵ Where Ethnic minorities account for more than 85% of the population, the need to disaggregated is significantly reduced.

how the changes contribute to the project outcome being “Sustainable, market oriented agricultural production and natural resources management in selected watersheds with improved community nutrition”.

Table 35: Scope of Effectiveness Monitoring

Output	What is measured	Who/How
Output 1: For RSPs only 1.1 Market Assessment and connections 1.2 Enterprise grants 1.3 Increased Dry Season Incomes	1.1 number of assessments, buyer producer or market chain agent linkages 1.2 number of grants, expected increased output and profit margins 1.3.1 cropping patterns, proportion of crops and livestock sold through market connections 1.3.2 Producer dry season incomes	1.1 Agribusiness advisors/ assessment reports 1.2 Agribusiness advisor and project management adviser based on business plans, and grant disbursement procedures 1.3 SRIWSM telephone data collection surveys
Output 2: Xiangkhouang and Houaphan provinces only – 9 catchments 1.1 PLUP registered 1.2 Community Agreements 1.3 Land Use Change 1.4 Access infrastructure 1.5 land with permanent and temporary land use titles	1.1 PLUP registered at District 1.2 Village level community agreements registered at District 1.3 Land moved into permanent vegetative cover 1.4 hhs connected to social and market services 1.5 title registrations	1.1 PAFO-Land Use Planning Team 1.2 Land Use Change Advisor 1.3DALAM Land Use monitoring including satellite and site visit data 1.4 Land use – Dalam monitoring 1.5 PAFO/PONRE records 1.6 Changes to hh income – Social Cops telephone data collection
Output 3: RSP=4 ASP 14 3.1 DED Completed, works completed 3.2 Command area with dry season water 3.3 Proportion command area with reliable dry season water 3.4 Cropping patterns 3.5 Yields 3.6 Returns 3.7 WUG formed 3.8 WUA Registered 3.9 ISF collected 3.10 ISF expenditure	Provincial Irrigation section staff 3.1 Construction supervision staff 3.1 Telephone data system 3.2 to 3.10	PIS Construction Supervision Phone based data collection
Output 4: Xiangkhouang and Houaphanh Province – 6 districts 107 villages 4.1 District nutrition committees 4.2 Village nutrition school participation	Output 4 contract reports Phone based data collection system 4.1 4.2 Construction supervisor	4.1 Contractor Reporting 4.2 and 4.3 Phone based data collection system– village level 4.3 Construction supervisor

Output	What is measured	Who/How
4.3 WASH infrastructure per District		

2. Digital and Telephone Data Collection

250. A key feature of the effectiveness monitoring will be the use of an automated, digital data collection and aggregation platform based on the proprietary mobile phone and data systems¹⁶ or a local equivalent that manage data collection and reporting for decision makers. The system will use data collection templates developed by the monitoring and technical team within the IAs, these will be piloted, and then once final, they will be used to establish a baseline and then a longitudinal time series data set.

251. The time series will be based on the forms being sent via SMS to (i) village leaders, (ii) water user group leaders, (iii) water users, (iv) district nutrition committee chairpersons, (v) village nutrition school members, and (vi) catchment farmers. The delivery of the templates will be through automated phone calling in the form of text messages via mobile phone. On receipt of the SMS, recipients will be expected to reply within a set period during which they will collect data and fill the forms in on their phones and return the form by text message. The SRIWSM sender will receive an aggregated excel of the responses that will be linked back to the SRIWSM monitoring team.

252. The data base will link to a prepared data assessment worksheet that will produce tabulated variance data files that will form the basis of six-monthly reports on progress to achieve outputs and outcomes. The forms will all be in Laos language, while the data reporting output can be in either Laos or English as the fields are all locked.

253. Social Cops Limited offers an annual subscription service to distribute the question templates and provide by way of return text call the receipt of respondent data, and the provision of aggregated data within excel files to the PGT monitoring experts. The respondents and Project stakeholders will receive rapid benchmarking data reports, and their Village Development Fund or WUA will receive an agreed payment to cover the costs of phone transmission.

254. The objective is to provide (i) subproject level effectiveness measures and reports, (ii) provincial output and outcome level progress reports, (iii) overall project output and outcome progress reports, using consistent longitudinal data series that will be used to inform the project mid-term review and final project completion reporting.

255. Kobotoolbox will require the project to set up the forms and then use a no-cost account to access the phone transmission and data receipt services. Kobotoolbox is a suite of tools for field data collection for use in challenging environments. The software is open source, as such it has

¹⁶ The TRTA has reviewed two such options (i) being based out of India <https://socialcops.com/> which offers a service for fee option, and (ii) <http://help.kobotoolbox.org/getting-started/welcome/welcome-to-kobotoolbox> - which is an open source software that can be customized and provides the same range of services.

not direct costs associated with its use with the advantage of working offline as well as on line. The platform will integrate easily with the proposed SRIWSM cloud-based information system.

256. Most reported applications are linked to humanitarian crises, however there are applications that have used the process to monitor complex agricultural programs including data collection from field or producer level using bar coding effectively establishing traceability. The software is supported by a team of developers, designers, and researchers-based places around the world. Kobotoolbox was built for human rights and donor professionals. Currently, our users range from city and state government officials, search and rescue teams, UN agencies, large and small NGOs, to business consulting and accounting firms. There is potential to use this as a cost efficiency tool for the monthly work plan reporting required by Government as the data would not move outside the public sector assuring its security.

257. The major difference is that the role of developing data collection forms would fall on the IAs with support from the LIC and IT support roles. This will also require field-based training and protocols for the people to be included in the surveys. Having the IA and LIC develop the data collection forms would be beneficial in building deeper understanding of what the project needs in terms of information and what it is seeking to achieve.

258. Under either option, the respondents will receive (i) a smart phone that will remain the property of the project for a period of at least 3 years and for which the respondent gets daily use, (ii) A phone credit that will cover the costs of the required responses plus provide an incentive. The data collection will be twice yearly to coincide with the cropping season. For every correct survey response, the respondent will receive their phone credit automatically from the respective IA.

259. The form submitted will be consolidated in the PAFO level, grouped by subprojects being implemented in each province. The PPIT Reporting and M&E PAFO staff is assigned and trained to export this consolidated table to Excel format for inputting in regular 6-monthly and annual reports for further submission to PGT at DOI.

260. Equally important, the longitudinal data sets will provide early indicators where the integration of the proposed IFAD and GIZ GCF projects that are SARWSM parallel co-financed is or is not working, so the Executing Agency and the National Steering Committee can take remedial action. For example, if farmer adoption of dry season irrigation is slow or has other technical issues, this information will need to be communicated via the DG PAFO, the Provincial Steering Committees to the national steering committee, and MAF, to take appropriate actions.

261. The Project Management Advisor (with inputs from the National Monitoring Consultant) will work closely with the monitoring division of the DOPF, MAF in deciding which systems will be used. They will also lead to the process of establishing the templates, recipients, define and agree the timelines for providing with all recipients and their groups. Along with the provincial monitoring staff and project management advisers, the Monitoring Consultant will ensure that all project staff and beneficiaries are fully aware of the data collection systems, followed by data response training and data for benchmarking performance including running hands on training sessions. They will then form the baseline through the initial surveys and the reporting for the first two years covering (i) a benchmarking baseline, (ii) two six monthly reports for the year of contraction within the RSPs and then, the following wet and dry season irrigation seasons. After this, the system should increasingly be managed and operated by the PPIT monitoring staff.

B. Reporting

262. Reporting will build from the requirements of the Government which is based on monthly achievement reports from each Province to their respective Governor and Provincial Administration which currently are based on achievement of agreed outputs linked to the agreed National and Provincial sector targets. Within each PPIT monthly SRIWSM reporting will address the implementation efficiency requirements as outlined above and will be the responsibility of those assigned to the different roles assigned to PAFO, including (i) agribusiness and market connectivity program with supporting matching grants and extension programs, (ii) DALAM and DOF for the implementation of output 2 in Xiangkhouang for the proposed PLUP and supporting land use change programs, (iii) the head of the irrigation section for the processing of additional subprojects through to approved detailed designs, construction supervision, and infrastructure commissioning and hand overs, and the strengthening of WUG/WUAs, (iv) output 4 through the contractor reports, and (v) the planning and finance section heads that will report progress against overall work plan and those tasks and activities delayed, financial management reporting in terms of disbursements to date compared project cashflows, amounts of advances outstanding without supporting documentation, procurement plan progress including delays or issues creating delays, safeguards implementation and GAP implementation progress.

263. On a quarterly basis, the monthly project implementation efficiency reports will be consolidated and prepared in a consistent format to be part of the Project Management Manual provided by the PGT–DOI. Quarterly reports will be the responsibility of the PAFO staff person assigned to the monitoring role with support of the Project Management Advisor provided by the LIC. In addition, project effectiveness reporting will be provided every six months as part of the quarterly reporting program based on the proposed stakeholder survey program described above. Quarterly reports will be provided by PAFO to the Provincial Government and to the PGT–DOI who will consolidate the 4 PAFO reports into an overall SRIWSM project report. The DOI will submit the report to PODF within 20 working days from the end of each quarter, and PODF will provide the report to MAF and ADB within 30 working days of the end of the reporting period. Indicative Monitoring Report Templates are provided in Annex 11.

264. Overall, MAF will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation plan for the next 12 months; and (iii) a project completion report within 6 months of physical completion of the project. To ensure that projects will continue to be both viable and sustainable, project accounts and the executing agency audited financial statement together with the associated auditor's report, should be adequately reviewed.

C. Monitoring and Reporting

265. The PGT will ensure that the proposed project monitoring and reporting systems are undertaken as set out in Section IX of this PAM. This will include establishing the data collection and reporting frameworks developed for SRIWSM using a mobile phone platform described in Section IX of the PAM. The PGT will be the receiving point for the data and will be responsible for the data QA, reporting and feedback systems. Additional expertise for monitoring is included in the LIC and in the IT support contracts.

266. The PGT monitoring role will be assigned to a DOI staff member with experience of the Government monthly reporting. SRIWM progress reports (see Annex 12) will be undertaken on a

quarterly basis with reports passed to DOPF, MAF as part of the wider government and donor reporting. PGT will confirm report formats, and the level of data for both the implementation efficiency reporting of which the major project management challenge is to manage the risks of delays, and where delays arise having early responses to address the delays.

267. The PGT monitoring staff, with support from LIC, will work closely with each PPIT to develop and finalize the monitoring templates, provide training in their use and applications and mentor staff over the first 12 months. In doing so, they will ensure that the Provincial government's monthly reporting requirements are completed and supported by the data collection systems of SRIWSM such that each PPIT- PAFO is able to report on SRIWSM to their respective Governors as part of their monthly reporting.

268. An important aspect of reporting is the ability to have each IA linked to the PGT through a dropbox cloud-based reporting system that will be installed by the SRIWSM IT contractor. The cloud-based systems will be used in conjunction with the mobile phone data collection system to provide feedback and sharing of data and reports information.

D. Stakeholder Communication Strategy

1. Consultation and Participation

269. The project design process has adopted the principles of devolution policy of government with the proposed IA being Provincial PAFO's while the ownership of most infrastructure will be water users as represented by their Water User Associations. For output 1 relating to commercial market linkages and agriculture, the design process is to be engaged widely with local farmers, buyers and logistics stakeholders, producer groups and local and provincial officials. Wider sector actors are in the: livestock sector (including Viet Nam buyers), safe vegetable production (including Viet Nam traders and buyers), Phounsay Mountain tea including Chinese buyers, green tea market chain actors and processors, service providers to producers, industry and marketing, and large commercial enterprises from Thailand and People's Republic of China (PRC) on contract farming opportunities on fresh Soybean markets in PRC.

270. For output 2, Catchment watershed ecological services protected consultations were conducted throughout the design process with DALAM and DOF both nationally and provincially, other donor supported land use planning and forestry programs, provincial land use planning personnel, and communities living within the representative catchment. At the community level, detailed consultations were done on the objectives of the output and the role of the community in the project land use change programs.

271. For output 3, the PRI infrastructure support has been defined within the provisions of the Irrigation Law with the Provincial responsibility for all the Project schemes. The design has initiated a revised detailed design process through the Irrigation Section of PAFO. The process is defined in detailed and requires the irrigation section to first identify water users water demand and water demand requirements that enable them to produce HVC during the dry season. Extensive consultation with water users and market agribusiness is required for each WUG to identify potential cropping systems. Once the water use and demand is identified and agreed, water users and the design engineers are required to (i) meet formally with WUG members to identify issues in and around their command areas, (ii) conduct full command and infrastructure walk through with water users – not just WUG leaders – to assess existing infrastructure condition, to identify water users needs and preferences including alignments, mitigation of reduced access such as piped sections or bridges etc., (iii) a preliminary design is produced and the irrigation

designers are required to hold both village and water user meetings to present the design and obtain support from water user groups prior to completing the final detailed design. During the village level meetings, other PRI requirements will be identified.

272. Output 4 consultation programs have been conducted with the Government NGO and Donor led nutrition teams and project from the central, provincial and district levels. Additional consultation has been held with wider actors and recently implemented programs.

273. Wider consultations were conducted through the engagement of the social impact survey teams that completed both consultation at administrative and village levels, household surveys and focus groups for water user groups, male and female water users, and ethnic group consultations.

274. The social safeguards consultation provisions have all been applied during the design process and have been modified and strengthened in the REGDF for implementation. Here, the real focus is on (i) identification of affected households and their need to complete household surveys and the DMS, and (ii) close consultation process with the set of households considered adversely impacted to identify the range of potential options available and how the project can ensure that these are delivered. All these processes are included in the REGDF.

275. The above consultation processes are required for the implementation of the project including the preparation and implementation of the additional subprojects.

i. Awareness

276. Project information and awareness will be supported through the project start up among all provincial stakeholders with the Project Start-up consultant (refer Annex 13 for terms of reference) and the loan implementation consultants working with each IA and the wider stakeholders to conduct briefing and awareness meetings for the project.

277. At the beneficiary level, public information will be conveyed through public meetings in a range of languages to meet the requirements of local communities. For output 1, there will be consultative meetings and forums that link commercial buyers and suppliers to producers along with proposed investment into digital phone or tablet-based market awareness sharing platforms.

278. Output 2 includes a predefined awareness and engagement process in the existing requirements for land use planning that will be applied, and then through a program of community land use agreements and community participation in the land use change implementation programs.

279. Output 3 includes awareness and consultation to be developed through the irrigation section heads working with district and village level staff to present data on the availability of water and dry seasons irrigable areas, and the proposed use of this water as a means of getting informed participation (section 1 above).

280. Output 4 provides support to the government's nutrition policy and works through the provincial and district level committees and officials, and then use the piloted engagement programs in each target village.

Table 36: Consultation and Communication Plan

Organizations	Objectives	Approach	Participation Methods	Timing
Irrigators and Upland farmers	(i) WUG Beneficiaries – to be effective the project requires sustainability through ownership	Engagement, active decision making in subproject design and design approvals	Information through meetings, village level review of design concepts, preliminary design and final design maps and drawings WUG meetings and agreement for ISF needed for sustainability WUG engagement with commercial agricultural buyers and markets WUG have to approved he design at concept and final design stage	Starting from 2019 budgeting planning cycle
	(ii) Upland farmers Successful adoption of land use change requires behavior change models	Consultative meetings, household engagement, active participation in implementation	Input to planning and the zoning of village land with supporting temporary land use certificates, community agreements to the changes that will be supported that are based on community decision making and the agreement of individual; households within the community	DALAM starting mid 2020
Private Sector Enterprises	(i) Contractors for participation in the works program – to ensure competitive bidding, and quality of works (ii) Commercial agriculture buyers for crops and livestock – the project is assumed to be driven by market led production such that growers need to have linkages to minimize market risks (iii) Service providers – producers and local buyers will need access to inputs, expertise and goods for the modernization of irrigation, enhanced production systems, and effective marketing	(i) Information provided on the number and types of packages, workshops on preparing RFPs and proposals, the requirements of PPIT and ADB (ii) direct engagements, connecting agents with project producers, supporting training on marketing and contracting (iii) engagement and identification of service providers for inputs and technical support especially far to farm extension but also quality assurance, information services	(i) PIS and PAFO Direct engagement and ongoing workshop and capacity building support (ii) Agribusiness adviser PPIT and PGT LIC agribusiness experts - Market assessment studies and key informant networks (iii) Project management advisor, agribusiness advisors and LIC team through meetings shared forums for producers and actors	From month 6 yr 1 through 3 years of project by Agribusiness advisors and LIC team
WUG/WUA	Beneficiaries that collectively will determine project sustainability	(i) awareness of designs, (ii) capacity building and mentoring to understand	Participatory command area and planning meetings Provided by: PAFO, Agribusiness advisors Water management advisors	Water management advisor head of irrigation section

Organizations	Objectives	Approach	Participation Methods	Timing
		actual costs of operation and maintenance (iii) assistance to develop business plans and operational guidelines for the irrigation schemes	PIS	from quarter 2 year one through first 5 years of project
Provincial Officials	Planning, implementation and approvals of project investments	(i) project awareness forums in each province (ii) planning and safeguard requirements for subprojects (iii) access to information and monitoring results (iv) supervision of implementation staff from PGT and CS expertise in LIC	Workshops, seminars and training sessions To be undertaken by PGT PAFO LIC	From Loan effectiveness for the first 18 months
Ministries	Establishing and mentoring of systems for project implementation	Project administration systems including work planning, reporting and aggregated project implementation inputs	Planning and administration planning forums, provision of clear guidelines and templates within the Project management manual by MAF DOPF, DOI - PGT, LIC	Starting from May 2019 budget cycle through the first 18 month of implementation

XIV. ANTICORRUPTION POLICY

281. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project.¹⁷ All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants, and other service providers. Individuals and/or entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.¹⁸

282. To support these efforts, relevant provisions are included in the loan and grant agreements, and the bidding documents for the project. To address governance, integrity, and corruption risks, DOI will provide a governance and oversight function to ensure integrity of systems, procedures and decision making. These will be supported by a cloud-based information and accounting system that will be accessed by MOF, MAF and the financiers, and will be within the control of the project. Conflict of interest clauses to minimize collusion associated with contract awards are included in all procurement procedures and proposed contracts.

XV. ACCOUNTABILITY MECHANISM

283. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make an effort in good faith to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.¹⁹

XVI. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL

284. All revisions and/or updates during the course of implementation should be retained in this section to provide a chronological history of changes to implemented arrangements recorded in the PAM, including revision to contract awards and disbursement s-curves.

¹⁷ Anticorruption Policy: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

¹⁸ ADB's Integrity Office web site: <http://www.adb.org/integrity/unit.asp>

¹⁹ Accountability Mechanism: <http://www.adb.org/Accountability-Mechanism/default.asp>.

ANNEX 1: SUMMARY OF PRIORITY SUBPROJECT SHORTLIST

District	Subproject	Village (#)	HHs (#)	Catchment Area, ha.	Cost. (US\$'000)	WS ha	DS ha	Incr CA (ha)	Incr. DS Crop (ha)
Houaphan Province									
<u>Viengxay</u>	Nam Pua -RSP	6	275	19,650	640	69.89	36.2		55
<u>Sopbao</u>	Nam Hom (1,2)	6	312	89,800	450	168	86	51	135
<u>Xamneua</u>	Nam Harm (n=2)	3	138	11,600	650	130	45	8	95
<u>Viengxay</u>	Nam Soy (1,2,3)	8	1031	56,200	1,200	184	127		50
Subtotal		23	1,756	177,250	2,940	552	294	59	335
Xiangkhouang Province									
Peak	Nam Tong – RSP	2	116	4,700	800	147	28		150
Kham	Nam Pew (1,2,3)	3	161	14,300	700	214	72		150
	Nam Mud	3	253	13,000	600	271	145		120
	Nam Guer	3	359	9,500	650	285	110		150
Peak	Nam Kha	3	90	4,570	350	95	33		50
Subtotal		14	979	46,070	3,100	1,012	388	0	620
Louangphabang									
Nan	RSP pt1 Nam Seng-MC1/2	9	421	15,400	2,680	350	350		
	RSP Pt 2: Nam Seng-SC1	6	180					265	265
	Nam Nan (2,3,5)	16	545	27,600	700	265	72	265	192
	Nam Nan (1,4)	19	393		800	365	250		50
<u>Xiengngeun</u>	Nam Khan (1,2,3,4)	9	144	23,860	800	131	73		20
Subtotal		59	1,683	66,860	4,980	1,111	745	530	527
Xaignabouli Province									
<u>Phieng</u>	RSP Phieng 1&2	15	852	11,600	850	721	440		150
	Nam Poui	2	155	20,900	800	150	100		50
<u>Paklay</u>	Nam Pon	1	188	9,930	200	75	25		50
<u>Xaignabouli</u>	Houy Khean Reservoir	3	284		400	200	50		100
<u>Paklay</u>	Nam Yang 3	3	496	26,700	450	400	200		180
Subtotal		24	1,975	69,130	2,700	1,546	815		530
Project total		120	6,393	359,310	13,720	4,221	2,242	599	2,012

ANNEX 2: TERMS OF REFERENCE FOR LOAN IMPLEMENTATION CONSULTANT

A. Introduction

1. The Government of Lao PDR has recognized the importance of productive rural infrastructure (PRI) in driving rural growth and has invested heavily in it over the past 30 years. Irrigation investment has until now targeted food security policy objectives mostly through the production of wet season rice. Lao PDR is currently self-sufficient in rice and as such the Sustainable Rural Infrastructure and Watershed Management Sector Project (SRIWSM) will direct irrigation investment into economic growth policy objectives with a focus on dry season irrigated agriculture. An integral part of this move is the integration of nutrition sensitive agriculture and nutrition improvement by diversifying food sources.

2. The project will modernize at least 18 irrigation schemes to secure reliable dry season irrigation for water users that is both reliable in terms of quantity, time of delivery and place of delivery. The project seeks to offset risks to producers from high value crop markets and the destruction of upstream catchments. Smallholders who to date have grown a wet season rice crop will be able to grow and market high value crops and livestock farming systems.

3. The SRIWSM will achieve its outcome of *sustainable market-oriented agriculture production and natural resources management in selected watersheds with improved community nutrition* by bringing approximately 3,600 hectares of land under dry season irrigation, producing and marketing over 30,000 tons of high value crops and improving the number of women who meet minimum dietary diversity in target communities by 50%. It will do this through four outputs:

4. **Output 1: Market-oriented agricultural production increased.** The output involves identifying markets and connecting producers to these markets, providing support for value addition along the market chain. Technical support will be provided for development of the agribusiness capacity for market assessments, market-led farm planning and facilitating investment into post-harvest value addition, improved logistics for market connectivity, and quality assurance and traceability systems that respond to trade requirements. A loan implementation consultant (LIC) situated within the Department of Irrigation (DOI) will support the establishment and institutionalization of agribusiness capacity within each PAFO supporting the development of market-led commercial agriculture including irrigated dry season high value crops and livestock. A provincial LIC will be situated within the provincial agriculture and forestry office (PAFO) in each province to support the provincial project implementation team (PPIT).

5. **Output 2: Watershed ecological services protected.** The project will support the update or development of participatory land use plans for villages within the catchments of PRI infrastructure. The project will support land use behavior change programs to protect the soil and water based ecological services and embed these changes within negotiated community agreements. Each LIC PAFO will support this process through the provision of a land use management and land use change advisor to support the Provincial Land Use Planning teams. Further technical support will be mobilized to support the technical requirements of behavior change programs.

6. **Output 3: Command area irrigation reliability improved.** This output supports irrigation infrastructure modernization for dry season irrigated agriculture and other infrastructure to support community wellbeing. A key element of the investment is the capacity of local water users to operate a managed water delivery systems during the dry season. The LIC DOI will support the establishment of water user groups and the members to develop knowledge, skills and

information systems to operate dry season irrigation reliably whilst also maintaining their irrigation assets.

7. **Output 4: Nutrition awareness and facilities improved.** This output will be undertaken in Xiangkhouang and Houaphan provinces. The project will upscale existing pilot programs in approximately 20 nutrition-priority villages in each of the 6 districts. The scale-up methods will include nutrition clubs, providing social behavior change communication programs and nutrition training, and supporting club and individual development plans designed to increase the production and year-round consumption of diverse and nutritious foods. This output will not be within the scope of the LIC technical consultants and will be single sourced to an existing service provider in the two provinces included.

8. SRIWSM is the first ADB irrigation subsector project to use decentralized implementation. The role of DOI is to establish common systems and to manage governance risks within the Provincial implementation agencies. Risks associated with procurement, delays, decentralized financial management, and safeguard requirements will be subject to oversight from a Program Governance Team in DOI. The LIC DOI will support the Program Governance Team in overall project planning and coordination, project management and reporting, financial and procurement support, monitoring and safeguard reporting.

9. Within each province, the project will be implemented through the structure of the PAFO. Here the LIC DOI will support the PAFO implementation teams through the provision of skills relating to Project management coordination, safeguards and technical expertise relating to dry season irrigated agriculture and high value crops with each Province having a project team leader that reports to and support the DG PAFO.

10. The SRIWSM will be implemented over a period of seven years. The Ministry of Agriculture and Forestry (MAF) will be the executing agency and implementation will be through the PAFOs, in collaboration with other provincial and district level offices.

B. Consulting Services

1. Loan Implementation consultants

11. Each IA will contract a loan implementation consultant: packages OP5-CS01, OP5-CS02, OP5-CS03, OP5-CS04, and OP5-CS05 for DOI in Vientiane, Louangphabang PAFO, Xiangkhouang PAFO, Houaphan PAFO and Xaignabouli PAFO, respectively. Each will be recruited as a company using QCBS and simplified technical proposal.

12. The LIC teams will in effect continue the program of support provided by the project start-up consultants – international Project Management, and national procurement specialists. Both start up consultants will be eligible for roles in the DOI loan implementation consultant team should the respective bidders (firm) and the individual agree on terms. This eligibility is included to encourage continuity that will reduce the risks of delays during the handover during the LIC DOI mobilization.

II. DOI PGT LOAN IMPLEMENTATION CONSULTANT (LIC) PACKAGE OP5-CS01

13. The following TOR is for the Department of Irrigation Loan Implementation Consultant that will work with the Program Governance Team (PGT): procurement package OP5-CS01.

14. The contractor will be recruited as a company using ADB's CMS and QCBS procedures using a simplified technical proposal (STP) due to the range of expertise being contracted (mostly project management and governance support) reflecting the changes to Project Governance and administration, and for technical innovation in terms of dry season irrigation, commercial agribusiness and market led high value crop systems necessitates quality technical inputs to ensure project effectiveness and sustainability. The team will be based in Dol however it will also support each of the Provincial IA with project management governance systems by working through the PGT in Dol.

15. The LIC Dol team will comprise of 16 positions that provide a total of 272 person months of input of which 83 person months are International and 189 person months of national specialist input. The overriding role of the LIC DOI team is to ensure the technical roles of the PGT are of an international standard in terms of project management, project administration, and project governance and compliance. The majority of the inputs will be to develop and ensure PGT has technical systems and standards required to support a decentralized implementation through the PAFOs. Some technical support will be required for the PAFOs, however, it is envisaged that most of this needs to be delivered by the PGT of Dol with mentored support and oversight from the LIC DOI. A key function and requirement of the LIC DOI is to ensure that each of the respective functions in the PGT responsibility and mandate is able to support provinces and new programs in the future. Both technical systems and capacity needs to be in place to ensure this.

16. The most significant variation on this is the inclusion of the two Agri-Market Linkage experts. These roles will work mostly in the provinces but need to be based in Vientiane to connect with buyers and the wider commercial operators in the agricultural sector.

17. The team will be led by an experienced program manager as opposed to a technical engineer. Under the implementation arrangement for SRIWSM the Dol focus is on program governance and transparency and to ensure compliance with both donor and government requirements. A detailed breakdown of the positions and the level of effort by year is included in Table 1, followed by the individual terms of reference which detailed experience and qualifications, expected outputs and tasks each position is responsible for.

Table 1: Loan Implementation Consultant Positions

Loan Implementation Consultant Team									
Position	Posting	Quantities (Person Months)							
		Pyr 1	Pyr2	Pyr3	Pyr4	Pyr5	Pyr6	Pyr7	Total
Project Management Expert (Intl) –TL	VTE	6	12	6	2	2	2	2	32
Financial Management Specialist (Intl)	VTE	6	0	0	0	0	0	0	6
Financial Management Expert (Nat)	VTE	5	4	4	2	0	0	0	15
Financial Management Expert (Nat)	VTE	5	4	0	0	0	0	0	9
Procurement Specialist (Intl)	VTE	4	5	0	0	0	0	0	9
Procurement Expert (Nat)	VTE	6	12	6	0	0	0	0	24
Agri Market Linkage Specialist (Intl)	VTE	2	8	6	1	1	0	0	18
Agri Market Linkage Expert (Nat)	VTE	2	11	11	6	6	0	0	36
Monitoring & Evaluation Expert (Nat)	VTE	6	4	4	2	2	2	0	20
Safeguard - Social Specialist (Intl)	VTE	3	2	2	2	0	0	0	9

Safeguard Social Expert (Nat)	VTE	6	10	10	4	2	2	0	34
Safeguard -IEE Specialist (Intl)	VTE	0	3	3	3	0	0	0	9
Safeguard -IEE Expert (Nat)	VTE	0	4	4	4	3	2	0	17
Construction Supervision Expert (Nat)	VTE	4	6	4	2	0	0	0	16
Agricultural Economist (Nat)	VTE	3	3	2	0	0	0	0	8
Gender Expert	VTE	2	2	2	2	2	0	0	10
Subtotal		60	90	64	30	18	8	2	272

A. Individual Terms of Reference

1. Team Leader Project Management Advisor (international)

Category	Description
A: Position /Title	Program Management Advisor – Team Leader
B: Position / Type	Consultant – LIC
C: International or National	International
D: Qualifications	Post graduate degree in Agriculture or Commerce
E: Experience	<p>At least 20 years experience across 5 countries in project management and implementation roles in ADB projects, with roles that include work planning, budgeting and cashflows, provincial reporting and adaptive management. Detailed working knowledge of ADB project administration systems and knowledge or experience of cofinanced projects is required including EU implementation and reporting systems.</p> <p>Exceptional writing and communication skills need to be demonstrated.</p> <p>Decentralised implementation through subnational implementation that has strong alignment and utilisation with government systems essential</p> <p>Clear and proven commitment to quality program management including the application of safeguards plans and implementation requirements according to the agreed frameworks, Candidates with past project experience where safeguards frameworks were not adhered to are not eligible and project management roles in projects with delayed implementation would be a significant risk.</p> <p>Demonstrable examples of mentoring and capacity building as a key function and achievement are required. These skills need to include supporting Govt Decisions makers to achieve project milestones.</p>
F: Posting	Vientiane with responsibility to guide national program managers in each province.
G: Reporting To	DG/DDG PAFO
H: Duration of role	32 person months
I: Starting Date	Appointed within five months of effectiveness Project Year: 6, 12,6,3,2,2,2,3
J: Deliverables	<ol style="list-style-type: none"> 1. Project Work plan 8 weeks after mobilisation 2. Program Management Templates and Systems Manual 3. Annual Implementation plans by province and quarter, supporting budgets and CA projections

	<ol style="list-style-type: none"> 4. Additional Subproject Feasibility Studies 5. Progress and Annual Reports 6. Capacity mentoring and strengthening programs
K: Outputs	<ol style="list-style-type: none"> 1. Project work plans and Financial projections 2. Project IA staff knowledge and awareness programs 3. IA capacity building and systems institutionalised 4. Additional Subproject Feasibility and Safeguard documentation 5. Program Reporting 6. Effective governance oversight
L: Tasks	<p>By Output</p> <p>Output 1: Project Work plans and Financial projections</p> <ol style="list-style-type: none"> 1. Review the PAM and update based on changes during loan negotiations and signing 2. Draft the required MOU's between the EA and other Government Agencies including Provincial Office of Natural Resources and Environment (PONRE) and the Provincial Public Works Office, have these reviewed by the IAs and then submitted through the National and Provincial Steering Committees for ratification 3. Conduct meetings and workshops with all stakeholders in the EA and IAs to outline a work program for establishing the annual work plan for project year 1 based on the 2019 Government planning and budget submission 4. Identify and confirm work plans and procedures for (i) EU funded output 4, and (ii) parallel cofinancing of IFAD and GCF/GIZ and ensure all EA and IA staff are fully aware of these plans and relationships 5. Ensure the DOI PGT and IA PPITs are staff and informed of the workplan 6. Ensure all IAs and the EA form the steering committees and the procurement evaluation committees as detailed in the PAM 7. Assist the PGT Director to establish the work plans and project budgets with supporting cash flows, contract award projections and disbursement projections necessary for the formation of the IA subaccounts. 8. Design and implement a detailed task based information system to track implementation progress at level of contract and work task steps for each representative subproject, each catchment plan, the implementation of output 4 nutrition sensitive agriculture, and agricultural market chain support 9. Support the program director to apply the information system through monthly reporting meetings within each IA and a email based progress tracking reporting system <p>Output 2: Project IA staff Knowledge and awareness Program</p> <ol style="list-style-type: none"> 1. Based on the PAM and start up interviews support the provincial project management advisors to conduct briefing meetings for (i) national steering committee, (ii) provincial steering committees, (iii) each IA including DoI and the 4 PAFO's, and (iv) Provincial Vice Governor's office 2. Conduct follow on training and awareness sessions with each PGT and PPIT staff member to ensure that people understanding the planning systems, financial responsibility and fund flow, communicate the role, responsibilities, and relationships needed within the Project and provide training in the use of project level templates for a project management purposes. 3. Conduct workshops and training on the processing of additional subprojects, safeguard monitoring and procurement systems using PGT staff to provide additional technical support

	<p>4. Conduct oversight visits throughout the first two years to assess Project management effectiveness, work with the DG and DDG PAFO to implement changes and programs to address weaknesses and adjust programming and work plans accordingly</p> <p>Output 3: IA capacity building and systems institutionalise</p> <ol style="list-style-type: none"> 1. With the support of financial management and procurement specialists prepare training for all staff involved in program management 2. Conduct training and repeat training within the first quarter of each project year 7. Identify professional in-service training options for Provincial Financial Staff and ensure that candidates are appropriately selected and supported 8. Conduct Project Management effectiveness evaluation as part of the annual work plan evaluation and updating process with a report to the Vice Governor Office, MAF and ADB. <p>Output 4: Additional Subproject Feasibility and Safeguard documentation</p> <ol style="list-style-type: none"> 1. Prepare a process based project management guideline for processing additional subprojects with the required checklists and qualifiers to ensure that the requirement of subproject processing relating to hydrology, water use demand, and safeguards are fully responded to. 2. Conduct training for provincial project management staff on the use of the templates. 3. Mentor the first two cycles of additional subproject processing to ensure timely production and review of safeguard documentation, approval of DED and procurement of works including the active approval of water users in the DED design and approval process. 4. On a quarterly basis identify remedial actions to ensure subproject processing is accelerated and maintains the work plan timing. <p>Output 5: Program Reporting</p> <ol style="list-style-type: none"> 1. Working with the financial, procurement, and monitoring advisors prepare a project management implementation reporting system that will be used by the project management advisor team. The system will provide a task based progress report to identify delays (months), orange flagged tasks (delayed but actions in place) and red flagged ongoing or prolonged delays with no action taken. Each month these will be reported to the DG PAFO or Director PGT. Every quarter these will be summarised and reported to the Vice Governor's office and MAF. 2. Provide input to the development of Project implementation progress reporting 3. Support provincial project management staff to implement reporting systems and to ensure the compliance and integrity of reporting systems 4. Link the PGT to MAF DOPF for reporting of project status <p>Output 6: Effective governance oversight</p> <ol style="list-style-type: none"> 1. Develop a governance and oversight performance review system for the project covering WUG/WUAs, PAFO, Provincial procurement evaluation committees, and the PGT 2. Ensure that the Project Management Advisors have a system for raising concerns regarding governance risks through internal reporting to the PGT project management advisor. 3. To provide an oversight and supervision assessment role for governance based issues working with DOPF and PGT Staff 4. Ensure that governance and oversight performance reviews are conducted in a timely manner and with integrity
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B. Financial Management Team

1. Background

18. The financial management specialists will be responsible for (i) the establishment of financial management (FM) systems and procedures for the project using the draft Financial Management Manual developed for the project as the basis for updating and final specification of the Financial Management Manual to reflect (a) loan negotiations, and (b) IAs details; (ii) establishing and mentoring FM capacity within the Program Governance Team (PGT) established in the Department of Irrigation (DOI) in Vientiane and at the four Provincial Program Implementation Teams (PPITs) established in the Provincial Agriculture and Forestry Offices (PAFOs), in Houaphan, Louangphabang, Xiangkhouang and Xaignabouli, based on the financial management manual and supporting accounting systems; (iii) monitoring and advising on the implementation of financial management for the project; and (iv) the preparation of operational plans for the upscaling of the systems across all ADB subsector projects under DOI into the standardized FM arrangements.

19. The specialists will support the decentralized implementation being applied within the project, taking account of the controls and monitoring/oversight that are specified in the Financial Management Manual and supporting government regulations and ADB loan agreements and Project Administration Manual, and building FM capacity of government staff in the IAs. A key output performance indicator will be the ability of IA staff to operate and be responsible for the FM responsibilities of the Project including day to day operational activities and the periodic reporting to the program directors, Provincial Governors Offices, MAF DOPF and ADB.

20. The monitoring of the implementation of the financial management requirements for the project, and the associated advice and support, will include ensuring that:

- (i) Proper controls are being applied;
- (ii) All the accounting and financial reporting requirements are being met;
- (iii) All the documentation requirements are being met; and
- (iv) Audit issues are minimized.

2. Financial Management – International

Category	Description
A: Position /Title	Financial Management Specialist
B: Position / Type	Loan Implementation Consultant Team (LIC)
C: International or National	International
D: Qualifications	IFAC-recognized accountancy qualification
E: Experience	A minimum of 10 years experience in financial management of development projects with demonstrable experience in the development, implementation and supervision of financial management systems based on double entry accounting and associated reporting. The candidate must have a minimum of 5 years experience of direct implementation roles linked to ODA donor program preferably financed by ADB or WB.
F: Posting	Vientiane – DOI as part of the Loan Implementation Consultants that support the Program Governance Team.

	In PGT, but spending a minimum of 50% of the time in the PPITs
G: Reporting To	Team Leader LIC
H: Duration of role	Total input 6 person months
I: Starting Date	Person months per Pyr 6
J: Deliverables	<ol style="list-style-type: none"> 1. Updated Financial Management Manual (February 2020; subsequent, as necessary). 2. Capacity Building Plan (January 2020). 3. FM systems established at the PPITs and PGT (February 2020) 4. Reports on capacity building delivery at the PPITs and PGT (each end of input report). 5. Reports on FM monitoring, including issues, advice and action taken (each end of input report/as necessary).
K: Outputs	<ol style="list-style-type: none"> 1. Effective FM systems and procedures developed implemented and operating across all IAs. 2. FM capacity strengthened within all IAs. 3. Upscaling of FM systems to ADB subsector portfolio (if requested)
L: Tasks	<p><u>Effective FM systems and procedures developed implemented and operating across all IAs:</u></p> <ol style="list-style-type: none"> 1. Update the draft Financial Management Manual for the project, at the start of the project, based on the current situation, and taking account of the requirements of ADB and the government. Provide subsequent updates, as necessary based on experience to date. 2. Work with the software supply contractor to resolve start up issues, and further refinement or development of systems in response to field/IA experience and in terms of responding to the MAF/DOI public sector accounting system development. 3. Establish the project's FM systems and procedures in the PPITs and the PGT, including the accounting software and associated quality assurance and reporting systems. 4. Support the PGT and the PPITs in monitoring the implementation of the project's FM, and provide advice/support on issues and corrective actions that need to be taken, including system development, elaboration or correction. 5. Ensure that the FM systems are able to be institutionalised with the proposed MAF public sector accounting systems <p><u>FM capacity strengthened within all IAs</u></p> <ol style="list-style-type: none"> 1. Develop the FM capacity building plan for the project, and provide advice/support/inputs for the delivery of the FM capacity building activities in for project year 1 and 2. <p><u>Upscaling of FM systems to ADB subsector portfolio</u></p> <ol style="list-style-type: none"> 1. Working in association with the PGT financial management staff and the Deputy Head of the Planning and Finance Division (PGT) prepare an operational plan for the integration of SRIWSM systems into other ADB subsector projects, this should provide clear sets of actions that manage the risk of integration linked to the migration of data and systems into the SRIWSM based systems. Along with this a proposed capacity development and mentoring program should be prepared.

3. Financial Management – National – 2 Positions

Category	Description
A: Position /Title	National Financial Management Specialist
B: Position / Type	Consultant (LIC)
C: International or National	National
D: Qualifications	IFAC-recognized accountancy qualification and/or graduate qualifications in financial management.
E: Experience	A minimum of 10 years demonstrable experience in the development and operation of financial management systems, with at least 5 years experience with development projects preferably financed by external donors, especially ADB or WB.
F: Posting	LPB
G: Reporting To	Team Leader LIC
H: Duration of role	15 person months, over the first four years of the project
I: Starting Date	By Pyr: 5,4,4,2
J: Deliverables	<ol style="list-style-type: none"> 1. Updated Financial Management Manual (as necessary, 2021 to 2023). 2. Capacity Building Plan updates (as necessary, June 2020 to 2023). 3. Updated FM systems established at the PPITs and PGT (June 2020 to 2023). 4. Reports on capacity building delivery at the PPITs and PGT (each end of input/quarterly report). 5. Reports on monitoring, including issues, advice and action taken (each end of input/quarterly/as necessary report).
K: Outputs	<ol style="list-style-type: none"> 1. Effective FM systems and procedures developed, established and updated. 2. FM capacity developed at the PPITs and PGT. 3. Upscaling of FM systems to ADB subsector portfolio (if requested)
L: Tasks	<p><u>Effective FM systems and procedures developed, established and updated.</u></p> <ol style="list-style-type: none"> 1. Finalise the Financial Management Manual for the project and then review and update based on experience to date, and taking account of the requirements of ADB and the government. 2. Update the project's FM systems and procedures for all IAs to ensure consistency and the integrity of systems application within the IAs, including the accounting software and associated systems. 3. Support PGT in monitoring the implementation of the project's FM, and provide advice/support on issues and corrective actions that need to be taken. 4. Ensure that the FM systems are able to be institutionalised with the proposed MAF public sector accounting systems <p><u>FM capacity strengthened in all IAs</u></p> <ol style="list-style-type: none"> 5. Update the FM capacity building plan for the project. 6. Lead the delivery of the FM capacity building activities at the PPITs and PGT. <p><u>Upscaling of FM systems to ADB subsector portfolio</u></p> <ol style="list-style-type: none"> 1. Working in association with the PGT financial management staff and the Deputy Head of the Planning and Finance Division (PGT) prepare an operational plan for the integration of SRIWSM systems into other ADB subsector projects, this should provide clear sets of actions that manage the risk of integration linked to the migration of data and systems into the SRIWSM based systems. Along with this a proposed capacity development and mentoring program should be prepared

Category	Description
A: Position /Title	National Financial Management Specialist
B: Position / Type	Consultant (LIC)
C: International or National	National
D: Qualifications	A graduate qualification in business administration and or financial management
E: Experience	A minimum of 5 to 10 years experience in financial management, including experience with at least one development project, preferably financed by external donors, especially ADB or WB.
F: Posting	XK
G: Reporting To	LIC Team Leader
H: Duration of role	9 person months
I: Starting Date	By Pyr 5,4
J: Deliverables	<ol style="list-style-type: none"> 1. Reports on FM systems established and updated at the PPITs and PGT (each end of input/quarterly report). 2. Reports on capacity building delivery at the PPITs and PGT (each end of input/quarterly report). 3. Reports on monitoring, including issues, advice and action taken (each end of input/quarterly/as necessary report).
K: Outputs	<ol style="list-style-type: none"> 1. Effective FM systems and procedures established and updated. 2. FM capacity strengthened in all IAS.
L: Tasks	<p>Effective FM Systems and Procedures Established and Updated</p> <ol style="list-style-type: none"> 1. Establish and update the project's FM systems and procedures at the PPITs and the PGT, including the accounting software and associated systems. <p>FM Capacity strengthened in all IAs</p> <ol style="list-style-type: none"> 2. Deliver the FM capacity building activities at the PPITs and PGT. 3. Support PGT in monitoring the implementation of the project's FM, and provide advice/support on issues and corrective actions that need to be taken.

C. Procurement Support

1. Procurement Specialist (International)

Category	Description
A: Position/Title	Procurement Specialist
B: Position/Type	Consultant within LIC
C: International or National	International
D: Qualifications	<ol style="list-style-type: none"> 1. A tertiary qualification in engineering, rural development, agriculture or similar from an established and recognized institution and will be fluent in English language. 2. Well-developed organization and task prioritization skills. 3. Good communication and social skills and strong teamwork/teambuilding capacity. 4. Good computer skills including Excel and MS Office.

Category	Description
E: Experience	<ol style="list-style-type: none"> 1. Have at least 15 years of work experience performing in rural development on external assistance projects. 2. An in-depth knowledge of ADB procurement procedures demonstrated by a track record of no less than 10 years' experience in procurement related activities.
F: Posting	Based in LIC within the Program Governance Team (PGT) in Vientiane capital city. Frequent field visits to the four provinces of Louangphabang, Xiangkhouang, Xaignabouli and Houaphan are required to support PAFO procurement activities.
G: Reporting To	Team Leader, LIC
H: Duration of role	9 person months (intermittent)
I: Starting Date	By Pyr 6,3
J: Deliverables	<ol style="list-style-type: none"> 1. An institutional framework and set of standard operating procedures for all procurement arrangements and all procurement stakeholders under the project. 2. Updated bidding documents, contracts and contract management plans for all procurement packages. 3. Bid evaluation reports. 4. Consolidated progress reports on all aspects of procurement. 5. Training workshops in Vientiane and in the four provinces.
K: Outputs	<p>These are what the role contributes to the Project outputs:</p> <ol style="list-style-type: none"> 1. Effective and rational procurement arrangements.. 2. Well-defined contracts for works, consulting services, vehicles and equipment, etc. 3. Upgraded procurement skills within MAF and PAFOs.
L: Tasks	<p>Effective and Rational Procurement Arrangements</p> <ol style="list-style-type: none"> 1. Review all procurement arrangements developed for the project to date, and revise as necessary in consultation and agreement with MAF and ADB, including the procurement plan. 2. Based on agreements made, develop an institutional model for the roles and responsibilities of all procurement actors. 3. Review and approve all bidding/procurement documents, and design the prior/post review process and the method of sampling for ADB review. 4. Develop the format and procedure for contract management plans for all procurement packages, and provide guidance to PGT and PAFOs on implementation. 5. Review forward plans and annual budgets prepared by PGT and PAFOs and provide guidance, as necessary. 6. Provide guidance to PGT and PAFOs on the design of a systematic and retrievable procurement filing/record system.

Category	Description
	<ol style="list-style-type: none"> 7. Provide overall guidance to PGT/PAFOs in the setting up of performance monitoring systems. 8. Provide oversight to PGT and PAFOs on the updates to the procurement plan, as necessary. 9. Provide oversight to PGT/PAFOs on the preparation of contract completion reports for all procurement packages. 10. Provide technical support to PAFOs to arrange one or more short workshops for local contractors to build awareness on ADB's bidding requirements. <p>Well-defined Contracts</p> <ol style="list-style-type: none"> 1. Provide expert oversight and guidance to PAFOs to prepare all bidding, evaluation, contract documentation, contract management plans and completion reports for all works contracts. 2. Provide expert oversight and guidance Assist PGT to prepare all bidding, evaluation, contract documentation, contract management plans and completion reports for all consulting services, and supply of vehicles and equipment. 3. Provide guidance on procurement guidelines of MOF and ADB on an on-going basis. 4. Provide expert oversight and guidance to PGT/PAFO to process all contract variations. <p>Upgraded Procurement Skills within PGT and PAFOs</p> <ol style="list-style-type: none"> 1. Provide a mentoring role to the national procurement specialist and PAFOs on all aspects of procurement, specifically with respect to procedure, format, scheduling, monitoring and completion reporting. Mentoring will be through on-the-job training, workshops and sharing of experiences between the provinces. 2. Provide a mentoring role to the national procurement specialist and PGT on all aspects of procurement, specifically with respect to procedure, format, scheduling, monitoring and completion reporting. Mentoring will be through on-the-job training and workshops. 3. Undertake frequent field visits to PAFOs to provide technical support and guidance on procurement over periods agreed with the Team Leader.

3. Procurement (National)

Category	Description
A: Position/Title	Procurement Specialist
B: Position/Type	Consultant within LIC
C: International or National	National
D: Qualifications	<ol style="list-style-type: none"> 1. A tertiary qualification in engineering, rural development, agriculture or similar from an established and recognized institution and will be fluent in English language. 2. Good team spirit and openness to learn new skills and techniques. 3. Well-developed organization and task prioritization skills. 4. Good communication and social skills and strong teamwork/teambuilding capacity. 5. Good computer skills including Excel and MS Office.
E: Experience	<ol style="list-style-type: none"> 1. Have at least 5 years of work experience performing assignments relating to procurement on external assistance projects. 2. A demonstrated knowledge of ADB procurement procedures.
F: Posting	Based in LPB visits to all IAs are required to support DoI and PAFO procurement activities.
G: Reporting To	Team Leader, LIC
H: Duration of role	24 person months (intermittent)
I: Starting Date	Mobilization of LIC
J: Deliverables	<ol style="list-style-type: none"> 1. Updated bidding documents, contracts and contract management plans for all procurement packages. 2. Bid evaluation reports. 3. Collection of all relevant provincial data and compiled for progress reporting. 4. Training workshops in Vientiane and in the four provinces.
K: Outputs	<p>These are what the role contributes to the Project outputs:</p> <ol style="list-style-type: none"> 1. Effective and rational procurement arrangements.. 2. Well-defined contracts for works, consulting services, vehicles and equipment, etc. 3. Upgraded procurement skills within MAF and PAFOs.
L: Tasks	<p>Effective and Rational Procurement Arrangements</p> <ol style="list-style-type: none"> 1. Assist PGT/PAFOs to review/update/prepare all bidding/procurement documents providing guidance on prior/post review and the method of sampling for ADB review. 2. Assist PGT/PAFOs prepare forward plans and annual budgets. 3. Assist PGT/PAFOs prepare a systematic and retrievable procurement filing/record system. 4. Assist PGT/PAFOs in the setting up of performance monitoring systems.

	<ol style="list-style-type: none"> 5. Assist PGT to update procurement plan, as necessary. 6. Assist PGT/PAFOs to prepare contract completion reports for all procurement packages. 7. Help the PAFOs arrange one or more short workshops for local contractors to build awareness on ADB's bidding requirements. <p>Well-defined Contracts</p> <ol style="list-style-type: none"> 1. Assist PAFOs to prepare all bidding, evaluation, contract documentation, contract management plans and completion reports for all works contracts. 2. Assist PGT to prepare all bidding, evaluation, contract documentation, contract management plans and completion reports for all consulting services, and supply of vehicles and equipment. 3. Provide guidance on procurement guidelines of MOF and ADB on an on-going basis. 4. Assist PGT/PAFO to process all contract variations. <p>Upgraded Procurement Skills within PGT and PAFOs</p> <ol style="list-style-type: none"> 1. Provide a mentoring role to the PAFOs on all aspects of procurement, specifically with respect to procedure, format, scheduling, monitoring and completion reporting. Mentoring will be through on-the-job training, workshops and sharing of experiences between the provinces. 2. Provide a mentoring role to PGT on all aspects of procurement, specifically with respect to procedure, format, scheduling, monitoring and completion reporting. Mentoring will be through on-the-job training and workshops. 3. Undertake frequent field visits to PAFOs to provide procurement support over periods agreed with the Team Leader.
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D. Agribusiness Support

1. Agribusiness (International)

Category	Description
A: Position /Title	Agribusiness Adviser
B: Position / Type	Consultant (LIC)
C: International or National	International
D: Qualifications	Post graduate qualification in Agribusiness, Agricultural Marketing, Commerce linked to Agriculture
E: Experience	A minimum of 15 years of Agribusiness experience in developing economies, with at least 5 years in one or more of the Greater Mekong Subregion countries. Demonstrated experience of successfully implementing projects that have involved assessment of market channels, market demand

	identification, market channel engagement and connectivity and agribusiness development with small producers, small traders and agribusiness. Experience in working with large agricultural concessionaires and contract farming enterprises in addition to smaller volume production systems is essential
F: Posting	LPB Travel to all Province and VTE
G: Reporting To	Team Leader LIC
H: Duration of role	18 Person months
I: Starting Date	By Pyr 2,8,6,1,1
J: Deliverables	<ol style="list-style-type: none"> 1. Agribusiness Inception Report and Work Plan (September 2020) 2. Agribusiness assessment and development strategy for each province 3. Market assessment reports for the Representative Subprojects 4. Agribusiness awareness and connectivity programs 5. Special studies for strategic infrastructure to support identified market channels including Houaphan Trade Facility Feasibility Study (March 2024) and similar investment if needed for additional subprojects 6. Agribusiness Adviser Completion Report ()
K: Outputs	<ol style="list-style-type: none"> 1. Provincial Agribusiness Strategies 2. Higher Value Markets Assessed 3. Market Led Planning 4. Market Connectivity programs implemented 5. Business Development and Value Creation 6. Quality Assurance and Traceability 7. PAFO Agribusiness Capacity Developed
L: Tasks	<ol style="list-style-type: none"> 1. Assess the status of market connections and agribusiness development in each of the four RSP during inception. Based on the assessment prepare the agribusiness work plan. The plan should highlight the main market connectivity and agribusiness development tasks that will be undertaken leading up to the first irrigated dry season after scheme upgrading. The agribusiness work plan must feature the different implementation support that will be provided for each of the four RSPs. It must also include the implementation support activities for the Phousan tea market connection. <p>Output 1: Provincial Agribusiness Strategies Developed</p> <ol style="list-style-type: none"> 1. Lead the implementation of the agribusiness program, including managing the National Agribusiness Adviser, and overseeing the development of the four PAFO Agribusiness contracted staff. 2. Identify achievable agribusiness support programs for each province that can be introduced and institutionalized within the Provincial PAFO and PICO 3. Develop forums for public and private sector dialogue on developing the agribusiness sector

	<p>4. Provide guidance in the provision of technical services</p> <p>Output 2: Higher Value Markets Assessed</p> <ol style="list-style-type: none"> 1. Initiate the Nam Poua safe vegetable market assessment and lead the LIC Agribusiness team to undertake the assessment. The market assessment must include current and potential markets in Viet Nam and will assess the potential for the development of the “Houaphan Safe Vegetables” brand. Analyze the findings and use them to guide the market connections program. Hold meetings with farmers, traders and agribusinesses to present and discuss results. Conduct a workshop for Houaphan PAFO to present the market assessment findings and advise how they can be used to inform the Houaphan agribusiness strategy. Repeat the market assessment in Project Year 4 (Quarter 3 2023). 2. Initiate the Nam Tong safe vegetables market assessment and lead the LIC Agribusiness team to undertake the assessment. The emphasis in the assessment will be upon Vientiane Capital markets, and other provincial markets such as Louangphabang. Analyze the findings and use them to guide the market connections program. Hold meetings with farmers, traders and agribusinesses to present and discuss results. The LIC Agribusiness team will undertake regular market assessments to monitor market opportunities and gain feedback on the Xiangkhouang vegetables. 3. Plan and implement a clear market strategy for the Xiangkhouang livestock sector with respect to regional; trade into Viet Nam and the supporting Quality Assurance programs. Oversee the National Agribusiness Adviser and Xiangkhouang PAFO Agribusiness staff in the development of proactive cattle marketing by the Nam Tong cattle farmers. 4. Undertake market assessments for the Xaignabouli and Louangphabang RSPs as required and in particular engage with the contract farming enterprise/s to ascertain potential value addition opportunities, improve the competitive advantage of green pod soya bean production. <p>Output 3: Market Led Farm Planning</p> <ol style="list-style-type: none"> 1. Manage the National Agribusiness Adviser, and PAFO Agribusiness staff, to assist the irrigation scheme farmers to plan their dry season farming programs using market information. This will involve coordination with the WUAs, and other Project Advisers. 2. Contribute market demand and connectivity issues to the water demand assessment processes for each RSP and additional subproject assessment <p>Output 4: Market Led Connectivity Improved</p> <p>4.1 Business Development and Value Creation</p> <ol style="list-style-type: none"> 1. Lead the LIC Agribusiness team to support the traders and small agribusinesses to plan and develop their business operations, including value creation. The Agribusiness team will assist with business plan preparation. Assist the PPIT to prepare and manage the small grant procedures. This includes grants for tea development in Xiangkhouang.
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	<p>2. Conduct the feasibility study on the proposed Trade Facility in Houaphan. From the feasibility findings make recommendations to the Project Government team and ADB as to whether the investment should proceed. If the Trade Facility does proceed assist and advise over its development, including the preparation of the business plan. This task is to be undertaken in Project Year 5. (Quarter 2 2024)</p> <p>3. Lead the LIC Agribusiness team to establish and better connect farmers, traders, agribusiness and markets. This will focus first on existing market connections, and the development of new market connections. Xiangkhouang and Houaphan RSPs will be the first priorities for this task.</p> <p>4. Manage the Phousan tea market connections and agribusiness development support program. This includes the Team Marketing Specialist and the inputs by the National Agribusiness Adviser. Ensure that there is a high level of engagement by the small and larger tea processors and marketers in the tea market assessment and subsequent market connection activities.</p> <p>4.2: Quality Assurance and Traceability</p> <p>1. Lead the LIC Agribusiness team to advise over the development of quality assurance and traceability systems for the products from the RSP irrigation schemes, especially Houaphan and Xiangkhouang. Assess the suitability of LaoGAP for this purpose and support its implementation if it is to be used as the quality assurance standard.</p> <p>Output 5: PAFO Agribusiness Capacity Developed</p> <p>1. Prepare the capacity development program for the four PAFO Agribusiness staff members, and oversee its implementation. The capacity development program must feature a continuing learning approach with on-the-job training and mentoring. The PAFO Agribusiness staff members will participate in all the agribusiness activities undertaken by the International and National Agribusiness Advisers in the respective provinces.</p>
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2. Agribusiness (National)

Category	Description
A: Position /Title	Agribusiness Adviser
B: Position / Type	Consultant (LIC)
C: International or National	National
D: Qualifications	Post graduate qualification in marketing, commerce or agriculture marketing (note a technical degree in agriculture will not qualify a candidate for this position unless there is exceptional commercial or marketing experience alignment).

E: Experience	<p>A minimum of 10 years of Agribusiness sector experience in Laos. The demonstrated sector experience must include working with farmers, small traders and agribusinesses in the development of market connections for vegetables and other crops.</p> <p>Demonstrable experience with at least 5 years experience in understanding of the contract farming, concessionaire commercial agribusiness sector, small holder market development and connectivity, trade quality assurance systems and requirements, market assessments in Laos and the wider GMS is essential.</p> <p>A strong capacity building back ground and proven ability to work with small farmers, commercial agribusiness and regional / national officials is required</p>
F: Posting	LPB with travel to all Provinces
G: Reporting To	International Team Leader and International Agribusiness Adviser
H: Duration of role	36 Person months
I: Starting Date	By Pyr 2,11,11,6,6
J: Deliverables	<ol style="list-style-type: none"> 1. Agribusiness Inception Report and Work Plan (September 2020) 2. Provincial Agribusiness assessment 3. Market assessment reports for the Representative Subprojects 4. Agribusiness awareness and connectivity programs 5. Special studies for strategic infrastructure to support identified market channels including Houaphan Trade Facility Feasibility Study (March 2024) and similar investment if needed for additional subprojects 6. Agribusiness Adviser Completion Report ()
K: Outputs	<ol style="list-style-type: none"> 1. Provincial Agribusiness Strategies 2. Higher Value Markets Assessed 3. Market Led Planning 4. Market Connectivity programs implemented <ul style="list-style-type: none"> - Business Development and Value Creation - Quality Assurance and Traceability 5. PAFO Agribusiness Capacity Developed
L: Tasks	<ol style="list-style-type: none"> 1. Working with the International Agribusiness Advisor the National Advisor will provide direct support to each PAFO Agribusiness contracted position and provide input to the following outputs. The role will provide overall leadership for operationalising and implementing the following outputs. 2. Assess the status of Provincial market connections and agribusiness development in the provincial RSP during inception. Support the International Advisor plus other provincial assessments to share information and opportunities. Based on the assessment prepare the agribusiness work plan. The plan should highlight the main market connectivity and agribusiness development tasks that will be undertaken leading up to the first irrigated dry season after scheme upgrading.

	<p>Output 1: Provincial Agribusiness Strategies Developed</p> <ol style="list-style-type: none"> 1. Support the implementation of the agribusiness program, and overseeing the development of the four PAFO Agribusiness contracted staff. 2. Identify achievable agribusiness support programs for each province that can be introduced and institutionalized within the Provincial PAFO and PICO 3. Ensure agribusiness forums for public and private sector dialogue on developing the agribusiness sector are planned and implemented 4. Provide guidance in mobilizing and accessing technical services <p>Output 2: Higher Value Markets Assessed</p> <ol style="list-style-type: none"> 1. Support the Nam Poua safe vegetables market assessment. The market assessment must include current and potential markets in Viet Nam and will assess the potential for the development of the “Houaphan Safe Vegetables” brand. Analyse the findings and use them to guide the market connections program. Hold meetings with farmers, traders and agribusinesses to present and discuss results. Conduct a workshop for Houaphan PAFO to present the market assessment findings and advise how they can be used to inform the Houaphan agribusiness strategy. Repeat the market assessment in Project Year 4 (Quarter 3 2023). 2. Support the Nam Tong safe vegetables market assessment and lead the LIC Agribusiness team to undertake the assessment. The emphasis in the assessment will be upon Vientiane Capital markets, and other provincial markets such as Louangphabang. Analyze the findings and use them to guide the market connections program. Hold meetings with farmers, traders and agribusinesses to present and discuss results. The LIC Agribusiness team will undertake regular market assessments to monitor market opportunities and gain feedback on the Xiangkhouang vegetables. 3. Support development of a clear market strategy for the Xiangkhouang livestock sector with respect to regional; trade into Viet Nam and the supporting Quality Assurance programs. Initiate, with the PAFO Agribusiness staff, the activity to develop the Nam Tong cattle farmers to be more proactive in their cattle marketing. 4. Support the implementation of market assessments for the Xaignabouli and Louangphabang RSPs as required and in particular engage with the contract farming enterprise/s to ascertain potential value addition opportunities, improve the competitive advantage of green pod soya bean production. <p>Output 3: Market Led Farm Planning</p> <ol style="list-style-type: none"> 1. Support PAFO Agribusiness staff, to assist the irrigation scheme farmers to plan their dry season farming programs using market information. This will involve coordination with the WUAs, and other Project Advisers. 2. Contribute market demand and connectivity issues to the water demand assessment processes for each RSP and additional subproject assessment
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	<p>Output 4: Market Led Connectivity Improved</p> <p>4.1 Business Development and Value Creation</p> <ol style="list-style-type: none"> 1. Support and maintain the implementation of support to the traders and small agribusinesses to plan and develop their business operations, including value creation. The Agribusiness team will assist with business plan preparation. Assist the PPIT to prepare and manage the small grant procedures. This includes grants for tea development in Xiangkhouang. 2. Provide technical and logistical leadership for the conduct of the feasibility study on the proposed Trade Facility in Houaphan. From the feasibility findings make recommendations to the Project Government team and ADB as to whether the investment should proceed. If the Trade Facility does proceed assist and advise over its development, including the preparation of the business plan. This task is to be undertaken in Project Year 5. (Quarter 2 2024) 3. Implement the agreed program to establish and better connect farmers, traders, agribusiness and markets. This will focus first on existing market connections, and the development of new market connections. Xiangkhouang and Houaphan RSPs will be the first priorities for this task. 4. Support the Phousan tea market connections and agribusiness development support program. This includes the Team Marketing Specialist and the inputs by the national Agribusiness Adviser. Ensure that there is a high level of engagement by the small and larger tea processors and marketers in the tea market assessment and subsequent market connection activities. <p>4.2: Quality Assurance and Traceability</p> <ol style="list-style-type: none"> 1. Support the implementation of the development of quality assurance and traceability systems for the products from the RSP irrigation schemes, especially Houaphan and Xiangkhouang. Assess the suitability of LaoGAP for this purpose and support its implementation if it is to be used as the quality assurance standard. <p>Output 5: PAFO Agribusiness Capacity Developed</p> <ol style="list-style-type: none"> 1. Support the capacity development program for the four PAFO Agribusiness staff members, and oversee its implementation. The capacity development program must feature a continuing learning approach with on-the-job training and mentoring. The PAFO Agribusiness staff members will participate in all the agribusiness activities undertaken by the International and National Agribusiness Advisers in the respective provinces. 2. The National Agribusiness Adviser will work closely with the PAFO Agribusiness staff and will play a main role in developing their capacity. Ensure that the capacity development program features a continuing learning approach with on-the-job training and mentoring. Also ensure that the PAFO Agribusiness staff participate in all the agribusiness activities undertaken in each province.
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	3. Provide oversight for the capacity development of the four PAFO Agribusiness staff members.
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E. Monitoring Role

1. Monitoring and Reporting (National)

Category	Description
A: Position /Title	Monitoring and Evaluation Specialist
B: Position / Type	Consultant or Contracted Staff Part of Loan Implementation team contract
C: International or National	National
D: Qualifications	Degree in Economics or Business Studies.
E: Experience	At least 10 years experience in senior project management position, ideally with some of this in the agriculture sector. 2 – 3 years experience with international donor funded projects (preferably ADB). Strong capability in working with computer systems, in particular Excel
F: Posting	LPB travel too all Provinces
G: Reporting To	Team Leader LIC, with parallel interactions with PPITs. As local capacity is developed (say 2-3 years) reporting will transition to supporting and mentoring PPIT staff through capacity building as they accept increasing accountability for project monitoring and evaluation.
H: Duration of role	20 months
I: Starting Date	By Pyr – 6,4,4,2,2,2
J: Deliverables	<ol style="list-style-type: none"> 1 Monitoring and Evaluation system updated to incorporate changes agreed during contract negotiations (3 months after commencement) 2 Decentralized data capture scheme implemented within 3 months of commencement, and integrated with M&E reports 3 Capacity building and mentoring program for PAFO staff in M&E principles (over 2 year project timeframe) 4 Performance variances drawn to attention of PAFO DGs and loan implementation consultants to initiate actions. (Ongoing)
K: Outputs	<ol style="list-style-type: none"> 1. Specification and operationalization of data collection system. 2. Monthly and quarterly production of M&E reports of progress against timelines, outputs and outcomes 3. Future M&E reporting expanded to incorporate subsequent sub projects or changes in priorities 4. Province staff competent to take over production of actionable M&E reports after Project Year 3
L: Tasks	Output 1 Specification and operationalization of data collection system <ol style="list-style-type: none"> 1. Update draft specification of local data collection requirements using mobile technology interfaced with project reporting systems. The

	<p>specification is to include indicative volumes; frequency of transactions; the variety of data capture devices expected; interface requirements to main reporting system and a requirement for costs to identify both system operating costs and projected charges for users supplying data</p> <ol style="list-style-type: none"> 2. Discuss proposed design with the IT support consultants contracted to provide assistance with implementation. 3. Circulate RFP 4. Receive and evaluate bids, using weighted criteria reflecting bidders experience with similar systems. 5. Select preferred bidder after identifying possible constraints in data collection, in their proposed system, such as mobile phone suitability. 6. Supervise design of data collection forms to be installed as an app on data collection devices 7. Pilot trial data collection and reporting systems before rolling out the system in all project areas 8. Modify any aspects of the proposed implementation to incorporate lessons learned from pilot testing. 9. Organize and supervise training of trainers who will be required to demonstrate competence in using data collection system. 10. Prepare and supervise a roll out program in data collection at local levels, using staff trained as future trainers 11. Organize technical support if required 12. Ensure local training plans are delivered and PAFO staff can demonstrate their ability to produce required reports. <p>Output 2 Monthly and quarterly production of M&E of project against timelines, outputs and outcomes</p> <ol style="list-style-type: none"> 1. Update the draft M&E reporting framework to incorporate changes agreed during loan negotiations. 2. Propose and get agreement to a timetable for data gathering from all stakeholders, in particular at village and WUG levels. 3. Liaise with the financial consultants to ensure incorporation of relevant financial data into the M&E summaries. 4. Liaise with Environment Monitoring and Social and Resettlement and consultants to ensure social, environmental and gender safeguards reporting is fully reflected in M&E reporting 5. Liaise with LIC consultants on where they are required to provide baseline information and how soon it can be collected. 6. Agree with LIC and specialist consultants where they will be responsible for setting performance targets and what feedback they require on progress to achieving those targets. 7. Liaise with consultants working on IFAD and GCF/GIZ components to identify where the M&E reports integrate with their reporting requirements 8. Plan and deliver a workshop to familiarize DGs and Provincial Steering Committee on the purpose, design and use of monthly and quarterly M&E reports.
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	<ol style="list-style-type: none"> 9. Organize and oversee random sampling of results being reported, in terms of land utilization, harvest volumes etc. 10. Agree with DGs PAFO on alignment of planned M&E reporting with existing reporting systems used by government. 11. Undertake a monthly review of reports produced, and confirm with PAFO DGs, what actions are being taken to address variations from plan. 12. Discuss with LIC consultants and other specialist advisors what lessons they have learned from the M&E reports, and the opportunities for these to be discussed more widely within all participating provinces – perhaps in the form of case studies. 13. Provide a quarterly written commentary for PGT highlighting successes and areas of concern. 14. Visit PAFO offices to discuss any issues they have experienced in completing monthly and quarterly reports 15. Agree an action plan to overcome difficulties supplying information for quarterly and monthly reports. <p>Output 3 Future M&E reporting expanded to incorporate subsequent sub projects or changes in priorities</p> <ol style="list-style-type: none"> 1. Prior to preparation of annual work plans and budgets, provide PGT and Provincial Project Steering Committees (PPSC) with an overview of successes and difficulties with project achievements in the current year, so that these can be reflected in work plans and budgets. 2. At the conclusion of the 3rd quarter report, discuss with PGT, PPSC and DGs the value they are receiving from the M&E reports, and any improvements they would like to see. 3. Ensure that baselines are established at the time that additional subprojects are being planned or evaluated. 4. Incorporate detailed milestones for additional sub projects when they are approved for detailed feasibility studies and/or final development. <p>Output 4 Province staff competent to produce progress reports after Project Year 3</p> <ol style="list-style-type: none"> 1. Provide briefing discussion with DGs and PAFO staff to discuss the concepts behind the M&E system; similarities to, and differences from, existing reporting systems; what actions will be expected of them and how they can use the information to their advantage. 2. Encourage involvement and “ownership” of the reporting templates, in particular to ensure they provide information that can be acted on at local levels. 3. During the initial 12 months of implementation take the initiative in drawing the attention of the DGs, PPSCs, and staff of areas (if any) where follow actions are required. 4. During this period follow up on proposed actions to review results. 5. During the initial 18 months of implementation hold formal workshops and practical skills-based training for PAFO, DALAM, and DAFO staff to discuss the findings set out in the M&E reports and how they can be used for decision making.
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	<p>6. Following the initial familiarization period, provide mentoring assistance that helps staff develop the confidence to act independently on results in future reports.</p> <p>7. After the initial familiarization period require staff to produce commentaries for PGT on actions being taken to address variations from plan.</p>
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F. Safeguard Roles

1. Social Safeguards (International)

Category	Description
A: Position /Title	Social Safeguards and Indigenous Peoples Specialist
B: Position / Type	Consultant – LIC team
C: International or National	International
D: Qualifications	Master's degree in relevant social sciences discipline or similar relevant field
E: Experience	<p>10 years' experience in social development, gender, Indigenous Peoples, land acquisition, and resettlement preferably within rural communities. Experience in Southeast Asia on funded rural infrastructure or irrigation projects financed by multilateral development agencies is preferred. At least 3 ADB funded project experiences.</p> <p>Clear and demonstrable skills in safeguards implementation according to the ADB SPS. These skills need to include building capacity of Govt staff at different levels.</p>
F: Posting	LPB with duty travel to all Provinces
G: Reporting To	Team Leader LIC
H: Duration of role	9 person months spread
I: Starting Date	by Pyr: 3,2,2,2
J: Deliverables	<ol style="list-style-type: none"> 1. SIA, LARP and DDR for additional subprojects 2. Contribution to Monitoring Progress Reports 3. Capacity building of PAFO/DAFO, Provincial Resettlement Committees and Provincial Social Safeguards Advisors
K: Outputs	<ol style="list-style-type: none"> 1. Additional Subproject Feasibility and Safeguard documentation 2. Program Monitoring and Reporting 3. Provincial Safeguards Capacity Development
L: Tasks	<p>By Output</p> <p>Output 1: Additional Subproject Feasibility and Safeguard documentation</p> <ol style="list-style-type: none"> 1. Provide managerial oversight to National Social Safeguards and Indigenous Peoples Specialist in taking leading role in conjunction with the PRC, PPO, PAFO and DAFO to screen, conduct due diligence, contribute to SP feasibility study and prepare additional LARPs and

	<p>DDRs, in accordance with this framework, for SPs that will be taken to implementation;</p> <ol style="list-style-type: none"> 2. Provide technical and managerial support to review of DMS and SESA results, public consultations process and PIB update; and 3. Update and finalise all LARPs and DD Rs for SPs submitted with subproject investment reports. <p>Output 2: Program Monitoring and Reporting</p> <ol style="list-style-type: none"> 1. Oversee internal monitoring for resettlement based on the approved LARPs and AHH database, and EGDP and IPP performance monitoring, including ethnic minority participation, training and employment targets; 2. Provide technical support to PGT in the preparation of a consolidated quarterly internal monitoring report for involuntary resettlement (i.e., quarterly safeguard, EG and gender monitoring report for involuntary resettlement) as an attachment to the quarterly project progress reports; 3. Conduct compliance monitoring of social, gender and safeguards issues, assist PGT, PPITs to formulate corrective actions where necessary, and help the IAs to prepare safeguards, social development and gender section in the periodic progress report and relevant semi-annual monitoring reports; 4. Ensure proper coordination with the safeguards specialists at national and provincial levels for the project; and 5. Assist in monitoring that the grievances are addressed promptly and properly and that grievance redress mechanism is functioning well. <p>Output 3: Provincial Safeguards Capacity Development</p> <ol style="list-style-type: none"> 1. Develop a training program on the land acquisition and resettlement aspects of the proposed project for PRC, PPO, PAFO/DAFO and Provincial Social Safeguards Advisors; 2. Assist the PGT to ensure that ADB's involuntary resettlement safeguard categorization remains B, and ADB's indigenous peoples' categorization remains B; 3. Assist the PGT in updating the gender action plan; 4. Assess any inadequacy in poverty reduction, social inclusion, and gender provisions; and advise the IAs on social development and gender mainstreaming related concerns that may arise and recommend appropriate remedial actions to strengthen provisions as required; and 5. Provide oversight to PPIT and PAFO in ensuring GRM and Provincial Resettlement Committees are functional and effective.
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2. Social Safeguard (National)

Category	Description
A: Position /Title	Social Safeguards and Indigenous Peoples Specialist
B: Position / Type	Consultant – LIC team

C: International or National	National
D: Qualifications	Degree in Social Sciences or similar relevant field
E: Experience	<p>The specialist will have tertiary qualifications in an appropriate discipline and will have more than 5 years of experience working in the field of social safeguards donor funded (resettlement and EG) in Lao PDR, and be fully conversant with the resettlement policies of ADB and laws of GoL.</p> <p>Experience on rural development or related assignments funded by multilateral development financing institutions (preferably ADB) would be beneficial.</p> <p>Fluency in written and spoken English is required.</p>
F: Posting	LPB/XK, with frequent travel to all four Provinces
G: Reporting To	Team Leader LIC
H: Duration of role	34 person months per position
I: Starting Date	Pmnths by Project Year: 6,10,10,4,2,2
J: Deliverables	<ol style="list-style-type: none"> 1. SIA, FS, LARP and DDR for additional subprojects 2. Internal Monitoring Progress Reports 3. Capacity building of PAFO/DAFO, Provincial Resettlement Committees and Provincial Social Safeguards Advisors
K: Outputs	<ol style="list-style-type: none"> 1. Additional Subproject Feasibility and Safeguard documentation 2. Program Monitoring and Reporting 3. Provincial Safeguards Capacity Development
L: Tasks	<p>By Output</p> <p>Output 1: Additional Subproject Feasibility and Safeguard documentation</p> <ol style="list-style-type: none"> 1. Take a lead role in conjunction with the PRC, PPO, PAFO and DAFO to screen, conduct due diligence, contribute to SP feasibility study and prepare additional LARPs and DDRs, in accordance with this framework, for SPs that will be taken to implementation; 2. Brief local consultants recruited to undertake SIA, DMS and SESAH in the field in the preparation, field work and reporting procedures to be followed. Support review of DMS and SESAH results; 3. Oversee the conduct of public consultation meetings and workshops with all stakeholders in preparation of SIA, FS, DDRs and LARPs, including PIB update and distribution; 4. Assist International Social Safeguards and Indigenous Peoples Specialist in reviewing and finalising LARPs and DDRs, including translation of necessary documentation; and 5. Review randomly selected LARPs as they are being prepared and make suggestions for their improvement. <p>Output 2: Program Monitoring and Reporting</p> <ol style="list-style-type: none"> 1. Assist PRC and PPIT with ongoing internal monitoring for resettlement based on the approved LARPs and AHH database, and EGDP and IPP

	<p>performance monitoring, including ethnic minority participation, training and employment targets;</p> <ol style="list-style-type: none"> 2. Support the preparation of a consolidated quarterly internal monitoring report for involuntary resettlement (i.e., quarterly safeguard monitoring report for involuntary resettlement) EG and gender as an attachment to the quarterly project progress reports; 3. Ensure all monitoring and evaluation data is disaggregated by gender and ethnic groupings (four ethno-linguistic groupings); and 4. Assist in monitoring that the grievances are addressed promptly and properly and that grievance redress mechanism is functioning well. <p>Output 3: Provincial Safeguards Capacity Development</p> <ol style="list-style-type: none"> 1. Visit all participating provinces and brief the provincial administrations, PPITs and participating district staff on the land acquisition and resettlement requirements and, specifically how they differ from standard government procedures in light of ADB policies; 2. Liaise with the safeguards officer in each PPIT and randomly review LARPs being undertaken by the provincial and district governments and report anomalies to the PGT and relevant PPIT; 3. Assist in developing and implementing the training program on the land acquisition and resettlement aspects of the proposed project for PRC, PPIT, PAFO/DAFO and Provincial Social Safeguards Staff. Conduct follow-on training and repeat training annually to ensure that people understand the key aspects of land acquisition and resettlement, GRM and safeguards (EGDP). Provide sensitivity training for implementing agencies at national, provincial and district levels (i.e. PGT, PPITs, DCOs and other stakeholders); and 4. Support PPIT and PAFO in ensuring GRM and Provincial Resettlement Committees are functional and effective.
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3. Environmental Safeguard (International)

Category	Description
A: Position /Title	International Environmental Safeguards Consultant
B: Position / Type	Consultant As part of Loan Implementation Consultant (LIC) team contract
C: International or National	International
D: Qualifications	Advanced degree in an environmental subject (e.g. soil science, botany, zoology, physical geography, ecology, forestry, agronomy or environmental science). Professional certification in a relevant environmental science.
E: Experience	At least five years of field experience in the operation of rural infrastructure development projects (i.e. in project implementation) with the GMS. At least ten years of demonstrated experience in the environmental safeguards within ADB funded rural infrastructure development projects

F: Posting	LPB with travel to each Province
G: Reporting To	Team Leader LIC
H: Duration of role	9 person months
I: Starting Date	By Pyr 0,3,3,3
J: Deliverables	<ol style="list-style-type: none"> 1. Approved Subproject Environmental Safeguard documentation for additional subprojects (minimum 12). This will require <ul style="list-style-type: none"> - Initial Environmental Examination (IEE) of additional subprojects that qualifies as GOL Category 1 (ADB Category B) as they emerge (years 2, 3). At a minimum, 12 additional are expected to be designed. - Environmental Review (ER) of every subproject that does not qualify as GOL Category 1 or 2 (ADB Category C) as they emerge (years 2, 3). - Environmental Management and Monitoring Plan (EMMP) for every GOL Category 1 subproject, or Environmental Codes of Conduct for non-qualifying subprojects, as they emerge (years 2 and 3). 2. First Project Annual Environmental Monitoring Report (end of year 2) as a component of the annual report.
K: Outputs	<p>Output 1 Subproject environmental safeguard categorisation and safeguard documentation</p> <p>Output 2: PNORE Capacity Strengthening</p>
L: Tasks	<p>Output 1: Approved Subproject Environmental Safeguard documentation for additional subprojects (minimum 12).</p> <ol style="list-style-type: none"> 1. Ensure national consultant is fully aware of the safeguard documentation requirements, templates and expected timing. 2. Prepare an EMMP or Code of Conduct for every additional subproject, and seek agreement on its use by the relevant subproject stakeholders. 3. Assist the national consultant to complete the safeguard documentation for the first batch of additional subprojects and ensure that these are approved within the timelines of the PAM 4. Mentor and review the documentation for the second and third batch of additional subprojects to be prepared by the national consultant <p>Output 2: PONRE capacity for subproject monitoring</p> <ol style="list-style-type: none"> 1. Provide direct awareness meetings and training for PONRE staff, followed up with mentoring of Provincial Environmental Officers to undertake project responsibilities, 2. Review the monitoring output and produce the first annual monitoring report 3. Monitor subproject activities to identify any unexpected environmental impacts. If necessary, propose suitable mitigation measures. 4. Liaise with the project stakeholders for PONRE to collect and interpret environmental data as defined by the PAM, particularly relating to hydrology and meteorology. Recommend environmental sampling and analysis as necessary to ensure that safeguards are in place or to quantify lapses affecting air, water or soil.

4. Environmental Safeguard (National)

Category	Description
A: Position /Title	National Environmental Safeguards Consultant
B: Position / Type	Consultant As part of Loan Implementation Consultant (LIC) team contract
C: International or National	National
D: Qualifications	Degree in an environmental subject (e.g. soil science, botany, zoology, physical geography, ecology, forestry, agronomy or environmental science). Preferably an advanced degree in a similar subject.
E: Experience	At least five years of experience in the safeguard requirements of ADB rural infrastructure development projects (i.e. in project implementation).
F: Posting	LPB, with travel to each Province
G: Reporting To	LIC Team Leader
H: Duration of role	17 person months
I: Starting Date	By PYr 0,4,4,4,3,2
J: Deliverables	<p>Responsibility for the following deliverables is shared with the International Environmental Safeguards Consultant.</p> <ol style="list-style-type: none"> 1. Approved Subproject Environmental Safeguard documentation for additional subprojects (minimum 12). This will require <ul style="list-style-type: none"> - Initial Environmental Examination (IEE) of additional subprojects that qualifies as GOL Category 1 (ADB Category B) as they emerge (years 2, 3). At a minimum, 12 additional are expected to be designed. - Environmental Review (ER) of every subproject that does not qualify as GOL Category 1 or 2 (ADB Category C) as they emerge (years 2, 3). - Environmental Management and Monitoring Plan (EMMP) for every GOL Category 1 subproject, or Environmental Codes of Conduct for non-qualifying subprojects, as they emerge (years 2 and 3). <p>The consultant shall have sole responsibility for the following deliverables.</p> <ol style="list-style-type: none"> 1. Project Quarterly Environmental Monitoring Reports (from Q1 of year 2 onwards). 2. Project Annual Environmental Monitoring Reports (end of each year from year 3 onwards) as a component of annual reports.
K: Outputs	<p>The consultant will contribute as follows to the Project outputs:</p> <ol style="list-style-type: none"> 1. Environmental safeguarding of improved agricultural systems. 2. Environmental safeguarding of watershed management activities in Xiangkhouang Province. 3. Irrigation schemes upgraded with appropriate environmental protection and mitigation measures employed. 4. No direct contribution.
L: Tasks	Overall

	<p>Manage and support the PONRE Provincial Environmental Officers to undertake all aspects of their work.</p> <p>Output 1:</p> <ol style="list-style-type: none"> 1. Monitor the subproject areas that are the target of activities under this output, to determine whether there are any unexpected negative environmental impacts caused by increased market access and dry season production. If necessary, propose suitable mitigation measures. <p>Output 2:</p> <ol style="list-style-type: none"> 1. For each of the Xiangkhouang subproject catchments, undertake an IEE or an ER of every subproject as it is designed, in line with Government of Lao PDR regulations and Asian Development Bank guidelines. Seek comments from appropriate stakeholders, disclose the IEE or ER to the project-affected persons and submit it to the relevant PONRE for approval. 2. Prepare an EMMP for every subproject, and seek agreement on its use by the relevant subproject stakeholders. 3. Monitor the subproject areas that are the target of activities under this output, to determine whether there are any unexpected negative environmental impacts caused by the changed management of upland watersheds. If necessary, propose suitable mitigation measures. <p>Output 3:</p> <ol style="list-style-type: none"> 1. Review all loan covenants and recent Lao environmental legislation. 2. For all of the representative subprojects, update the EMMP or Code of Conduct and provide a training seminar to each of the implementing stakeholders. Prepare stakeholder-specific checklists of mitigation actions that must be implemented. 3. Screen all further proposed subprojects for their potential environmental impacts, in line with Government of Lao PDR regulations and Asian Development Bank guidelines. 4. Undertake an IEE or an ER of every further subproject as it is designed, in line with Government of Lao PDR regulations and Asian Development Bank guidelines. Seek comments from appropriate stakeholders, disclose the IEE or ER to the project-affected persons and submit it to the relevant PONRE for approval. 5. Prepare an EMMP or Code of Conduct for every subproject, and seek agreement on its use by the relevant subproject stakeholders. 6. Liaise with the project stakeholders to collect and interpret additional environmental data, particularly relating to hydrology and meteorology. Work with the rest of the LIC team to ensure that valid findings are fed back into the improvement of subproject designs, infrastructure management, and environmental plans and codes. 7. Manage environmental sampling and analysis as necessary to ensure that safeguards are in place or to quantify lapses affecting air, water or soil. 8. Monitor the subproject areas that are the target of activities under this output, to determine whether there are any unexpected negative environmental impacts caused by the upgraded rural infrastructure. If necessary, propose suitable mitigation measures.
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	<p>9. Provide capacity development support in the form of advice and seminars to PONRE Provincial Environmental Officers, covering all aspects of subproject environmental management and monitoring.</p> <p>10. Work with the PONRE Provincial Environmental Officers to assist them in compiling the Provincial Quarterly Environmental Monitoring Reports. Using the material from each province, prepare the Project Quarterly Environmental Monitoring Reports from Q1 of year 2 onwards.</p> <p>11. Prepare the Project Annual Environmental Monitoring Reports from year 3 onwards.</p>
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5. Construction Supervision

Category	Description
A: Position /Title	Construction Supervision
B: Position / Type	LIC
C: International or National	National
D: Qualifications	Engineering Graduate – Civil works or agricultural engineer
E: Experience	<p>Practicing Engineer for at least 15 years</p> <p>Experienced in field based construction programs in roles from site engineer, site management</p> <p>Construction supervision for at least 5 Government and 5 ODA programs</p>
F: Posting	LPB with travel to all provinces
G: Reporting To	International Team Leader
H: Duration of role	16 person month
I: Starting Date	By Pyr 4,6,4,2
J: Deliverables	<p>1. Construction Supervision Capacity</p> <p>2. Construction Supervision Audits</p>
K: Outputs	Construction Supervision Audits
L: Tasks	<p>Output 1: Construction Supervision Audits</p> <p>1. Working with each IA identify the proposed field construction supervision staff and develop a training and awareness program based on the Construction Supervision requirements detailed in the PAM</p> <p>2. Establish a register of staff permitted and agreed for construction supervision roles</p> <p>3. Conduct field visits to assess the implementation of construction supervision activities including (i) presence, (ii) log book details and supporting evidence, (iii) quality of site management and its consistency</p>

	<p>with observations and field interviews, (iv) review of safeguard supervision, (v) contractor interviews and meetings on issues and their management, (vi) water user and community interviews</p> <p>4. Review construction supervision reporting to PAFO and to the PGT, assess the adequacy and the completeness of reporting, identify outstanding issues and remedial actions</p> <p>5. Provide a report to each PAFO and PGT leadership that will be included in the progress reports</p> <p>6. Where significant gaps or inappropriate supervision has been identified remove the individual from the permitted group list and review the option of moving construction supervision to the private sector at the Government cost.</p>
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6. Gender Specialist (National)

Category	Description
A: Position /Title	Gender Expert
B: Position / Type	Consultant – LIC
C: International or National	National
D: Qualifications	Graduate degree in Social Sciences
E: Experience	<p>At least 5 years experience in social assessment, sociology</p> <p>At least 3 years experience focused on gender related issues especially rural gender in Laos including the role of women in business, agriculture and household nutrition</p> <p>Completed at least 3 project gender roles for ADBWB projects</p> <p>Proven writing and presentation skills in English</p>
F: Posting	Vientiane/LPB with responsibility in each province.
G: Reporting To	LIC Team Leader
H: Duration of role	10 person months
I: Starting Date	Pmnths by Project Year: 2,2,2,2,2
J: Deliverables	<ol style="list-style-type: none"> 1. Gender Action Plan Implementation reports 2. Gender Awareness training 3. Gender assessments of additional subprojects
K: Outputs	<ol style="list-style-type: none"> 1. Gender Action Plan reporting 2. Gender Assessment of Additional Subprojects 3. Gender capacity building for project staff
L: Tasks	<p>By Output</p> <p>Output 1: Gender Action Plan Reporting</p> <ol style="list-style-type: none"> 1. Review the project gender action plan and ensure gender focal points are identified and participating in the PGT and PPIT

	<ol style="list-style-type: none"> 2. Work with the gender focal points to ensure that all project stakeholders and contractors are fully aware of gender requirements 3. Assist the Project monitoring teams to incorporate gender disaggregation within progress reporting 4. Assist in formatting the first gender action plan reports and assist in its preparation prior to month six project year 1 5. Provide input and mentoring to the PGT and PPIT gender focal points to ensure project planning and reporting of the GAP are accurate and timely. <p>Output 2: Gender Assessment of Subproject</p> <ol style="list-style-type: none"> 1. Provide input to the preparation of the SIAs for the additional subprojects and ensure the focal points are fully involved in this process 2. .Ensure contracted survey firms have both female and male enumerators 3. Assist the gender focal points to conduct quality assurance checks of SIA field work 4. Review SIA reports and ensure the gender aspects are appropriately identified and that gender actions are aligned with the SIA findings and included in the project designs 5. Ensure subproject engineering designs take into account women needs in the command area especially through the inclusion of labor saving technologies, 6. Review Subproject due diligence reports and ensure new findings are incorporated into the project GAP 7. Ensure Gender based processes are included for (i) market linkages and matching grants, (ii) farm to farm training, (iii) WUG joint membership ie both husband and wife are provided WUG membership with equal rights. <p>Output 3: Gender based training for project stakeholders and contractors</p> <ol style="list-style-type: none"> 1. Work with the gender focal points to develop awareness and training materials for provincial GAP training 2. Provide support for the implementation of training 3. Conduct an evaluation of GAP training and how these can be improved
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G. Subproject Processing Support

1. Agricultural Economist

Category	Description
A: Position /Title	Economist
B: Position / Type	Consultant – LIC
C: International or National	National
D: Qualifications	Graduate degree in Agricultural Economics
E: Experience	<ol style="list-style-type: none"> 1. At least 5 years experience in more than 3 countries with project economic assessments based on the requirements of ADB or WB 2. Completed at least 5 project economic assessments for ADBWB projects 3. Knowledge and experience in irrigated agriculture 4. Proven writing and presentation skills in English
F: Posting	LPB with responsibility in each province.
G: Reporting To	LIC Team Leader DDG PGT
H: Duration of role	8 pmnths
I: Starting Date	by Project Year: 3,3,2
J: Deliverables	1. Economic and Financial Due Diligence reports for additional subprojects
K: Outputs	1. Additional Subproject Economic and Financial Assessments annexes and executive summary
L: Tasks	<p>By Output</p> <p>Output 1: Economic and Financial Due Diligence reports for additional subprojects</p> <ol style="list-style-type: none"> 1. Specify the expected with and without project scenarios for each additional subprojects based on the water demand and management preparatory work 2. Identify cropping patterns and changes to the cropping intensity 3. Develop financial gross margins and farm level models for each of the project scenarios 4. Prepare economic models of the proposed with and without project scenarios 5. Estimate the NPV and EIRR economic viability criteria for the subprojects and prepare an economic and financial analysis annex for each subproject detailed design and due diligence reports

ANNEX 2.1: TERMS OF REFERENCE FOR LOUANGPHABANG PAFO LOAN IMPLEMENTATION CONSULTANT

A. Introduction

1. The Government of Lao PDR has recognized the importance of productive rural infrastructure (PRI) in driving rural growth and has invested heavily in it over the past 30 years. Irrigation investment has until now targeted food security policy objectives mostly through the production of wet season rice. Lao PDR is currently self-sufficient in rice and as such the Sustainable Rural Infrastructure and Watershed Management Sector Project (SRIWSM) will direct irrigation investment into economic growth policy objectives with a focus on dry season irrigated agriculture. An integral part of this move is the integration of nutrition sensitive agriculture and nutrition improvement by diversifying food sources.

2. The project will modernize at least 18 irrigation schemes to secure reliable dry season irrigation for water users that is both reliable in terms of quantity, time of delivery and place of delivery. The project seeks to offset risks to producers from high value crop markets and the destruction of upstream catchments. Smallholders who to date have grown a wet season rice crop will be able to grow and market high value crops and livestock farming systems.

3. The SRIWSM will achieve its outcome of *high-value agricultural production, natural resources management, status of women, and community nutrition improved* by bringing approximately 3,600 hectares of land under dry season irrigation, producing and marketing over 30,000 tons of high value crops and improving the number of women who meet minimum dietary diversity in target communities by 50%. It will do this through four outputs:

4. **Output 1: Market-oriented agricultural production increased.** The output involves identifying markets and connecting producers to these markets, providing support for value addition along the market chain. Technical support will be provided for development of the agribusiness capacity for market assessments, market-led farm planning and facilitating investment into post-harvest value addition, improved logistics for market connectivity, and quality assurance and traceability systems that respond to trade requirements. A loan implementation consultant (LIC) situated within the Department of Irrigation (DOI) will support the establishment and institutionalization of agribusiness capacity within each PAFO supporting the development of market-led commercial agriculture including irrigated dry season high value crops and livestock. A provincial LIC will be situated within the provincial agriculture and forestry office (PAFO) in each province to support the provincial project implementation team (PPIT).

5. **Output 2: Watershed ecological services protected.** The project will support the update or development of participatory land use plans for villages within the catchments of PRI infrastructure. The project will support land use behavior change programs to protect the soil and water based ecological services and embed these changes within negotiated community agreements. Each LIC PAFO will support this process through the provision of a land use management and land use change advisor to support the Provincial Land Use Planning teams. Further technical support will be mobilized to support the technical requirements of behavior change programs.

6. **Output 3: Command area irrigation reliability improved.** This output supports irrigation infrastructure modernization for dry season irrigated agriculture and other infrastructure to support community wellbeing. A key element of the investment is the capacity of local water users to operate a managed water delivery systems during the dry season. The LIC DOI will support the

establishment of water user groups and the members to develop knowledge, skills and information systems to operate dry season irrigation reliably whilst also maintaining their irrigation assets.

7. **Output 4: Nutrition awareness and facilities improved.** This output will be undertaken in Xiangkhouang and Houaphan provinces. The project will upscale existing pilot programs in approximately 20 nutrition-priority villages in each of the 6 districts. The scale-up methods will include nutrition clubs, providing social behavior change communication programs and nutrition training, and supporting club and individual development plans designed to increase the production and year-round consumption of diverse and nutritious foods. This output will not be within the scope of the LIC technical consultants and will be single sourced to an existing service provider in the two provinces included.

8. SRIWSM is the first ADB irrigation subsector project to use decentralized implementation. The role of DOI is to establish common systems and to manage governance risks within the Provincial implementation agencies. Risks associated with procurement, delays, decentralized financial management, and safeguard requirements will be subject to oversight from a Program Governance Team in DOI. The LIC will support the Program Governance Team in overall project planning and coordination, project management and reporting, financial and procurement support, monitoring and safeguard reporting.

9. Within each province the project will be implemented through the structure of the PAFO. Here the LIC DOI will support the PAFO implementation teams through the provision of skills relating to Project management coordination, safeguards and technical expertise relating to dry season irrigated agriculture and high value crops with each Province having a project team leader that reports to and support the DG PAFO.

10. The SRIWSM will be implemented over a period of seven years. The Ministry of Agriculture and Forestry (MAF) will be the executing agency and implementation will be through the PAFOs, in collaboration with other provincial and district level offices.

B. Consulting Services

1. Loan Implementation consultants

11. Each IA will contract a Loan Implementation Consultant: packages OP5-CS01; OP5-CS02, OP5-CS03, OP5-CS04, and OP5-CS05 for DOI in Vientianne, Louangphabang PAFO, Xiangkhouang PAFO, Houaphan PAFO and Xaignabouli PAFO respectively. Each will be recruited as a company using QCBS and simplified technical proposal.

12. The LIC teams will in effect continue the program of support provided by the Project Start-Up consultants – International Project Management, and National Procurement specialists. Both start up consultants will be eligible for roles in the DOI Loan Implementation Consultant Team should the respective bidders (firm) and the individual agree on terms. This eligibility is included to encourage continuity that will reduce the risks of delays during the handover during the LIC DOI mobilization.

II. LOUANGPHABANG PAFO - LOAN IMPLEMENTATION CONSULTANT (LIC) PACKAGE OP5-CS02

13. The following TOR is for the Louangphabang PAFO Loan Implementation Consultant that will work with the Provincial Project Implementation Team within PAFO - procurement package OP5-CS02.

14. The contractor will be recruited as a national company using ADBs CMS and QCBS procedures using a simplified technical proposal (STP) due to the range of expertise being contracted (project management to support the PPIT Director and two Irrigation/Water Management roles – one international and the other national – that will support both Louangphabang and Xiagnabouli in the planning for water resource management and water demand within the additional subprojects. An additional 7 person-months is provided as unallocated to be able to respond to specific issues that may arise.

15. The team will be based in PAFO where it will mentor and support project management and implementation, build project management capacity, and ensure that the SRIWSM PGT template and systems are applied and used throughout the subprojects. The Program management role is critical in the linking of the PAFO PPIT to the PGT in terms of systems, reporting and accessing mentoring and capacity building support. A key performance indicator for the project management role is implementation efficiency in terms of getting things done, to a high standard on time.

16. The LIC (PAFO- LPB) team will comprise of 3 positions that provide a total of 77 person-months of input of which 12 person-months are International water resource and irrigation management planning and 22 person-months are national water resource and irrigation management planning. Program management support for 36 person-months is provided.

17. The team will be nominally led by the program management role. A detailed breakdown of the positions and the level of effort by year is included in Table 1, followed by the individual terms of reference which detailed experience and qualifications, expected outputs and tasks each position is responsible for.

Table 1: Loan Implementation Consultant Positions

Loan Implementation Consultant Team									
Position	Posting	Quantities (Person Months)							
		Pyr 1	Pyr2	Pyr3	Pyr4	Pyr5	Pyr6	Pyr7	Total
Irrigation/water Management Specialist (Intl)	LPB	6	4	2	0	0	0	0	12
Irrigation/water Management Expert (Nat)	LPB	6	6	4	4	2	0	0	22
Project Management Advisor	LPB	6	12	9	6	3	0	0	36
Unallocated	LPB	0	2	3	1	1	0	0	7
Total		18	24	18	11	6	0	0	77

A. Individual Terms of Reference

1. Project Management Specialist

Category	Description
A: Position /Title	Project Management Advisor
B: Position / Type	Consultant (LIC)
C: International or National	National
D: Qualifications	Post graduate degree in Agriculture, Commerce, Business administration
E: Experience	<p>At least 10 years experience in project management and implementation roles in ADB projects, with roles that include work planning, budgeting and cashflows, provincial reporting and adaptive management.</p> <p>At least 5 year experienced in working through decentralised implementation through subnational implementation units and with knowledge of government systems essential</p> <p>Clear and proven commitment to quality program management including the application of safeguards plans and implementation requirements according to the agreed frameworks,</p> <p>The role is not available for engineering or irrigation trained individuals</p> <p>Demonstrable examples of mentoring and capacity building as a key function and achievement are required.</p> <p>These skills need to include supporting Government decisions makers to achieve project milestones.</p>
F: Posting	PAFO in each province.
G: Reporting To	PPIT Director
H: Duration of role	36 person-months each role
I: Starting Date	Appointed within six months of effectiveness.
J: Deliverables	<ol style="list-style-type: none"> 1. Project Work plan 8 weeks after mobilisation 2. Annual Implementation plans by province and quarter, supporting budgets and CA projections 3. Additional Subproject Feasibility Studies 4. Progress and Annual Reports 5. Capacity mentoring and strengthening programs
K: Outputs	<ol style="list-style-type: none"> 1. Project work plans and Financial projections 2. Project IA staff knowledge and awareness programs 3. IA capacity building and systems institutionalised 4. Additional Subproject Feasibility and Safeguard documentation 5. Program Reporting 6. Effective governance oversight
L: Tasks	By Output

	<p>Output 1: Project Work plans and Financial projections</p> <ol style="list-style-type: none"> 1. Conduct meetings and workshops with all stakeholders in the IAs to outline a work program for establishing the annual work plan for project year 1 based on the 2019 Government planning and budget submission 2. Identify and confirm work plans and procedures where required for (i) EU funded output 4, and (ii) parallel cofinancing of IFAD and GCF/GIZ and ensure all EA and IA staff are fully aware of these plans and relationships 3. Ensure the IA PPITs staff area involved and informed during the preparation of the workplans each year 4. Ensure all IAs form the steering committees and the procurement evaluation committees as detailed in the PAM and provide ongoing secretarial support 5. Assist the PPIT Director to establish the work plans and project budgets with supporting cashflows, contract award projections and disbursement projections necessary for the formation of the IA subaccounts. 6. Implement the detailed task based information system to track implementation progress at level of contract and work task steps for each representative subproject, each catchment plan, the implementation of output 4 nutrition sensitive agriculture, and agricultural market chain support 7. Support the program director to apply the information system through monthly reporting meetings within each IA and an email based progress tracking reporting system <p>Output 2: Project IA Staff Knowledge and Awareness Program</p> <ol style="list-style-type: none"> 1. Based on the PAM and start-up interviews conduct briefing meetings for (i) provincial steering committees, (ii) each IA including Dol and the 4 PAFO's, and (iii) Provincial Vice Governor's office 2. Conduct follow-on training and awareness sessions with PPIT staff member to ensure that people understanding the planning systems, financial responsibility and fund flow, communicate the role, responsibilities, and relationships needed within the Project and provide training in the use of project level templates for a project management purposes. 3. Support PGT staff for conducting workshops and training on the processing of additional subprojects, safeguard monitoring and procurement systems 4. Participate in PGT oversight visits throughout the first two years to assess Project management effectiveness, work with the DG and DDG PAFO to implement changes and programs to address weaknesses and adjust programming and work plans accordingly <p>Output 3: IA capacity building and systems institutionalise</p> <ol style="list-style-type: none"> 1. Support the development and implementation of the IA training program for all staff involved in implementation. Conduct training and repeat training within the first quarter of each project year 2. Conduct Project Management effectiveness evaluation as part of the annual work plan evaluation and updating process with a report to the Vice Governor's Office, MAF and ADB.
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	<p>Output 4: Additional Subproject Feasibility and Safeguard documentation</p> <ol style="list-style-type: none"> 1. Apply the project management guideline for processing additional subprojects with the required checklists and qualifiers to ensure that the requirement of subproject processing relating to hydrology, water use demand, and safeguards are fully responded to. 2. Provide leadership for the additional subproject processing to ensure timely production and review of safeguard documentation, approval of DED and procurement of works including the active approval of water users in the DED design and approval process. 3. On a quarterly basis identify remedial actions to ensure subproject processing is accelerated and maintains the work plan timing. <p>Output 5: Program Reporting</p> <ol style="list-style-type: none"> 1. Working with the financial, procurement, and monitoring advisors operate the project management implementation reporting system to used. The system will provide a task based progress report to identify delays (months), orange flagged tasks (delayed but actions in place) and red flagged ongoing or prolonged delays with no action taken. Each month these will be reported to the DG PAFO or Director PGT. Every quarter these will be summarised and reported to the Vice Governor's office and MAF. 2. Implement Project implementation progress reporting systems and ensure the compliance and integrity of reporting systems 3. Link the PPIT to the Vice Governor's office for reporting of project status <p>Output 6: Effective governance oversight</p> <ol style="list-style-type: none"> 1. Support the governance and oversight performance review system for the project covering WUG/WUAs, PAFO, Provincial procurement evaluation committees, 2. Ensure the Project Management Advisors notification of issues regarding governance risks through internal reporting to the PGT project management advisor is adopted and applied. 3. Provide an oversight and supervision assessment role for governance based issues and ensure that reviews are conducted in a timely manner with integrity
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2. Water Management Specialist (international)

Category	Description
A: Position /Title	International Water Management Specialists
B: Position / Type	Consultant – LIC Team
C: International or National	International
D: Qualifications	At least an undergraduate Degree in Natural Resources Management with majors in irrigation / water management, or agriculture

E: Experience	At least 10 years' experience in water demand and water use management with at least 3 years' experience in the GMS, This must include demonstrable experience in water demand, crop demand modelling, water use scheduling, irrigation management and water user groups Minimum of 10 years of verifiable experience in implementation of sustainable O&M systems in small scale irrigation schemes through WUGs/WUA, with knowledge of the institutional and political setting of such groups
F: Posting	One position in each of Louangphabang
G: Reporting To	Team Leader LIC
H: Duration of role	12 person months
I: Starting Date	By Pyr 6,4,2
J: Deliverables	<ol style="list-style-type: none"> 1. Irrigation Scheme Operation Plans (At completion of construction / commissioning) 2. Irrigation Scheme Maintenance Plans (At completion of construction / commissioning) 3. Trained WUG/WUAs skilled in O&M (After 1st year of scheme operation)
K: Outputs	<ol style="list-style-type: none"> 1. Introduction of new irrigation technologies for market led irrigated agriculture 2. Developing hydrological data and knowledge 3. Water user operation of water management for irrigated agriculture 4. Water user maintenance of irrigation schemes
L: Tasks	<p><u>Output:</u> Introduction of new irrigation technologies for market led irrigated agriculture</p> <ol style="list-style-type: none"> 1. Assist the agricultural production support teams with the introduction of new irrigation technologies to facilitate optimum use of water, labour and investment by the farmers both within and as an adjunct to the defined irrigation scheme areas. 2. Based on the agribusiness market assessment input provide water demand models for the proposed market led agriculture that will inform the design of output 3 irrigation infrastructure 3. Assist with the preparation and delivery of training for the support teams and farmers in the design, construction, installation, operation and maintenance of the new technologies that can modify water use effectiveness and efficiency <p><u>Output :</u> Developing hydrological data and knowledge</p> <ol style="list-style-type: none"> 1. Assist PAFO with setting up a water resources / hydrological network in the sub-project watersheds consisting of simple rain gauges, water level gauge plates and soil moisture meters (tensiometers) to gather basic data to enhance understanding of wet season recession / dry season flow and soil moisture characteristics 2. Assist PAFO with monitoring, evaluating and reporting hydrological data collection and watershed organisation activities <p><u>Output 3:</u> Water user operation of water management for irrigated agriculture</p>

	<ol style="list-style-type: none"> 1. Assist national staff to prepare and conduct training for PAFO in (1) appropriate water management design options to support the proposed water use demand and scheduling of water delivery for sub-projects and (2) appropriate water management organisation for the respective sub-projects 2. Support PAFO and the farmers with the identification of WUGs for O&M based on appropriate irrigation unit(s) and the required labour commitments for undertaking activities within the unit(s) 3. Support the formation and registration of WUA and WUGs with a clear mandate for operational management of dry season irrigated agriculture 4. Develop the design of water management options and irrigation schedules for each sub-project, to optimise water use and labour requirements for irrigation and scheme operation. 5. Provide training of beneficiary farmers in operational management processes, systems and techniques and facilitating participatory and iterative discussions between the design staff and the beneficiary farmers 6. Prepare financial budgets for scheme operations 7. Support both PAFO and WUA/WUGs during commissioning of subproject irrigation schemes to confirm that operation and water delivery is as per the design and agreed irrigation schedules. 8. Based on the commissioning records, assist PAFO to finalise (1) Operation and Plans and (2) Management Handover Document for each irrigation sub-project 9. Support PAFO with management handover and continue to provide strengthening activities with the WUAs / WUGs to ensure they have the capacity to implement the operation plans including the adaptation of water demand in response to market demand, past season experience and available hydrological data 10. Support PAFO and the WUA during the 1st year to operate the scheme and to adjust water management parameters as necessary to improve delivery efficiency. Identify any construction defect during the contractor's defect liability period, design defects that need rectification and infrastructure improvements that are necessary to ensure the continuing operation of the scheme 11. Based on records from the 1st year, assist PFAO and contractor to undertake rectification and upgrading works as identified and update the operation plans as necessary. 12. Develop and assist PAFO to establish a monitoring, evaluating and reporting of on-going water management and maintenance activities <p>Output: Water user maintenance of irrigation schemes</p> <ol style="list-style-type: none"> 1. Based on the maintenance requirements for subproject, assist PAFO and farmers to determine inputs and costs for the maintenance of the overall irrigation scheme. 2. Support PAFO and WUGs to strengthen the UUG/WUA for ensuring subproject maintenance is undertaken including staffing, labour, administrative and financial requirements and the choice of using donated labor, contractors and or self-financed maintenance programs.
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	<ol style="list-style-type: none"> 3. Assist PAFO and the WUA during irrigation scheme commissioning to confirm that scheme infrastructure is functional and to the expected design and agreed irrigation and water delivery schedules i.e. it is able to support the water management and delivery schedules. 4. Based on the commissioning records, assist PAFO to finalise maintenance plans and include these in the management handover document for each irrigation sub-project 5. Support PAFO with management handover and undertake strengthening activities with the WUAs / WUGs to ensure they have the capacity to implement the maintenance plans 6. Assist PAFO and the WUA during the 1st year to plan and supervise maintenance of the scheme. Identify construction defects during the contractor's defect liability period, design defects that need rectification and infrastructure improvements that are necessary to ensure the continuing operation of the scheme 7. Based on records from the 1st year, assist PFAO and contractor to undertake rectification and upgrading works as identified and update the maintenance plans accordingly. 8. Support PAFO with monitoring, evaluating and reporting of on-going water management and maintenance activities
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3. Water Management Specialists (National)

Category	Description
A: Position /Title	National Water Management Specialist
B: Position / Type	Consultant – LIC Team
C: International or National	National
D: Qualifications	Bachelor Degree in Natural Resources Management with majors in irrigation / water management
E: Experience	Minimum of 6 years of verifiable experience in implementation of sustainable O&M systems in small scale irrigation schemes through WUGs/WUA Detailed experience in market led crop water demand, water scheduling, and irrigation technologies that modify scheduling and water delivery
F: Posting	One in Louangphabang
G: Reporting To	Team Leader LIC
H: Duration of role	22 person months
I: Starting Date	By Pyr 6,6,4,4,2
J: Deliverables	<ol style="list-style-type: none"> 1. Irrigation Scheme Operation Plans (At completion of construction / commissioning) 2. Irrigation Scheme Maintenance Plans (At completion of construction / commissioning) 3. Trained WUG/WUAs skilled in O&M

	4. Water management strategy for sub-project watersheds
K: Outputs	<ol style="list-style-type: none"> 1. Sustainable Subproject irrigated Agriculture 2. Introduction of new irrigation technologies for market led irrigated agriculture 3. Developing hydrological data and knowledge 4. Water user operation of water management for irrigated agriculture 5. Water user maintenance of irrigation schemes
L: Tasks	<p>The role will work closely with the International Water Management roles to provide operational support and capacity development to the subproject implementation program. The national specialist will ensure implementation of the operational plans, and will provide ongoing technical and institutional support as such will be responsible to ensure schemes become sustainable both in terms of their ability to support efficient irrigated dry season agriculture and in terms of being maintained.</p> <p><u>Output:</u> Sustainable Subproject irrigated Agriculture</p> <ol style="list-style-type: none"> 1. Based on the operational and maintenance plans developed below establish a sustainable financing plan through the collection and retention of Irrigation Service fees from both wet and dry season crops sufficient to implement both plans 2. Provide support for the collection and use of funds by the WUG and WUAs' 3. Ensure that no subproject proceeds if it is unlikely to be financially sustainable 4. Ensure that each WUA and WUG fully understand the costs of operational and maintenance and the likely losses of underinvesting in both operational management of water and the maintenance of infrastructure <p><u>Output:</u> Introduction of new irrigation technologies for market led irrigated agriculture</p> <ol style="list-style-type: none"> 1. Assist the agricultural production support teams with the introduction of new irrigation technologies to facilitate optimum use of water, labour and investment by the farmers both within and as an adjunct to the defined irrigation scheme areas. 2. Based on the agribusiness market assessment input provide water demand models for the proposed market led agriculture that will inform the design of output 3 irrigation infrastructure 3. Assist with the preparation and delivery of training for the support teams and farmers in the design, construction, installation, operation and maintenance of the new technologies that can modify water use effectiveness and efficiency <p><u>Output :</u> Developing hydrological data and knowledge</p> <ol style="list-style-type: none"> 1. Support PAFO (but not to collect data) with setting up a water resources / hydrological network in the sub-project watersheds consisting of simple rain gauges, water level gauge plates and soil moisture meters (tensiometers) to gather basic data to enhance understanding of wet season recession / dry season flow and soil moisture characteristics

	<ol style="list-style-type: none"> 2. Link hydrological data into the proposed monitoring and reporting framework for the project 3. Support PAFO with monitoring, evaluating and reporting hydrological data collection and watershed organisation activities <p><u>Output 3: Water user operation of water management for irrigated agriculture</u></p> <ol style="list-style-type: none"> 1. Assist national staff to prepare and conduct training for PAFO in (1) appropriate water management design options to support the proposed water use demand and scheduling of water delivery for sub-projects and (2) appropriate water management organisation for the respective sub-projects 2. Support PAFO and the farmers with the identification of WUGs for O&M based on appropriate irrigation unit(s) and the required labour commitments for undertaking activities within the unit(s) 3. Support the formation and registration of WUA and WUGs with a clear mandate for operational management of dry season irrigated agriculture 4. Develop the design of water management options and irrigation schedules for each sub-project, to optimise water use and labour requirements for irrigation and scheme operation. 5. Provide training of beneficiary farmers in operational management processes, systems and techniques and facilitating participatory and iterative discussions between the design staff and the beneficiary farmers 6. Prepare financial budgets for scheme operations 7. Support both PAFO and WUA/WUGs during commissioning of subproject irrigation schemes to confirm that operation and water delivery is as per the design and agreed irrigation schedules. 8. Based on the commissioning records, assist PAFO to finalise (1) Operation and Plans and (2) Management Handover Document for each irrigation sub-project 9. Support PAFO with management handover and continue to provide strengthening activities with the WUAs / WUGs to ensure they have the capacity to implement the operation plans including the adaptation of water demand in response to market demand, past season experience and available hydrological data 10. Support PAFO and the WUA during the 1st year to operate the scheme and to adjust water management parameters as necessary to improve delivery efficiency. Identify any construction defect during the contractor's defect liability period, design defects that need rectification and infrastructure improvements that are necessary to ensure the continuing operation of the scheme 11. Based on records from the 1st year, assist PFAO and contractor to undertake rectification and upgrading works as identified and update the operation plans as necessary. 12. Develop and assist PAFO to establish a monitoring, evaluating and reporting of on-going water management and maintenance activities <p>Output: Water user maintenance of irrigation schemes</p>
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	<ol style="list-style-type: none"> 1. Based on the maintenance requirements for subproject, assist PAFO and farmers to determine inputs and costs for the maintenance of the overall irrigation scheme. 2. Support PAFO and WUGs to strengthen the UUG/WUA for ensuring subproject maintenance is undertaken including staffing, labour, administrative and financial requirements and the choice of using donated labor, contractors and or self-financed maintenance programs. 3. Assist PAFO and the WUA during irrigation scheme commissioning to confirm that scheme infrastructure is functional and to the expected design and agreed irrigation and water delivery schedules i.e. it is able to support the water management and delivery schedules. 4. Based on the commissioning records, assist PAFO to finalise maintenance plans and include these in the management handover document for each irrigation sub-project 5. Support PAFO with management handover and undertake strengthening activities with the WUAs / WUGs to ensure they have the capacity to implement the maintenance plans 6. Assist PAFO and the WUA during the 1st year to plan and supervise maintenance of the scheme. Identify construction defects during the contractor's defect liability period, design defects that need rectification and infrastructure improvements that are necessary to ensure the continuing operation of the scheme 7. Based on records from the 1st year, assist PFAO and contractor to undertake rectification and upgrading works as identified and update the maintenance plans accordingly. 8. Support PAFO with monitoring, evaluating and reporting of on-going water management and maintenance activities
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ANNEX 2.2: TERMS OF REFERENCE FOR XIANGKHOANG PAFO LOAN IMPLEMENTATION CONSULTANT

A. Introduction

1. The Government of Lao PDR has recognized the importance of productive rural infrastructure (PRI) in driving rural growth and has invested heavily in it over the past 30 years. Irrigation investment has until now targeted food security policy objectives mostly through the production of wet season rice. Lao PDR is currently self-sufficient in rice and as such the Sustainable Rural Infrastructure and Watershed Management Sector Project (SRIWSM) will direct irrigation investment into economic growth policy objectives with a focus on dry season irrigated agriculture. An integral part of this move is the integration of nutrition sensitive agriculture and nutrition improvement by diversifying food sources.

2. The project will modernize at least 18 irrigation schemes to secure reliable dry season irrigation for water users that is both reliable in terms of quantity, time of delivery and place of delivery. The project seeks to offset risks to producers from high value crop markets and the destruction of upstream catchments. Smallholders who to date have grown a wet season rice crop will be able to grow and market high value crops and livestock farming systems.

3. The SRIWSM will achieve its outcome of *high-value agricultural production, natural resources management, status of women, and community nutrition improved* by bringing approximately 3,600 hectares of land under dry season irrigation, producing and marketing over 30,000 tons of high value crops and improving the number of women who meet minimum dietary diversity in target communities by 50%. It will do this through four outputs:

4. **Output 1: Market-oriented agricultural production increased.** The output involves identifying markets and connecting producers to these markets, providing support for value addition along the market chain. Technical support will be provided for development of the agribusiness capacity for market assessments, market-led farm planning and facilitating investment into post-harvest value addition, improved logistics for market connectivity, and quality assurance and traceability systems that respond to trade requirements. A loan implementation consultant (LIC) situated within the Department of Irrigation (DOI) will support the establishment and institutionalization of agribusiness capacity within each PAFO supporting the development of market-led commercial agriculture including irrigated dry season high value crops and livestock. A provincial LIC will be situated within the provincial agriculture and forestry office (PAFO) in each province to support the provincial project implementation team (PPIT).

5. **Output 2: Watershed ecological services protected.** The project will support the update or development of participatory land use plans for villages within the catchments of PRI infrastructure. The project will support land use behavior change programs to protect the soil and water based ecological services and embed these changes within negotiated community agreements. The LIC will support this process through the provision of a land use management and land use change advisor to support the Provincial Land Use Planning teams. Further technical support will be mobilized to support the technical requirements of behavior change programs.

6. **Output 3: Command area irrigation reliability improved.** This output supports irrigation infrastructure modernization for dry season irrigated agriculture and other infrastructure to support community wellbeing. A key element of the investment is the capacity of local water users to operate a managed water delivery systems during the dry season. The LIC DOI will support the

establishment of water user groups and the members to develop knowledge, skills and information systems to operate dry season irrigation reliably whilst also maintaining their irrigation assets.

7. **Output 4: Nutrition awareness and facilities improved.** This output will be undertaken in Xiangkhouang and Houaphan provinces. The project will upscale existing pilot programs in approximately 20 nutrition-priority villages in each of the 6 districts. The scale-up methods will include nutrition clubs, providing social behavior change communication programs and nutrition training, and supporting club and individual development plans designed to increase the production and year-round consumption of diverse and nutritious foods. This output will not be within the scope of the LIC technical consultants and will be single sourced to an existing service provider in the two provinces included.

8. SRIWSM is the first ADB irrigation subsector project to use decentralized implementation. The role of DOI is to establish common systems and to manage governance risks within the Provincial implementation agencies. Risks associated with procurement, delays, decentralized financial management, and safeguard requirements will be subject to oversight from a Program Governance Team in DOI. The LIC DOI will support the Program Governance Team in overall project planning and coordination, project management and reporting, financial and procurement support, monitoring and safeguard reporting.

9. Within each province the project will be implemented through the structure of the PAFO. Here the LIC DOI will support the PAFO implementation teams through the provision of skills relating to Project management coordination, safeguards and technical expertise relating to dry season irrigated agriculture and high value crops with each Province having a project team leader that reports to and support the DG PAFO.

10. The SRIWSM will be implemented over a period of seven years. The Ministry of Agriculture and Forestry (MAF) will be the executing agency and implementation will be through the PAFOs, in collaboration with other provincial and district level offices.

B. Consulting Services

1. Loan Implementation consultants

11. Each IA will contract a Loan Implementation Consultant: packages OP5-CS01; OP5-CS02, OP5-CS03, OP5-CS04, and OP5-CS05 for DoI in Vientianne, Luang Prabang PAFO, Xiangkhouang PAFO, Houaphan PAFO and Xaignabouli PAFO respectively. Each will be recruited as a company using QCBS and simplified technical proposal.

12. The LIC teams will in effect continue the program of support provided by the Project Start-Up consultants – International Project Management, and National Procurement specialists. Both start up consultants will be eligible for roles in the DOI loan implementation consultant team should the respective bidders (firm) and the individual agree on terms. This eligibility is included to encourage continuity that will reduce the risks of delays during the handover during the LIC DOI mobilization.

II. XIANGKHOANG PAFO - LOAN IMPLEMENTATION CONSULTANT (LIC) PACKAGE OP5-CS03

13. The following TOR is for the Xiangkhouang PAFO Loan Implementation Consultant that will work with the Provincial Project Implementation Team within PAFO - procurement package OP5-CS03.

14. The contractor will be recruited as a national company using ADBs CMS and CQS procedures using a simplified technical proposal (STP) due to the range of expertise being contracted (project management to support the PPIT Director and two Irrigation/Water Management roles – one international and the other national – that will support both Xiengkhouang and Houaphan in the planning for water resource management and water demand within the additional subprojects.

15. The team will be based in PAFO where it will mentor and support project management and implementation, build project management capacity, and ensure that the SRIWSM PGT template and systems are applied and used throughout the subprojects. The Program management role is critical in the linking of the PAFO PPIT to the PGT in terms of systems, reporting and also accessing mentoring and capacity building support. A key performance indicator for the project management role is implementation efficiency in terms of getting things done, to a high standard on time.

16. The LIC (PAFO- XK) team will comprise of 6 positions that provide a total of 124 person months of input of which 12 person months are International water resource and irrigation management planning and 22 person months are national water resource and irrigation management planning. Program management support for 36 person months is provided.

17. For support to the output 2 watershed program technical expertise has been identified to support PAFO implement the land use planning and land use behavior change programs. These national roles include a land use planning specialist for 10 person months, a tea sector marketing specialist for 16 person months and a cattle (beef) specialist for 21 months.

18. An additional 7 person-months is provided as unallocated to be able to respond to specific issues that may arise.

19. The team will be nominally led by the program management role. A detailed breakdown of the positions and the level of effort by year is included in Table 1, followed by the individual terms of reference which detailed experience and qualifications, expected outputs and tasks each position is responsible for.

Table 1: Loan Implementation Consultant Positions

Loan Implementation Consultant Team									
Position	Posting	Quantities (Person Months)							
		Pyr 1	Pyr2	Pyr3	Pyr4	Pyr5	Pyr6	Pyr7	Total
Irrigation/water Management Specialist (Intl)	XK	6	4	2	0	0	0	0	12
Irrigation/water Management Expert (Nat)	XK	6	6	4	4	2	0	0	22
Project Management Advisor	XK	6	9	9	6	3	3	0	36
Land Use Management Advisor	XK	2	4	4	0	0	0	0	10

Tea Sector Marketing Specialist	XK	0	6	6	4	1	0	0	16
Livestock (cattle) advisor	XK	7	6	4	4	0	0	0	21
Unallocated	XK	0	2	3	1	1	0	0	7
Subtotal		27	37	32	18	7	3	0	124

A. Individual Terms of Reference

1. Project Management Specialist

Category	Description
A: Position /Title	Project Management Advisor
B: Position / Type	Consultant (LIC)
C: International or National	National
D: Qualifications	Post graduate degree in Agriculture, Commerce, Business administration
E: Experience	<p>At least 10 years experience in project management and implementation roles in ADB projects, with roles that include work planning, budgeting and cashflows, provincial reporting and adaptive management.</p> <p>At least 5 year experienced in working through decentralised implementation through subnational implementation units and with knowledge of government systems essential</p> <p>Clear and proven commitment to quality program management including the application of safeguards plans and implementation requirements according to the agreed frameworks,</p> <p>The role is not available for engineering or irrigation trained individuals</p> <p>Demonstrable examples of mentoring and capacity building as a key function and achievement are required.</p> <p>These skills need to include supporting Government decisions makers to achieve project milestones.</p>
F: Posting	PAFO in each province.
G: Reporting To	PPIT Director _PAFO
H: Duration of role	36 person months each role
I: Starting Date	Appointed within six months of effectiveness.
J: Deliverables	<ol style="list-style-type: none"> 1. Project Work plan 8 weeks after mobilisation 2. Annual Implementation plans by province and quarter, supporting budgets and CA projections 3. Additional Subproject Feasibility Studies 4. Progress and Annual Reports 5. Capacity mentoring and strengthening programs
K: Outputs	<ol style="list-style-type: none"> 1. Project work plans and Financial projections 2. Project IA staff knowledge and awareness programs

	<ul style="list-style-type: none"> 3. IA capacity building and systems institutionalised 4. Additional Subproject Feasibility and Safeguard documentation 5. Program Reporting 6. Effective governance oversight
L: Tasks	<p>By Output</p> <p>Output 1: Project Work plans and Financial projections</p> <ul style="list-style-type: none"> 1. Conduct meetings and workshops with all stakeholders in the IAs to outline a work program for establishing the annual work plan for project year 1 based on the 2019 Government planning and budget submission 2. Identify and confirm work plans and procedures where required for (i) EU funded output 4, and (ii) parallel cofinancing of IFAD and GCF/GIZ and ensure all EA and IA staff are fully aware of these plans and relationships 3. Ensure the IA PPITs staff area involved and informed during the preparation of the workplans each year 4. Ensure all IAs form the steering committees and the procurement evaluation committees as detailed in the PAM and provide ongoing secretarial support 5. Assist the PPIT Director to establish the work plans and project budgets with supporting cashflows, contract award projections and disbursement projections necessary for the formation of the IA subaccounts. 6. Implement the detailed task based information system to track implementation progress at level of contract and work task steps for each representative subproject, each catchment plan, the implementation of output 4 nutrition sensitive agriculture, and agricultural market chain support 7. Support the program director to apply the information system through monthly reporting meetings within each IA and an email based progress tracking reporting system <p>Output 2: Project IA Staff Knowledge and Awareness Program</p> <ul style="list-style-type: none"> 1. Based on the PAM and start-up interviews conduct briefing meetings for (i) provincial steering committees, (ii) each IA including DoI and the 4 PAFO's, and (iii) Provincial Vice Governor's office 2. Conduct follow-on training and awareness sessions with PPIT staff member to ensure that people understanding the planning systems, financial responsibility and fund flow, communicate the role, responsibilities, and relationships needed within the Project and provide training in the use of project level templates for a project management purposes. 3. Support PGT staff for conducting workshops and training on the processing of additional subprojects, safeguard monitoring and procurement systems 4. Participate in PGT oversight visits throughout the first two years to assess Project management effectiveness, work with the DG and DDG PAFO to implement changes and programs to address weaknesses and adjust programming and work plans accordingly <p>Output 3: IA capacity building and systems institutionalise</p>

	<ol style="list-style-type: none"> 1. Support the development and implementation of the IA training program for all staff involved in implementation. Conduct training and repeat training within the first quarter of each project year 2. Conduct Project Management effectiveness evaluation as part of the annual work plan evaluation and updating process with a report to the Vice Governor Office, MAF and ADB. <p>Output 4: Additional Subproject Feasibility and Safeguard documentation</p> <ol style="list-style-type: none"> 1. Apply the project management guideline for processing additional subprojects with the required checklists and qualifiers to ensure that the requirement of subproject processing relating to hydrology, water use demand, and safeguards are fully responded to. 2. Provide leadership for the additional subproject processing to ensure timely production and review of safeguard documentation, approval of DED and procurement of works including the active approval of water users in the DED design and approval process. 3. On a quarterly basis identify remedial actions to ensure subproject processing is accelerated and maintains the work plan timing. <p>Output 5: Program Reporting</p> <ol style="list-style-type: none"> 1. Working with the financial, procurement, and monitoring advisors operate the project management implementation reporting system to used. The system will provide a task based progress report to identify delays (months), orange flagged tasks (delayed but actions in place) and red flagged ongoing or prolonged delays with no action taken. Each month these will be reported to the DG PAFO or Director PGT. Every quarter these will be summarised and reported to the Vice Governors office and MAF. 2. Implement Project implementation progress reporting systems and ensure the compliance and integrity of reporting systems 3. Link the PPIT to the Vice Governor's office for reporting of project status <p>Output 6: Effective governance oversight</p> <ol style="list-style-type: none"> 1. Support the governance and oversight performance review system for the project covering WUG/WUAs, PAFO, Provincial procurement evaluation committees, 2. Ensure the Project Management Advisors notification of issues regarding governance risks through internal reporting to the PGT project management advisor is adopted and applied. 3. Provide an oversight and supervision assessment role for governance based issues and ensure that reviews are conducted in a timely manner with integrity
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2. Water Management Specialist (international)

Category	Description
A: Position /Title	International Water Management Specialist
B: Position / Type	Consultant (LIC)

C: International or National	International
D: Qualifications	At least an undergraduate Degree in Natural Resources Management with majors in irrigation / water management, or agriculture
E: Experience	At least 10 years' experience in water demand and water use management with at least 3 years' experience in the GMS, This must include demonstrable experience in water demand, crop demand modelling, water use scheduling, irrigation management and water user groups Minimum of 10 years of verifiable experience in implementation of sustainable O&M systems in small scale irrigation schemes through WUGs/WUA, with knowledge of the institutional and political setting of such groups
F: Posting	
G: Reporting To	Team Leader – Program manager PAFO XK
H: Duration of role	12 person months
I: Starting Date	By Pyr 6,4,2
J: Deliverables	<ol style="list-style-type: none"> 1. Irrigation Scheme Operation Plans (At completion of construction / commissioning) 2. Irrigation Scheme Maintenance Plans (At completion of construction / commissioning) 3. Trained WUG/WUAs skilled in O&M (After 1st year of scheme operation)
K: Outputs	<ol style="list-style-type: none"> 1. Introduction of new irrigation technologies for market led irrigated agriculture 2. Developing hydrological data and knowledge 3. Water user operation of water management for irrigated agriculture 4. Water user maintenance of irrigation schemes
L: Tasks	<p><u>Output:</u> Introduction of new irrigation technologies for market led irrigated agriculture</p> <ol style="list-style-type: none"> 1. Assist the agricultural production support teams with the introduction of new irrigation technologies to facilitate optimum use of water, labour and investment by the farmers both within and as an adjunct to the defined irrigation scheme areas. 2. Based on the agribusiness market assessment input provide water demand models for the proposed market led agriculture that will inform the design of output 3 irrigation infrastructure 3. Assist with the preparation and delivery of training for the support teams and farmers in the design, construction, installation, operation and maintenance of the new technologies that can modify water use effectiveness and efficiency <p><u>Output :</u> Developing hydrological data and knowledge</p> <ol style="list-style-type: none"> 1. Assist PAFO with setting up a water resources / hydrological network in the sub-project watersheds consisting of simple rain gauges, water level gauge plates and soil moisture meters (tensiometers) to gather basic data

	<p>to enhance understanding of wet season recession / dry season flow and soil moisture characteristics</p> <p>2. Assist PAFO with monitoring, evaluating and reporting hydrological data collection and watershed organisation activities</p> <p><u>Output 3: Water user operation of water management for irrigated agriculture</u></p> <p>1. Assist national staff to prepare and conduct training for PAFO in (1) appropriate water management design options to support the proposed water use demand and scheduling of water delivery for sub-projects and (2) appropriate water management organisation for the respective sub-projects</p> <p>2. Support PAFO and the farmers with the identification of WUGs for O&M based on appropriate irrigation unit(s) and the required labour commitments for undertaking activities within the unit(s)</p> <p>3. Support the formation and registration of WUA and WUGs with a clear mandate for operational management of dry season irrigated agriculture</p> <p>4. Develop the design of water management options and irrigation schedules for each sub-project, to optimise water use and labour requirements for irrigation and scheme operation.</p> <p>5. Provide training of beneficiary farmers in operational management processes, systems and techniques and facilitating participatory and iterative discussions between the design staff and the beneficiary farmers</p> <p>6. Prepare financial budgets for scheme operations</p> <p>7. Support both PAFO and WUA/WUGs during commissioning of subproject irrigation schemes to confirm that operation and water delivery is as per the design and agreed irrigation schedules.</p> <p>8. Based on the commissioning records, assist PAFO to finalise (1) Operation and Plans and (2) Management Handover Document for each irrigation sub-project</p> <p>9. Support PAFO with management handover and continue to provide strengthening activities with the WUAs / WUGs to ensure they have the capacity to implement the operation plans including the adaptation of water demand in response to market demand, past season experience and available hydrological data</p> <p>10. Support PAFO and the WUA during the 1st year to operate the scheme and to adjust water management parameters as necessary to improve delivery efficiency. Identify any construction defect during the contractor's defect liability period, design defects that need rectification and infrastructure improvements that are necessary to ensure the continuing operation of the scheme</p> <p>11. Based on records from the 1st year, assist PFAO and contractor to undertake rectification and upgrading works as identified and update the operation plans as necessary.</p> <p>12. Develop and assist PAFO to establish a monitoring, evaluating and reporting of on-going water management and maintenance activities</p> <p>Output: Water user maintenance of irrigation schemes</p>
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	<ol style="list-style-type: none"> 1. Based on the maintenance requirements for subproject, assist PAFO and farmers to determine inputs and costs for the maintenance of the overall irrigation scheme. 2. Support PAFO and WUGs to strengthen the UUG/WUA for ensuring subproject maintenance is undertaken including staffing, labour, administrative and financial requirements and the choice of using donated labor, contractors and or self-financed maintenance programs. 3. Assist PAFO and the WUA during irrigation scheme commissioning to confirm that scheme infrastructure is functional and to the expected design and agreed irrigation and water delivery schedules i.e. it is able to support the water management and delivery schedules. 4. Based on the commissioning records, assist PAFO to finalise maintenance plans and include these in the management handover document for each irrigation sub-project 5. Support PAFO with management handover and undertake strengthening activities with the WUAs / WUGs to ensure they have the capacity to implement the maintenance plans 6. Assist PAFO and the WUA during the 1st year to plan and supervise maintenance of the scheme. Identify construction defects during the contractor's defect liability period, design defects that need rectification and infrastructure improvements that are necessary to ensure the continuing operation of the scheme 7. Based on records from the 1st year, assist PFAO and contractor to undertake rectification and upgrading works as identified and update the maintenance plans accordingly. 8. Support PAFO with monitoring, evaluating and reporting of on-going water management and maintenance activities
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3. Water Management Specialists (National)

Category	Description
A: Position /Title	National Water Management Specialist
B: Position / Type	Consultant (LIC)
C: International or National	National
D: Qualifications	Bachelor Degree in Natural Resources Management with majors in irrigation / water management
E: Experience	Minimum of 6 years of verifiable experience in implementation of sustainable O&M systems in small scale irrigation schemes through WUGs/WUA Detailed experience in market led crop water demand, water scheduling, and irrigation technologies that modify scheduling and water delivery
F: Posting	
G: Reporting To	Team Leader LIC – XK
H: Duration of role	22 person-months

I: Starting Date	By Pyr 6,6,4,4,2
J: Deliverables	<ol style="list-style-type: none"> 1. Irrigation Scheme Operation Plans (At completion of construction / commissioning) 2. Irrigation Scheme Maintenance Plans (At completion of construction / commissioning) 3. Trained WUG/WUAs skilled in O&M 4. Water management strategy for sub-project watersheds
K: Outputs	<ol style="list-style-type: none"> 1. Sustainable Subproject irrigated Agriculture 2. Introduction of new irrigation technologies for market led irrigated agriculture 3. Developing hydrological data and knowledge 4. Water user operation of water management for irrigated agriculture 5. Water user maintenance of irrigation schemes
L: Tasks	<p>The role will work closely with the International Water Management roles to provide operational support and capacity development to the subproject implementation program. The national specialist will ensure implementation of the operational plans, and will provide ongoing technical and institutional support as such will be responsible to ensure schemes become sustainable both in terms of their ability to support efficient irrigated dry season agriculture and in terms of being maintained.</p> <p><u>Output:</u> Sustainable Subproject irrigated Agriculture</p> <ol style="list-style-type: none"> 1. Based on the operational and maintenance plans developed below establish a sustainable financing plan through the collection and retention of Irrigation Service fees from both wet and dry season crops sufficient to implement both plans 2. Provide support for the collection and use of funds by the WUG and WUAs' 3. Ensure that no subproject proceeds if it is unlikely to be financially sustainable 4. Ensure that each WUA and WUG fully understand the costs of operational and maintenance and the likely losses of underinvesting in both operational management of water and the maintenance of infrastructure <p><u>Output:</u> Introduction of new irrigation technologies for market led irrigated agriculture</p> <ol style="list-style-type: none"> 1. Assist the agricultural production support teams with the introduction of new irrigation technologies to facilitate optimum use of water, labour and investment by the farmers both within and as an adjunct to the defined irrigation scheme areas. 2. Based on the agribusiness market assessment input provide water demand models for the proposed market led agriculture that will inform the design of output 3 irrigation infrastructure 3. Assist with the preparation and delivery of training for the support teams and farmers in the design, construction, installation, operation and maintenance of the new technologies that can modify water use effectiveness and efficiency <p><u>Output :</u> Developing hydrological data and knowledge</p>

	<ol style="list-style-type: none"> 1. Support PAFO (but not to collect data) with setting up a water resources / hydrological network in the sub-project watersheds consisting of simple rain gauges, water level gauge plates and soil moisture meters (tensiometers) to gather basic data to enhance understanding of wet season recession / dry season flow and soil moisture characteristics 2. Link hydrological data into the proposed monitoring and reporting framework for the project 3. Support PAFO with monitoring, evaluating and reporting hydrological data collection and watershed organisation activities <p><u>Output 3: Water user operation of water management for irrigated agriculture</u></p> <ol style="list-style-type: none"> 1. Assist national staff to prepare and conduct training for PAFO in (1) appropriate water management design options to support the proposed water use demand and scheduling of water delivery for sub-projects and (2) appropriate water management organisation for the respective sub-projects 2. Support PAFO and the farmers with the identification of WUGs for O&M based on appropriate irrigation unit(s) and the required labour commitments for undertaking activities within the unit(s) 3. Support the formation and registration of WUA and WUGs with a clear mandate for operational management of dry season irrigated agriculture 4. Develop the design of water management options and irrigation schedules for each sub-project, to optimise water use and labour requirements for irrigation and scheme operation. 5. Provide training of beneficiary farmers in operational management processes, systems and techniques and facilitating participatory and iterative discussions between the design staff and the beneficiary farmers 6. Prepare financial budgets for scheme operations 7. Support both PAFO and WUA/WUGs during commissioning of subproject irrigation schemes to confirm that operation and water delivery is as per the design and agreed irrigation schedules. 8. Based on the commissioning records, assist PAFO to finalise (1) Operation and Plans and (2) Management Handover Document for each irrigation sub-project 9. Support PAFO with management handover and continue to provide strengthening activities with the WUAs / WUGs to ensure they have the capacity to implementation the operation plans including the adaptation of water demand in response to market demand, past season experience and available hydrological data 10. Support PAFO and the WUA during the 1st year to operate the scheme and to adjust water management parameters as necessary to improve delivery efficiency. Identify any construction defect during the contractor's defect liability period, design defects that need rectification and infrastructure improvements that are necessary to ensure the continuing operation of the scheme 11. Based on records from the 1st year, assist PFAO and contractor to undertake rectification and upgrading works as identified and update the operation plans as necessary.
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	<p>12. Develop and assist PAFO to establish a monitoring, evaluating and reporting of on-going water management and maintenance activities</p> <p>Output: Water user maintenance of irrigation schemes</p> <ol style="list-style-type: none"> 1. Based on the maintenance requirements for subproject, assist PAFO and farmers to determine inputs and costs for the maintenance of the overall irrigation scheme. 2. Support PAFO and WUGs to strengthen the UUG/WUA for ensuring subproject maintenance is undertaken including staffing, labour, administrative and financial requirements and the choice of using donated labor, contractors and or self financed maintenance programs. 3. Assist PAFO and the WUA during irrigation scheme commissioning to confirm that scheme infrastructure is functional and to the expected design and agreed irrigation and water delivery schedules i.e. it is able to support the water management and delivery schedules. 4. Based on the commissioning records, assist PAFO to finalise maintenance plans and include these in the management handover document for each irrigation sub-project 5. Support PAFO with management handover and undertake strengthening activities with the WUAs / WUGs to ensure they have the capacity to implement the maintenance plans 6. Assist PAFO and the WUA during the 1st year to plan and supervise maintenance of the scheme. Identify construction defects during the contractor's defect liability period, design defects that need rectification and infrastructure improvements that are necessary to ensure the continuing operation of the scheme 7. Based on records from the 1st year, assist PFAO and contractor to undertake rectification and upgrading works as identified and update the maintenance plans accordingly. 8. Support PAFO with monitoring, evaluating and reporting of on-going water management and maintenance activities
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4. Land Use Specialist (National)

Category	Description
A: Position /Title	Land Use Advisor
B: Position / Type	Consultant (LIC)
C: International or National	National
D: Qualifications	Degree In Natural Resources, Environment or a primary sector
E: Experience	<p>At least 10 years experience in land use management with a focus on soil and water conservation, ecological service protection and land use change management</p> <p>A demonstrable experience in working with provincial and local agencies and land managers for land use zoning, land use change management systems</p>

	<p>A clear understanding of behaviour change programs within land use management</p> <p>Demonstrable examples of mentoring and capacity building as a key function and achievement are required.</p>
F: Posting	PAFO XK.
G: Reporting To	Team Leader LIC – XK
H: Duration of role	10 person months per position
I: Starting Date	Pmnths by Project Year: 2,4,4
J: Deliverables	Land Use change programs for each XK Subproject that ensures the PRI catchment watershed ecological services a protected
K: Outputs	<ol style="list-style-type: none"> 1. Agreed Land Use change programs for all XK subprojects that are: <ul style="list-style-type: none"> - Supported by community agreements - Clear technical and financial trade-offs - Target known existing behaviors - Increase the soil and water protection within the catchments 2. Prepare lessons learned and progress towards output indicators
L: Tasks	<p>By Output</p> <p>Output 1: Agreed Land Use change programs for all XK subprojects</p> <ol style="list-style-type: none"> 1. Conduct an awareness and training program with the Provincial Land Use planning teams on moving beyond planning to targeted land use and land management behaviour changes programs 2. Prepare draft community agreement templates for land use change programs 3. Identify risks to ecological services and to soil and water conservation values 4. Identify existing land users or managers in each community whose behaviour is assessed to be inconsistent with LUP land use category objectives. 5. Hold consultative meetings on how such behaviours can be modified with input from the technical specialists from PAFO. 6. Support technical experts to provide a series of agreed change programs, with supporting inputs and activities agreed with the local community and land managers. 7. Prepare subproject FS proposals for each subproject output. <p>Output: Prepare lessons learned and progress towards output indicators</p> <ol style="list-style-type: none"> 1. Assist the DALAM land use planning team to monitor and supervise the implementation of the agreed land-use change programs.

5. Livestock Advisor – cattle (national)

Category	Description
A: Position /Title	Cattle Production Specialist

B: Position / Type	Consultant (LIC)
C: International or National	National
D: Qualifications	Post graduate qualification in Livestock Production (Beef specialisation)
E: Experience	At least ten years of experience in beef cattle production in Laos and Demonstrated cattle production development project experience with use of grass and cereals forages Demonstrated knowledge and experience with the use of intensive forage grazing systems for improved cattle finishing and marketing Demonstrated experience of successful technology transfer with small holder cattle farmers
F: Posting	Xieng Khouang
G: Reporting To	LIC Team Leader, Project Management Adviser (Xieng Khouang),
H: Duration of role	21 Person months
I: Starting Date	By Pyr 7,6,4,4,
J: Deliverables	<ol style="list-style-type: none"> 1. Initial cattle production development plan (March 2021) 2. Pilot cattle finishing activity reports (April 2022, April 2023) 3. Cattle production development plan (June 2022) 4. Cattle Production completion report (August 2024)
K: Outputs	<ol style="list-style-type: none"> 1. Cattle farmers awareness and preparation 2. Cattle marketing connection strengthened 3. Pilot cattle finishing systems 4. Better cattle farming systems
L: Tasks	<p>Output 1: Cattle farmer awareness and preparations</p> <ol style="list-style-type: none"> 1. Initiate contact with the cattle farmers in three villages in the lower Nam Tong catchment and over series of meetings make them aware of the objectives and scope of the cattle development activity. This will also involve the National Agribusiness Adviser and PAFO Agribusiness staff that will be responsible for the market connection part of the cattle development program. Note that the Project will not require the formation of formal cattle groups for the activities. 2. Coordinate with the International Agribusiness Adviser over the farm equipment (cattle yards, electric fencing, cattle scales etc) that will be procured and supplied to the farmers. Develop an initial plan for the siting and utilization of the equipment with the cattle farmers. <p>Output 2: Cattle marketing connections strengthened</p> <ol style="list-style-type: none"> 1. Assist the LIC Agribusiness Adviser team and PAFO Agribusiness staff with the strengthening of cattle market connections. This includes the farmers accessing and using market information. Participate in the various meetings and workshops with the cattle farmers and assist the farmers to

	<p>better understand how they can develop their cattle production system in response to the market information.</p> <ol style="list-style-type: none"> 2. Monitor the cattle marketing policies of the Nam Tong cattle farmers, in conjunction with the National Agribusiness Adviser and PAFO Agribusiness staff. Provide advice to the farmers on how to use market data to plan timing of cattle sales. Involve the PAFO Agribusiness staff on a regular basis in the cattle development program, especially in the cattle finishing and marketing activities. <p>Output 3: Pilot cattle finishing systems</p> <ol style="list-style-type: none"> 1. Identify over Q2 and Q3 in 2021 the cattle farmers that will participate in the cattle finishing pilot on the irrigated land over the first dry season after scheme upgrading (Q4 2021 and Q1 2022). 2. Assist the pilot cattle finishing farmers to plan and prepare for the growing of cereal forages in their irrigated plots. Make the arrangements to ensure the timely delivery of cereal forage seeds and the other associated inputs. This includes setting up the fences. Regularly monitor the preparations, and advise the farmers over changes as needed. 3. Organise the farmers to commence the grazing of the forages, and provide regular advice over feeding levels and grazing management. 4. Utilise the cattle yards and scales provided by the Project to weight the cattle and provide information to the farmers over feeding and make decisions over timing of sale. 5. Periodically hold outreach sessions on the cattle pilot for the catchment cattle farmers. Ensure that the extension sessions highlight the cattle weight gains, marketing options and financial benefits of the finishing system. Use the opportunity of the extension sessions to engage with the other cattle farmers. 6. Use the experience of the first cattle pilot to prepare for two more pilots over the next dry season in late 2022 and early 2023. Use feedback from the cattle farmers to improve the subsequent pilot. <p>Output 4: Better Cattle Production Systems</p> <ol style="list-style-type: none"> 1. Prepare the program for working with the Nam Tong cattle farmers that will feature better feeding for improved cattle productivity, including feeding for cattle finishing to increase farmer incomes. The program will build upon the cattle forage pilots and assist the farmers to extend their wet season grass forage areas on their own farms. 2. Modifying the cattle farming system away from wet season grazing in upland forest areas and more forages for feeding in the dry season are the two of the main cattle management systems changes that the Project will promote. 3. Implement the support program for the cattle farmers that will include establishing grass forages for the wet season and into the dry season feeding; regular weighing and animal health; better feeding for different classes of cattle; improved grazing management; and using better feeding management to produce better conditioned cattle for sale at optimal market times. 4. Use a variety of outreach methods that should include pilot demonstrations, short field visits to leading farmers, and group and one-
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	<p>on- one extension. Encourage farmer to farmer extension. The outreach program must be inclusive and recognise the specific cattle responsibilities of men and women cattle farmers can attend. Timing of outreach activities should be planned to ensure that the women can attend.</p> <p>5. Make use of technologies and equipment from other cattle development projects as appropriate. Liaise with the Laos Quality Beef Initiative (New Zealand Funded project based in the Department of Livestock and Fisheries) to learn the cattle and forage technologies and technical equipment successfully used in that project.</p>
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6. Tea Sector Marketing and Development Specialist (National)

Category	Description
A: Position /Title	Tea Marketing Specialist
B: Position / Type	Consultant (LIC)
C: International or National	National
D: Qualifications	Post graduate qualification in agricultural marketing or commerce
E: Experience	<ul style="list-style-type: none"> • Demonstrated experience in tea markets, tea market connection and tea products in relation to mountain tea from Laos. Detailed knowledge of regional and international tea markets. • Demonstrable examples for at least three tea market assessment studies involving national and international tea markets. The integration and connection of Laos tea producers to market opportunities including the connections with buyers, processors and logistic service provider in market chains • Experience in tea production and market development of the Xieng Khouang tea sector including branding, private sector engagement and market assessments. • Knowledge of the Chinese tea market and language capability is essential.
F: Posting	Xiangkhouang
G: Reporting To	Team Leader LIC XK
H: Duration of role	16 Person months
I: Starting Date	By Pyr0 ,6,6,4
J: Deliverables	<ol style="list-style-type: none"> 1. Tea Marketing Assessment Report (June 2021) 2. Phousan Tea Sector Strategy Plan (December 2021) 3. Assignment Completion report (August 2025)
K: Outputs	<ol style="list-style-type: none"> 1. Tea market assessment 2. Coordinated Marketing and Promotion

	3. Sanitation, Quality Assurance and Traceability 4. Planning and reporting
L: Tasks	<p>Output 1: Tea Market Assessment</p> <ol style="list-style-type: none"> 1. Assess the market opportunities for wet season tea produced and processed in the Phousan mountain area Xiangkhuaang province. The market assessment will concentrate upon the market opportunity for wet season higher quality teas on the national, and international, markets. It is emphasized that the assessment will be for tea produced by the Phousan farmers and processors over the wet season. The international market assessment will consider the potential demand for the internet sales of the wet season tea. 2. The assessment will also consider the marketing development activities being undertaken by other projects such as the Brand (UNDP and Laos Chamber of Commerce), Helvatas and SNV. 3. Assess the potential for the establishment of the “Phousan Mountain Tea” brand as part of the market assessment. 4. Present the findings of the tea market assessment through a series of workshops and meetings to the tea processors and tea producers that are based in the Phousan area. In association with the LIC Agribusiness team thoroughly review and discuss the implications of the tea market assessment findings and with the Phousan tea sector members. It is expected that this activity will involve close coordination with other donor initiatives in the tea sector. 5. Ensure that there is close engagement with the Phousan tea sector members before the market assessment commences, and that the opportunities for producing and processing for higher quality and higher value markets are well understood by the Phousan tea sector members. 6. Initiate the establishment of a representative Phousan tea sector group in association with the National Agribusiness Adviser¹. The informal group will consist of Phousan tea private sector women and men members and they will provide the basis for dialogue with the Phousan tea sector. <p>Output 2: Coordinated Marketing and Promotion</p> <ol style="list-style-type: none"> 1. Facilitate the Phousan tea sector members to coordinate their activities to capitalise upon the wet season tea opportunity (identified by the tea market assessment). This work will be done in association with the LIC Agribusiness team. Assist the Phousan tea sector members to prepare simple strategy and plan for their wet season processing and marketing of wet season produced tea. If the Phousan Tea Brand² is justified by the team market assessment and the Phousan tea sector group agrees to using the brand include the brand as part of the strategy.

¹ This should not be a formally registered group – it is a group that will represent the Phousan tea private sector members,

	<ol style="list-style-type: none"> 2. Prepare a marketing plan for the Phousan wet season tea with the input of the Phousan tea sector group. Assist the tea processors and markets to implement their marketing plan – sending samples to retailers, and associated marketing activities. 3. Coordinate and guide the inputs by other specialists that may be contracted for the tea marketing strategy and plans: communications (promotional materials) and branding. 4. Provide ongoing marketing advice and support for the Phousan tea sector members. This will include assessing progress with market development, quantities sold and any issues. Identify where there are issues and where further Project support is required. Prepare plans, in association with the National Agribusiness Adviser, for further support to the marketing program. 5. Maintain liaison with national and provincial tea development initiatives. Ensure that as much as is feasible that any Project funded tea market development activities are coordinated with national and Xiangkhouang tea marketing initiatives. Provide regular advice to the LIC Agribusiness team over these other tea initiatives. <p>Output 3: Sanitation, Quality Assurance and Traceability</p> <ol style="list-style-type: none"> 1. Assist the National Agribusiness Adviser to assess the need for sanitation, quality assurance (certification) and traceability for the Phousan tea. This must involve feedback from the retailers. 2. If it is assessed that the formal sanitation, quality assurance and traceability procedures should be implemented work with the National Agribusiness Adviser to develop the procedures. Ensure that the Phousan tea sector group is also involved in this assessment and decision. 3. Advise and assist the LIC Agribusiness team over certification and investigate the suitability of LaoGAP as the certification standard. Assess the financial sustainability if any certification standard that is proposed. 4. Assist with the incorporating the sanitation, quality assurance and traceability procedures into the Phousan tea market development campaign. <p>Output 4: Planning and Report</p> <ol style="list-style-type: none"> 1. Prepare annual work plans as required by the LIC team procedures 2. Contribute to monthly and quarterly LIC reports 3. Prepare an assignment completion report at the end of the assignment and submit to the LIC International Team Leader.
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ANNEX 2.3: TERMS OF REFERENCE FOR HOUAPHAN PAFO LOAN IMPLEMENTATION CONSULTANT

A. Introduction

1. The Government of Lao PDR has recognized the importance of productive rural infrastructure (PRI) in driving rural growth and has invested heavily in it over the past 30 years. Irrigation investment has until now targeted food security policy objectives mostly through the production of wet season rice. Lao PDR is currently self-sufficient in rice and as such the Sustainable Rural Infrastructure and Watershed Management Sector Project (SRIWSM) will direct irrigation investment into economic growth policy objectives with a focus on dry season irrigated agriculture. An integral part of this move is the integration of nutrition sensitive agriculture and nutrition improvement by diversifying food sources.

2. The project will modernize at least 18 irrigation schemes to secure reliable dry season irrigation for water users that is both reliable in terms of quantity, time of delivery and place of delivery. The project seeks to offset risks to producers from high value crop markets and the destruction of upstream catchments. Smallholders who to date have grown a wet season rice crop will be able to grow and market high value crops and livestock farming systems.

3. The SRIWSM will achieve its outcome of *high-value agricultural production, natural resources management, status of women, and community nutrition improved* by bringing approximately 3,600 hectares of land under dry season irrigation, producing and marketing over 30,000 tons of high value crops and improving the number of women who meet minimum dietary diversity in target communities by 50%. It will do this through four outputs:

4. **Output 1: Market-oriented agricultural production increased.** The output involves identifying markets and connecting producers to these markets, providing support for value addition along the market chain. Technical support will be provided for development of the agribusiness capacity for market assessments, market-led farm planning and facilitating investment into post-harvest value addition, improved logistics for market connectivity, and quality assurance and traceability systems that respond to trade requirements. A loan implementation consultant (LIC) situated within the Department of Irrigation (DOI) will support the establishment and institutionalization of agribusiness capacity within each PAFO supporting the development of market-led commercial agriculture including irrigated dry season high value crops and livestock. A provincial LIC will be situated within the provincial agriculture and forestry office (PAFO) in each province to support the provincial project implementation team (PPIT).

5. **Output 2: Watershed ecological services protected.** The project will support the update or development of participatory land use plans for villages within the catchments of PRI infrastructure. The project will support land use behavior change programs to protect the soil and water based ecological services and embed these changes within negotiated community agreements. LIC will support this process through the provision of a land use management and land use change advisor to support the Provincial Land Use Planning teams. Further technical support will be mobilized to support the technical requirements of behavior change programs.

6. **Output 3: Command area irrigation reliability increased.** This output supports irrigation infrastructure modernization for dry season irrigated agriculture and other infrastructure to support community wellbeing. A key element of the investment is the capacity of local water users to operate a managed water delivery systems during the dry season. The LIC DOI will support the

establishment of water user groups and the members to develop knowledge, skills and information systems to operate dry season irrigation reliably whilst also maintaining their irrigation assets.

7. **Output 4: Nutrition awareness and facilities improved.** This output will be undertaken in Xiangkhouang and Houaphan provinces. The project will upscale existing pilot programs in approximately 20 nutrition-priority villages in each of the six districts. The scale-up methods will include nutrition clubs, providing social behavior change communication programs and nutrition training, and supporting club and individual development plans designed to increase the production and year-round consumption of diverse and nutritious foods. This output will not be within the scope of the LIC technical consultants and will be single sourced to an existing service provider in the two provinces included.

8. SRIWSM is the first ADB irrigation subsector project to use decentralized implementation. The role of DOI is to establish common systems and to manage governance risks within the Provincial implementation agencies. Risks associated with procurement, delays, decentralized financial management, and safeguard requirements will be subject to oversight from a Program Governance Team in DOI. The LIC DOI will support the Program Governance Team in overall project planning and coordination, project management and reporting, financial and procurement support, monitoring and safeguard reporting.

9. Within each province the project will be implemented through the structure of the PAFO. Here the LIC DOI will support the PAFO implementation teams through the provision of skills relating to Project management coordination, safeguards and technical expertise relating to dry season irrigated agriculture and high value crops with each Province having a project team leader that reports to and support the DG PAFO.

10. The SRIWSM will be implemented over a period of seven years. The Ministry of Agriculture and Forestry (MAF) will be the executing agency and implementation will be through the PAFOs, in collaboration with other provincial and district level offices.

B. Consulting Services

1. Loan Implementation consultants

11. Each IA will contract a Loan Implementation Consultant: package packages OP5-CS01; OP5-CS02, OP5-CS03, OP5-CS04, and OP5-CS05 for DOI in Vientianne, Louangphabang PAFO, Xiangkhouang PAFO, Houaphan PAFO and Xaignabouli PAFO respectively. Each will be recruited as a company using QCBS and simplified technical proposal.

12. The LIC teams will in effect continue the program of support provided by the Project start-up consultants – International Project Management, and National Procurement specialists. Both start up consultants will be eligible for roles in the DOI loan implementation consultant team should the respective bidders (firm) and the individual agree on terms. This eligibility is included to encourage continuity that will reduce the risks of delays during the handover during the LIC DOI mobilization.

II. HOUAPHAN PAFO - LOAN IMPLEMENTATION CONSULTANT (LIC) PACKAGE OP5-CS04

13. The following TOR is for the Houaphan PAFO Loan Implementation Consultant that will work with the Provincial Project Implementation Team within PAFO: procurement package OP5-CS04.

14. The contractor will be recruited as a national company using ADBs CMS and QCBS procedures using a simplified technical proposal (STP) due to the range of expertise being contracted (project management to support the PPIT Director and a Land Use Planner along with technical support that is unallocated for defining and supporting the land use behavior change program.

15. The team will be based in PAFO where it will mentor and support project management and implementation, build project management capacity, and ensure that the SRIWSM PGT template and systems are applied and used throughout the subprojects. The Program management role is critical in the linking of the PAFO PPIT to the PGT in terms of systems, reporting and also accessing mentoring and capacity building support. A key performance indicator for the project management role is implementation efficiency in terms of getting things done, to a high standard on time.

16. The LIC (PAFO- HPN) team will comprise of 2 specified positions that provide a total of 52 person months of input – all national. Program management support for 36 person months and Participatory Land Use Planning for 16 person months is provided. The technical support that is unallocated amounts to 24 person months and will support output 2 watershed program to support PAFO implement the land use planning and land use behavior change programs.

17. The team will be nominally led by the program management role. A detailed breakdown of the positions and the level of effort by year is included in Table 1, followed by the individual terms of reference which detailed experience and qualifications, expected outputs and tasks each position is responsible for.

Table 1: Loan Implementation Consultant Positions

Loan Implementation Consultant Team									
		Quantities (Person Months)							
Position	Posting	Pyr 1	Pyr2	Pyr3	Pyr4	Pyr5	Pyr6	Pyr7	Total
Project Management Advisor	HPN	6	9	9	6	3	3	0	36
Land Use Management Advisor	HPN	0	2	4	6	4			16
Technical Support – Output 2 unallocated	HPN	0	4	7	7	5	0	0	24
Subtotal		8	19	19	10	8	3	0	75

A. Individual Terms of Reference

1. Project Management Specialist

Category	Description
A: Position /Title	Project Management Advisor
B: Position / Type	Consultant (LIC)
C: International or National	National
D: Qualifications	Post graduate degree in Agriculture, Commerce, Business administration
E: Experience	<p>At least 10 years experience in project management and implementation roles in ADB projects, with roles that include work planning, budgeting and cashflows, provincial reporting and adaptive management.</p> <p>At least 5 year experienced in working through decentralised implementation through subnational implementation units and with knowledge of government systems essential</p> <p>Clear and proven commitment to quality program management including the application of safeguards plans and implementation requirements according to the agreed frameworks,</p> <p>The role is not available for engineering or irrigation trained individuals</p> <p>Demonstrable examples of mentoring and capacity building as a key function and achievement are required.</p> <p>These skills need to include supporting Government decisions makers to achieve project milestones.</p>
F: Posting	PAFO in each province.
G: Reporting To	Director PPIT
H: Duration of role	36 person-months each role
I: Starting Date	Appointed within six months of effectiveness.
J: Deliverables	<ol style="list-style-type: none"> 1. Project Work plan 8 weeks after mobilisation 2. Annual Implementation plans by province and quarter, supporting budgets and CA projections 3. Additional Subproject Feasibility Studies 4. Progress and Annual Reports 5. Capacity mentoring and strengthening programs
K: Outputs	<ol style="list-style-type: none"> 1. Project work plans and Financial projections 2. Project IA staff knowledge and awareness programs 3. IA capacity building and systems institutionalised 4. Additional Subproject Feasibility and Safeguard documentation 5. Program Reporting 6. Effective governance oversight
L: Tasks	<p>By Output</p> <p>Output 1: Project Work plans and Financial projections</p>

	<ol style="list-style-type: none"> 1. Conduct meetings and workshops with all stakeholders in the IAs to outline a work program for establishing the annual work plan for project year 1 based on the 2019 Government planning and budget submission 2. Identify and confirm work plans and procedures where required for (i) EU funded output 4, and (ii) parallel cofinancing of IFAD and GCF/GIZ and ensure all EA and IA staff are fully aware of these plans and relationships 3. Ensure the IA PPITs staff area involved and informed during the preparation of the workplans each year 4. Ensure all IAs form the steering committees and the procurement evaluation committees as detailed in the PAM and provide ongoing secretarial support 5. Assist the PPIT Director to establish the work plans and project budgets with supporting cashflows, contract award projections and disbursement projections necessary for the formation of the IA subaccounts. 6. Implement the detailed task based information system to track implementation progress at level of contract and work task steps for each representative subproject, each catchment plan, the implementation of output 4 nutrition sensitive agriculture, and agricultural market chain support 7. Support the program director to apply the information system through monthly reporting meetings within each IA and an email based progress tracking reporting system <p>Output 2: Project IA Staff Knowledge and Awareness Program</p> <ol style="list-style-type: none"> 1. Based on the PAM and start-up interviews conduct briefing meetings for (i) provincial steering committees, (ii) each IA including DOI and the four PAFO's, and (iii) Provincial Vice Governor's office 2. Conduct follow-on training and awareness sessions with PPIT staff member to ensure that people understanding the planning systems, financial responsibility and fund flow, communicate the role, responsibilities, and relationships needed within the Project and provide training in the use of project level templates for a project management purposes. 3. Support PGT staff for conducting workshops and training on the processing of additional subprojects, safeguard monitoring and procurement systems 4. Participate in PGT oversight visits throughout the first two years to assess Project management effectiveness, work with the DG and DDG PAFO to implement changes and programs to address weaknesses and adjust programming and work plans accordingly <p>Output 3: IA capacity building and systems institutionalise</p> <ol style="list-style-type: none"> 1. Support the development and implementation of the IA training program for all staff involved in implementation. Conduct training and repeat training within the first quarter of each project year 2. Conduct Project Management effectiveness evaluation as part of the annual work plan evaluation and updating process with a report to the Vice Governor Office, MAF and ADB. <p>Output 4: Additional Subproject Feasibility and Safeguard documentation</p>
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	<ol style="list-style-type: none"> 1. Apply the project management guideline for processing additional subprojects with the required checklists and qualifiers to ensure that the requirement of subproject processing relating to hydrology, water use demand, and safeguards are fully responded to. 2. Provide leadership for the additional subproject processing to ensure timely production and review of safeguard documentation, approval of DED and procurement of works including the active approval of water users in the DED design and approval process. 3. On a quarterly basis identify remedial actions to ensure subproject processing is accelerated and maintains the work plan timing. <p>Output 5: Program Reporting</p> <ol style="list-style-type: none"> 1. Working with the financial, procurement, and monitoring advisors operate the project management implementation reporting system to used. The system will provide a task based progress report to identify delays (months), orange flagged tasks (delayed but actions in place) and red flagged ongoing or prolonged delays with no action taken. Each month these will be reported to the DG PAFO or Director PGT. Every quarter these will be summarised and reported to the Vice Governor's office and MAF. 2. Implement Project implementation progress reporting systems and ensure the compliance and integrity of reporting systems 3. Link the PPIT to the Vice Governor's office for reporting of project status <p>Output 6: Effective governance oversight</p> <ol style="list-style-type: none"> 1. Support the governance and oversight performance review system for the project covering WUG/WUAs, PAFO, Provincial procurement evaluation committees, 2. Ensure the Project Management Advisors notification of issues regarding governance risks through internal reporting to the PGT project management advisor is adopted and applied. 3. Provide an oversight and supervision assessment role for governance based issues and ensure that reviews are conducted in a timely manner with integrity
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2. Land Use Specialist (National)

Category	Description
A: Position /Title	Land Use Advisor
B: Position / Type	Consultant (LIC)
C: International or National	National
D: Qualifications	Degree In Natural Resources, Environment or a primary sector
E: Experience	At least 10 years experience in land use management with a focus on soil and water conservation, ecological service protection and land use change management

	<p>A demonstrable experience in working with provincial and local agencies and land managers for land use zoning, land use change management systems</p> <p>A clear understanding of behaviour change programs within land use management</p> <p>Demonstrable examples of mentoring and capacity building as a key function and achievement are required.</p>
F: Posting	PAFO XK.
G: Reporting To	Program Manager
H: Duration of role	16 person months per position
I: Starting Date	Person-months by Project Year: 0,2,4,6,4
J: Deliverables	Land Use change programs for each XK Subproject that ensures the PRI catchment watershed ecological services a protected
K: Outputs	<ol style="list-style-type: none"> 1. Agreed Land Use change programs for all XK subprojects that are: <ul style="list-style-type: none"> - Supported by community agreements - Clear technical and financial trade-offs - Target known existing behavior - Increase the soil and water protection within the catchments 2. Prepare lessons learned and progress towards output indicators
L: Tasks	<p>By Output</p> <p>Output 1: Agreed Land Use change programs for all XK subprojects</p> <ol style="list-style-type: none"> 1. Conduct an awareness and training program with the Provincial Land Use planning teams on moving beyond planning to targeted land use and land management behaviour changes programs 2. Prepare draft community agreement templates for land use change programs 3. Identify risks to ecological services and to soil and water conservation values 4. Identify existing land users or managers in each community whose behaviour is assessed to be inconsistent with LUP land use category objectives. 5. Hold consultative meetings on how such behaviours can be modified with input from the technical specialists from PAFO. 6. Support technical experts to provide a series of agreed change programs, with supporting inputs and activities agreed with the local community and land managers. 7. Prepare subproject FS proposals for each subproject output. <p>Output: Prepare lessons learned and progress towards output indicators</p> <ol style="list-style-type: none"> 1. Assist the DALAM land use planning team to monitor and supervise the implementation of the agreed land-use change programs.

ANNEX 2.4: TERMS OF REFERENCE FOR XAIGNABOULI PAFO LOAN IMPLEMENTATION CONSULTANT

A. Introduction

1. The Government of Lao PDR has recognized the importance of productive rural infrastructure (PRI) in driving rural growth and has invested heavily in it over the past 30 years. Irrigation investment has until now targeted food security policy objectives mostly through the production of wet season rice. Lao PDR is currently self-sufficient in rice and as such the Sustainable Rural Infrastructure and Watershed Management Sector Project (SRIWSM) will direct irrigation investment into economic growth policy objectives with a focus on dry season irrigated agriculture. An integral part of this move is the integration of nutrition sensitive agriculture and nutrition improvement by diversifying food sources.

2. The project will modernize at least 18 irrigation schemes to secure reliable dry season irrigation for water users that is both reliable in terms of quantity, time of delivery and place of delivery. The project seeks to offset risks to producers from high value crop markets and the destruction of upstream catchments. Smallholders who to date have grown a wet season rice crop will be able to grow and market high value crops and livestock farming systems.

3. The SRIWSM will achieve its outcome of *high-value agricultural production, natural resources management, status of women, and community nutrition improved* by bringing approximately 3,600 hectares of land under dry season irrigation, producing and marketing over 30,000 tons of high value crops and improving the number of women who meet minimum dietary diversity in target communities by 50%. It will do this through four outputs:

4. **Output 1: Market-oriented agricultural production increased.** The output involves identifying markets and connecting producers to these markets, providing support for value addition along the market chain. Technical support will be provided for development of the agribusiness capacity for market assessments, market-led farm planning and facilitating investment into post-harvest value addition, improved logistics for market connectivity, and quality assurance and traceability systems that respond to trade requirements. A Loan Implementation Consultant (LIC) situated within the Department of Irrigation (DOI) will support the establishment and institutionalization of agribusiness capacity within each PAFO supporting the development of market-led commercial agriculture including irrigated dry season high value crops and livestock. A provincial LIC will be situated within the provincial agriculture and forestry office (PAFO) in each province to support the provincial project implementation team (PPIT).

5. **Output 2: Watershed ecological services protected.** The project will support the update or development of participatory land use plans for villages within the catchments of PRI infrastructure. The project will support land use behavior change programs to protect the soil and water based ecological services and embed these changes within negotiated community agreements. LIC DOI will support this process through the provision of a land use management and land use change advisor to support the provincial land use planning teams. Further technical support will be mobilized to support the technical requirements of behavior change programs.

6. **Output 3: Command area irrigation reliability increased.** This output supports irrigation infrastructure modernization for dry season irrigated agriculture and other infrastructure to support community wellbeing. A key element of the investment is the capacity of local water users to operate a managed water delivery systems during the dry season. The LIC DOI will support the

establishment of water user groups and the members to develop knowledge, skills and information systems to operate dry season irrigation reliably whilst also maintaining their irrigation assets.

7. **Output 4: Nutrition awareness and facilities improved.** This output will be undertaken in Xiangkhouang and Houaphan provinces. The project will upscale existing pilot programs in approximately 20 nutrition-priority villages in each of the six districts. The scale-up methods will include nutrition clubs, providing social behavior change communication programs and nutrition training, and supporting club and individual development plans designed to increase the production and year-round consumption of diverse and nutritious foods. This output will not be within the scope of the LIC technical consultants and will be single sourced to an existing service provider in the two provinces included.

8. SRIWSM is the first ADB irrigation subsector project to use decentralized implementation. The role of DOI is to establish common systems and to manage governance risks within the provincial implementation agencies. Risks associated with procurement, delays, decentralized financial management, and safeguard requirements will be subject to oversight from a Program Governance Team in DOI. The LIC DOI will support the Program Governance Team in overall project planning and coordination, project management and reporting, financial and procurement support, monitoring and safeguard reporting.

9. Within each province the project will be implemented through the structure of the PAFO. Here the LIC DOI will support the PAFO implementation teams through the provision of skills relating to Project management coordination, safeguards and technical expertise relating to dry season irrigated agriculture and high value crops with each province having a project team leader that reports to and support the DG PAFO.

10. The SRIWSM will be implemented over a period of seven years. The Ministry of Agriculture and Forestry (MAF) will be the executing agency and implementation will be through the PAFOs, in collaboration with other provincial and district level offices.

B. Consulting Services

1. Loan Implementation consultants

11. Each IA will contract loan implementation consultant: packages OP5-CS01; OP5-CS02, OP5-CS03, OP5-CS04, and OP5-CS05 for DOI in Vientianne, Louangphabang PAFO, Xiangkhouang PAFO, Houaphan PAFO and Xaignabouli PAFO respectively. Each will be recruited as a company using QCBS and simplified technical proposal.

12. The LIC teams will in effect continue the program of support provided by the project start-up consultants – International Project Management, and National Procurement specialists. Both start up consultants will be eligible for roles in the DOI loan implementation consultant team should the respective bidders (firm) and the individual agree on terms. This eligibility is included to encourage continuity that will reduce the risks of delays during the handover during the LIC DOI mobilization.

II. XAIGNABOULI PAFO - LOAN IMPLEMENTATION CONSULTANT (LIC) PACKAGE OP5-CS05

13. The following TOR is for the Xaignabouli PAFO loan implementation consultant that will work with the provincial project implementation team within PAFO - procurement package OP5-CS05.

14. The contractor will be recruited as a national company using ADBs CMS and QCBS procedures using a simplified technical proposal (STP) due to the range of expertise being contracted (project management to support the PPIT Director and a land use planner along with technical support that is unallocated for defining and supporting the land use behavior change program.

15. The team will be based in PAFO where it will mentor and support project management and implementation, build project management capacity, and ensure that the SRIWSM PGT template and systems are applied and used throughout the subprojects. The program management role is critical in the linking of the PAFO PPIT to the PGT in terms of systems, reporting and also accessing mentoring and capacity building support. A key performance indicator for the project management role is implementation efficiency in terms of getting things done, to a high standard on time.

16. The LIC (PAFO-XBY) team will comprise of one specified position being the program management support role for 36 person-months and unallocated 7 person-months.

17. The team will be nominally led by the program management role. A detailed breakdown of the positions and the level of effort by year is included in Table 1, followed by the individual terms of reference which detailed experience and qualifications, expected outputs and tasks each position is responsible for.

Table 1: Loan Implementation Consultant Positions

Loan Implementation Consultant Team									
Position	Posting	Quantities (Person Months)							
		Pyr 1	Pyr2	Pyr3	Pyr4	Pyr5	Pyr6	Pyr7	Total
Project Management Advisor	HPN	6	9	9	6	3	3	0	36
Unallocated	HPN	0	2	3	1	1	0	0	7
Subtotal		6	11	12	7	9	3	0	43

A. Individual Terms of Reference

1. Project Management Specialist

Category	Description
A: Position /Title	Project Management Advisors
B: Position / Type	Consultant
C: International or National	National

D: Qualifications	Post graduate degree in Agriculture, Commerce, Business administration
E: Experience	<p>At least 10 years experience in project management and implementation roles in ADB projects, with roles that include work planning, budgeting and cashflows, provincial reporting and adaptive management.</p> <p>At least 5 years experience in working through decentralised implementation through subnational implementation units and with knowledge of government systems essential</p> <p>Clear and proven commitment to quality program management including the application of safeguards plans and implementation requirements according to the agreed frameworks,</p> <p>The role is not available for engineering or irrigation trained individuals</p> <p>Demonstrable examples of mentoring and capacity building as a key function and achievement are required.</p> <p>These skills need to include supporting Government decisions makers to achieve project milestones.</p>
F: Posting	PAFO in each province.
G: Reporting To	Project Director PPIT
H: Duration of role	36 person-months each role
I: Starting Date	Appointed within six months of effectiveness.
J: Deliverables	<ol style="list-style-type: none"> 1. Project Work plan eight weeks after mobilisation 2. Annual Implementation plans by province and quarter, supporting budgets and CA projections 3. Additional Subproject Feasibility Studies 4. Progress and Annual Reports 5. Capacity mentoring and strengthening programs
K: Outputs	<ol style="list-style-type: none"> 1. Project work plans and Financial projections 2. Project IA staff knowledge and awareness programs 3. IA capacity building and systems institutionalised 4. Additional Subproject Feasibility and Safeguard documentation 5. Program Reporting 6. Effective governance oversight
L: Tasks	<p>By Output</p> <p>Output 1: Project Work plans and Financial projections</p> <ol style="list-style-type: none"> 1. Conduct meetings and workshops with all stakeholders in the IAs to outline a work program for establishing the annual work plan for project year 1 based on the 2019 government planning and budget submission 2. Identify and confirm work plans and procedures where required for (i) EU funded output 4, and (ii) parallel cofinancing of IFAD and GCF/GIZ and ensure all EA and IA staff are fully aware of these plans and relationships 3. Ensure the IA PPITs staff area involved and informed during the preparation of the workplans each year

	<ol style="list-style-type: none"> 4. Ensure all IAs form the steering committees and the procurement evaluation committees as detailed in the PAM and provide ongoing secretarial support 5. Assist the PPIT Director to establish the work plans and project budgets with supporting cashflows, contract award projections and disbursement projections necessary for the formation of the IA subaccounts. 6. Implement the detailed task based information system to track implementation progress at level of contract and work task steps for each representative subproject, each catchment plan, the implementation of output 4 nutrition sensitive agriculture, and agricultural market chain support 7. Support the program director to apply the information system through monthly reporting meetings within each IA and an email based progress tracking reporting system <p>Output 2: Project IA Staff Knowledge and Awareness Program</p> <ol style="list-style-type: none"> 1. Based on the PAM and start-up interviews conduct briefing meetings for (i) provincial steering committees, (ii) each IA including Dol and the 4 PAFO's, and (iii) Provincial Vice Governor's office 2. Conduct follow-on training and awareness sessions with PPIT staff member to ensure that people understanding the planning systems, financial responsibility and fund flow, communicate the role, responsibilities, and relationships needed within the Project and provide training in the use of project level templates for a project management purposes. 3. Support PGT staff for conducting workshops and training on the processing of additional subprojects, safeguard monitoring and procurement systems 4. Participate in PGT oversight visits throughout the first two years to assess Project management effectiveness, work with the DG and DDG PAFO to implement changes and programs to address weaknesses and adjust programming and work plans accordingly <p>Output 3: IA capacity building and systems institutionalise</p> <ol style="list-style-type: none"> 1. Support the development and implementation of the IA training program for all staff involved in implementation. Conduct training and repeat training within the first quarter of each project year 2. Conduct Project Management effectiveness evaluation as part of the annual work plan evaluation and updating process with a report to the Vice Governor Office, MAF and ADB. <p>Output 4: Additional Subproject Feasibility and Safeguard documentation</p> <ol style="list-style-type: none"> 1. Apply the project management guideline for processing additional subprojects with the required checklists and qualifiers to ensure that the requirement of subproject processing relating to hydrology, water use demand, and safeguards are fully responded to. 2. Provide leadership for the additional subproject processing to ensure timely production and review of safeguard documentation, approval of DED and procurement of works including the active approval of water users in the DED design and approval process.
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	<p>3. On a quarterly basis identify remedial actions to ensure subproject processing is accelerated and maintains the work plan timing.</p> <p>Output 5: Program Reporting</p> <ol style="list-style-type: none"> 1. Working with the financial, procurement, and monitoring advisors operate the project management implementation reporting system to used. The system will provide a task based progress report to identify delays (months), orange flagged tasks (delayed but actions in place) and red flagged ongoing or prolonged delays with no action taken. Each month these will be reported to the DG PAFO or Director PGT. Every quarter these will be summarised and reported to the Vice Governor's office and MAF. 2. Implement Project implementation progress reporting systems and ensure the compliance and integrity of reporting systems 3. Link the PPIT to the Vice Governor's office for reporting of project status <p>Output 6: Effective governance oversight</p> <ol style="list-style-type: none"> 1. Support the governance and oversight performance review system for the project covering WUG, WUAs, PAFO, provincial procurement evaluation committees, 2. Ensure the project management advisors notification of issues regarding governance risks through internal reporting to the PGT project management advisor is adopted and applied. 3. Provide an oversight and supervision assessment role for governance based issues and ensure that reviews are conducted in a timely manner with integrity
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ANNEX 3: TERMS OF REFERENCE FOR DETAILED ENGINEERING DESIGN

A. Irrigation Scheme Physical Survey and Design

1. The DOI with support from ADB is preparing the Sustainable Rural Infrastructure and Watershed Management Project. The Project sites for this project will be the watershed of approved irrigation schemes. The attached terms of reference is for the development of a preliminary design, bill of quantity and cost estimate for the modernisation of subproject (******) to be completed by PAFO – irrigation section of ***** province.

B. Approach

2. Farmer participation and involvement at all stages of the survey and design activities is required with the modernisation of the above irrigation scheme. Consultation with the village and WUG leaders on the scheme history, past performance and past or ongoing issues will be the basis on which the design will be assessed. At all stages of the design the involvement of WUG member farmers will ensure that their needs i.e., demand for water will first inform and then dictate the design choices with respect to supply canals, crossings and water control systems. This input is both necessary and mandatory if the design is to be accepted by the LIC and PGT consultants as such evidence of this involvement will be required.

3. Agreement between the WUG / WUA and the Project is to be signed at the completion of the design and is to form part of the overall Scheme Agreement with the WUA for the modernisation, on-going development, protection and maintenance of their irrigation scheme and watershed on which it is reliant.

C. Survey Protocols

- (i) A focal point will be established in each irrigation scheme through which all works are to be coordinated.
- (ii) All survey and design field work is to be arranged through the focal point or a delegated representative with advance notice being provided for the planned activities
- (iii) The details of each visit and the work undertaken are to be recorded in the scheme register (log) to be maintained by the focal point, at the time of each visit.
- (iv) All survey and design activities are to be conducted in compliance with accepted Lao PDR technical standards unless superseded by specific Project requirements
- (v) All survey and design activities are to be conducted in a professional manner at all times
- (vi) All outputs and survey data sets are public information and copies will be transferred to the ADB consultants prior to completion.

D. Survey Activities

1. Hydrological assessment

4. Prior to any design costs being incurred the PAFO will conduct a **hydrological assessment for the subproject** of (1) the water availability for the irrigation scheme and (2) including flood levels including the identification of normal and exception events, and (3) monthly forecasts of river flow at each headwork in the subproject for the entire year.

- (i) Evaluate the available water resources for diversion into the irrigation scheme taking due account of the natural stream flows (to be estimated or gauged using flow meters as necessary) and the upstream and downstream irrigation scheme existing seasonal water requirements and other water requirements for environmental and in-stream value uses. The water availability throughout the year should be assessed on a monthly basis and a minimum environmental flow of 10% the average monthly flow is to be assumed within the design process.
- (ii) For the flood levels and flows, the max water levels, flooded areas and flow pathways as observed by the farmers at the headworks (or other accessible site) should be noted. Special attention should be made of where water which overtops or passes around the headworks during high floods re-enter the main channel. The peak flows on site should be evaluated using the slope/area method once the topographic survey of the headworks site (or at the other accessible site) have been completed.

For all subprojects a simple staff gauge plate at the headworks or in a stable river section from which on-going monitoring of the water levels (and after rating, the flows) can be undertaken by the WUG – no works contracting will be approved without the staff gauge data for at least one entire dry season being no less than fortnightly records for the period from November to May. PAFO will provide instruction and training with the WUG members to monitor the staff gauge.

- (iii) PAFO (DG) will submit to the Provincial Steering Committee for review each subproject hydrological assessment prior to initiating the design process. During this time PONRE will be formally required to ratify the assessment and the Vice Governor will in his role of chairperson approve the movement into the design process.
- (iv) On completion of the detailed design, but prior to submitting the design for approval, the PAFO DG shall submit to the provincial steering committee a hydrological report based on forecast flow rates, measured or observed flow rates (defined by staff gauge record of at least fortnightly recording) for the entire dry season being no less than November to May, and the expected water drawoff assumed for the design. This report will be reviewed by PONRE and will need to be formally ratified by the Steering Committee prior to the detailed design report being submitted for review and approval. For instances where the residual flow is equivalent to or less than 10% of the monthly low flow no approval is to be allowed.

E. Design Process and Terms of Reference

- (i) Pre-survey assessments to include:
 - Collation and check of design documents for existing scheme
 - Understanding of irrigation schemes and water use upstream and downstream from existing scheme – all schemes within the same watershed will be identified and documented in terms of location, village name, command area and water use
- (ii) Surveys to include
 - Orientation / walkthrough of existing scheme and any proposed extension area

- An inventory of the physical condition of existing infrastructure at the time of the walk through
- Hydrological assessment
 - Water availability for irrigation
 - Flood levels and flows
- Topographic survey
 - Existing infrastructure
 - Command area boundaries, wet season and dry season
- Existing water delivery efficiency assessment at defined points in the scheme main canals, secondary canals
- Undertake an **orientation / walkthrough survey** of the entire existing irrigation scheme confirming on a map the location of the existing layout of all infrastructure (including headworks, canals, drains, crossings, structures both from original construction, subsequent farmer or other development) as well as in the areas proposed for extension. Note carefully the existing field turnouts (structures, pipes or otherwise) and seek comment from farmers on their use and the need for additional outlets or adjustments. Also note on the maps the water flow directions (from farmer observations/ discussions) in the command areas

5. During the **orientation survey** or subsequently, undertake a rigorous physical inspection and assessment of the scheme infrastructure noting (1) dimensions and type of materials (eg canal lining), (2) present condition (3) if failed, the reasons for failure, (4) the works required to bring the infrastructure to a fully operational condition including options / recommendations for ensuring failure will not reoccur and (5) additional infrastructure requirements based on farmer and own assessments to enhance scheme operation. All infrastructure should be marked up clearly on maps and summarised on a spreadsheet. In parallel with this survey, if possible where canals are operational, the **water delivery efficiency survey** may be conducted to assess present canal flow capacities, canal leakages and areas of water use (see item e) below).

6. Undertake a **topographic survey** for the (1) existing irrigation scheme infrastructure (2) existing command area and (3) future (proposed) command area. Permanent bench marks are to be established at the headworks and along the main canal at distances not exceeding 2 km. All levelling to be undertaken at +/- 0.01m accuracy.

7. Surveys are to be presented on CAD maps and drawings at appropriate scales to clearly show the existing layouts, profiles and sections of the irrigation scheme and in sufficient detail and clarity for use in the preparation of the detailed designs.

- (i) The existing infrastructure includes the headworks, main canals, drains, structures and associated infrastructure (eg access roads, livestock crossing, super passages, culverts, etc).
 - (a) For the **headworks**, the channel should be surveyed (dimensions and levels) for a distance of 100m upstream and 100m downstream from the existing weir or from the proposed weir alignment. In addition, the areas

- subject to flooding and flood flow pathways around the headworks structure should also be surveyed.
- (b) For the **main canals and drains**, levels are to be taken at not greater than 50m distances, noting the top of bank levels (left and right) and bed invert levels.
 - (c) For **control structures**, invert levels are to be recorded.
 - (d) For **associated infrastructure**, an appropriate no. of levels should be obtained to facilitate its improvement.
- (ii) The existing command area includes the lower order canals and drains, field structures (or sites of water division, etc.), field levels and other associated infrastructure.
- (a) For lower order canals and drains, levels are to be taken on the top of bank (bund), bed invert levels and adjacent paddy field levels (both sides)
 - (b) For control structures sites, invert levels are to be recorded.
 - (c) For associated infrastructure, an appropriate no. of levels should be obtained to facilitate its improvement.
 - (d) For the fields, where the water distribution is clearly understood by the farmers, then minimal or no additional survey is required. However if the water distribution is not clearly understood, then levels at sufficient points should be taken to define the contours and slopes of the command area – typically where differences in relief are between 0.25 and 0.5 m.
- (iii) The proposed command area includes taking levels of the fields to which water is to be supplied and other associated infrastructure.
- (a) For the fields, sufficient levels should be taken to define the contours and slopes of the new command area – typically where differences in relief are between 0.25 and 0,5 m
 - (b) For existing drains, levels should be taken at on the top of bank (bund), bed invert levels and adjacent paddy field levels (on both sides).
 - (c) For associated infrastructure, an appropriate no. of levels should be obtained to facilitate its improvement.
 - (d) For adjacent areas outside the proposed command area that may be able to utilise return water from collectors or main drains through the use of small pumps that are interested in being part of the irrigation scheme, a sufficient no. of levels should be taken to facilitate system design and associated infrastructure

8. Where it is possible to operate the canals, undertake a **water delivery efficiency assessment** which involves operating the irrigation scheme in its present condition and assessing (1) the canal flows at head of canal and at each offtake from the main canal to the secondary canals or direct field outlets; (2) the flows at each outlet from the secondary canals or direct field outlets and (3) noting the areas of the fields able to be served. Based on this data the delivery efficiency of the scheme can be determined by estimating the flow per unit area which is then the baseline against which the improvements can be compared.

F. Design Activities

9. The irrigation scheme modernisation design includes:

- (i) Confirming that water is able to reach the existing and proposed command areas (assuming critical ground levels and delivery structure head losses, from topographic survey)
- (ii) Assessing the seasonal water demand (wet season rice / proposed dry season crops) as discussed with farmers and Project advisors.
- (iii) Confirming water availability from the river (taking due regard for other users and ecological demands) to meet the seasonal cropping demands (assuming appropriate efficiencies as per modernisation infrastructure options)
- (iv) Use of the proposed water demand and waters scheduling specification as the basic water demand requirement to be served by the design team. Failure to provide evidence that the level of water scheduling required will be achieved will result in no payments for the design provided until this is rectified
- (v) Undertaking upgrade / new design of headwork (if necessary) by adopting the type and configuration of structure with hydraulic and structural sizing in accordance with the flood hydrology, sediment loads, diversion requirements and channel topography. Consideration of the inclusion of a facility for fish passage is also a requirement.
- (vi) Undertaking hydraulic and structural design improvements for the main canal(s) to meet the water demands and sustainability requirements as identified in the field surveys (involves addressing critical sections identified with high failure / maintenance risk)
- (vii) Undertaking hydraulic and structural design improvements for secondary and tertiary distribution (canals or pipes) as per design agreement with the WUG and the water demand
- (viii) Preparing the sizing and layouts for the field channels / pipes (for sprinklers, drip or hand held hoses) and drains for the delivery of water to the fields (to be constructed / procured by the farmers themselves as per Project procedures)
- (ix) Preparing a draft operations and maintenance plan for the irrigation scheme containing the assumptions used in the modernised designs on (1) how it is to be operated and (2) the forecast routine maintenance requirements ie. the work quantities, estimates (labour and costs) and schedules to maintain the scheme in fully operational condition once upgraded.

10. Note: The design of the distribution system is to follow a fully participatory and iterative process with the farmers to ensure it meets their water use requirements as well as incorporates some flexibility to meet changing future demands. The cropping patterns, areas for promotion of dry season high value crops (HVC) to maximise water use and production, and the technologies to be adopted in the designs will be determined in discussions between the farmers, the designers and the Project advisors. The final scheme designs should also balance the capital investment with the on-going maintenance requirements after works completion.

11. The designs are to be presented on CAD maps and drawings at appropriate scales to clearly show the improved layouts, profiles and sections of the irrigation scheme and in sufficient detail and clarity for use in the construction and implementation of the works.

12. A design report which contains the design details, assumptions, calculations and recommendations and the draft agreement between the WUG/WUA and the Project to the design, is to be submitted for peer review. Also to be submitted are the draft bills of quantities and tender documents based on the agreed procurement arrangements for the Project.

13. The design report once approved or ratified by the WUG/WUA shall be completed with the additional of a bill of quantities, cost estimate and indicative procurement packaging.

ANNEX 4: SUBPROJECT PLANNING AND MONITORING TEMPLATE

The following template is provided as the basis for annual work planning and seeks to provide the guidance for establishing realistic elapsed time requirements for each subproject development step and that these are captured in the annual work planning.

The template should be reviewed at start up and additional steps included as required.

[illegible]

ANNEX 5: TABLE OF CONTENTS FOR DESIGN FEASIBILITY REPORT

- I. INTRODUCTION
 - A. Background
 - B. Catchment description
- II. SOCIAL CONTEXT
 - A. Population Demographics
 - B. Poverty and wellbeing measures
 - C. Physical infrastructure
- III. SUBPROJECT DESCRIPTION
 - A. Description of proposed subproject
 - B. Proposed outputs
- IV. DUE DILIGENCE
 - A. Climate
 - B. Hydrological assessment
 - C. Crop-market Assessment
 - D. Crop Water Demand
 - E. Water Scheduling and Design performance requirement
 - F. Land use by cropping and irrigation season with and without project
 - G. Water User Groups and Associations and Willingness for Dry Season Irrigation
 - H. Gender Actions and Priorities
 - I. Fish passage requirement
- V. PROPOSED WORKS DESIGN STANDARDS
 - A. Headworks
 - B. Distribution canals
 - C. Other Assets
 - D. Water Use Efficiency Technology
 - E. Labor saving Technology
 - F. Operational Costs
 - G. Maintenance Costs
 - H. Bill of Quantities and Cost Estimate
 - I. Affordability
 - J. Sustainability
- VI. SAFEGUARDS
 - A. REMDF Provisions
 - B. LARP Findings and costs
 - C. EARF Provisions
 - D. IEE Findings
 - E. EMMP Requirements
- VII. FINANCIAL AND ECONOMIC ASSESMENT
 - A. Capital Costs
 - B. Operation and Maintenance Costs
 - C. Crop Budgets
 - D. Cropping pattern

- E. Incremental benefits from irrigation
- F. Financial Analysis – at crop and household level
- G. Economic Analysis – at Crop, household and Subproject level

VII Conclusion and Recommendation

ATTACHMENTS

- 1. SIA report
- 2. SESA, DMS and IOL
- 3. Detailed Calculation of hydrological assessment
- 4. CROPWAT output and detailed schedules
- 5. Irrigation Technology options – specification for WUE and Labor Saving Technology
- 6. Water User Group/Association Membership
- 7. WUA Design Approval
- 8. Market Assessment and output 1 costs
- 9. Detailed BOQ by major cost category
- 10. Detailed Engineering Drawings
- 11. DED approvals VG, PAFO, PWD, PONRE
- 12. LARP / DD report
- 13. IEE/DD report
- 14. EMMP
- 15. Financial and Economic Worksheets

ANNEX 6: CONSTRUCTION SUPERVISION GUIDELINES

A. Construction Management and Monitoring Guideline

1. General

1. Works quality and contractor performance are key contributors to the success of the irrigated agriculture especially during the dry season and the medium costs that will be incurred by water users to maintain and operate their schemes. The following guideline is to be applied during the implementation of construction contracts by the contractor and supervising personnel. It is prepared to support management of the construction contracts so that the works are completed in compliance with the technical specifications, environmental management plans and social safeguard requirements of the SRIWMP with completed irrigation schemes commissioned, handed-over and functioning as designed. Construction Supervision is to be undertaken by each Irrigation Section who will receive payment for the inputs to this activity as per the usual Government allowance schedules. All payments will be made in arrears once reports are filed, reports more than 10 days (2 working weeks) late shall receive no payment and two late reports in a row (or falsification of reports) will result in the allowances being withdrawn and a private contractor recruited. This will incur substantial delays and additional costs to be borne by the respective PAFO.

2. The guideline is not a technical manual as it is assumed that all parties to the contract and personnel assigned to undertake the various tasks and duties during implementation are appropriately qualified and experienced for executing their responsibilities and are trained in the procedures and requirements of the project before mobilising. Should assigned personnel not have the requisite experience then it is the duty of their superiors to provide the necessary support so as they are able to undertake their tasks in compliance with the required standards.

3. A national construction supervision consultant will provide mentoring and on-time supervision of the Provincial construction supervisors work and performance. Any shortfalls in inputs, quality of supervision or reporting will be raised with each Provincial Project Manager, Irrigation Section head and the Head of the PPIT. All such matters will be assigned to the project record and reported in both monthly and quarterly reports.

a. Meetings and Site Records

4. All formal meetings between the project and the contractor must be documented with minutes prepared. Copies are to be maintained by the project (PPIT) and by the contractor.

5. All site visits and inspections must be recorded in the site register (record book) which is to be maintained at every site (see Annex 1). Photographs, by mobile phone, must also be taken at all stages of construction especially during mandatory technical inspections and where any defective works, environmental or social issues are observed.

6. To facilitate implementation the contractor's representative assigned to attend meetings and site inspections must be authorized to make decisions on behalf of contractor on issues that are brought up during the meetings and inspections. Similarly, the assigned site supervisor(s) must be authorised to make timely decisions (in consultation with appropriate persons as necessary) on the day to day implementation issues.

b. Pre-construction meeting

7. A pre-construction meeting is to be held between the contractor and PPIT to review all aspects of the contract. Includes:

- (i) Scope of works
- (ii) Implementation schedules
- (iii) Assigned personnel (contractor and PPIT site supervisors), roles, responsibilities and coordination
- (iv) Labour and equipment – including camp locations, access and maintenance
- (v) Health and safety provisions and plans
- (vi) Works technical specifications and standards
- (vii) Environmental Management and Monitoring Plan (EMMP)
- (viii) Social safeguards compliance requirements (REGDF)
- (ix) Social standards, behaviour and gender actions
- (x) Quality control and quality assurance requirements (incl. mandatory inspections, materials traceability, testing, etc)
- (xi) Progress monitoring and reporting
- (xii) Contract variations
- (xiii) Completion, commissioning and handover
- (xiv) Defect liability
- (xv) Payment schedules
- (xvi) Disputes management procedures

c. On-site pre-construction meeting

8. Prior to the commencement of construction, meetings with the communities are to be held to discuss the implementation activities and programme. At this time the roles of the contractor, project personnel and communities are explained. The role of the community in assisting with monitoring the technical, environmental and social safeguards aspects is elaborated, emphasising the importance of ensuring quality standards are met as the assets are within the community and for which they are responsible for O&M after completion.

9. Attendees at the meeting must include (at least):

- (i) Project manager and site foreman of the contractor
- (ii) Assigned PAFO / DAFO construction site supervisor(s)
- (iii) Other representatives from Provincial Project Implementation Team (PPIT)
- (iv) Village leaders
- (v) Villagers – representatives from both beneficiaries and affected persons
- (vi) LIC personnel where specific technical, environmental or social safeguards aspects need to be addressed

10. The following items are to be discussed:

- (i) Introduction of implementation staff, responsibilities and coordination
 - Contractor and his staff. (i.e Contractor Representative(s), Project Manager, Site Supervisor(s), labors)
 - PPIT and assigned PAFO / DAFO site supervisor(s)
 - Village liaison person(s) – appointed by villagers
 - LIC personnel supporting scheme development

- (ii) Work description and time schedule
 - The works to be undertaken with special attention paid to site access, workers camp, machine / materials site, proposed sources for materials and other aspects likely to impact on the village eg road use, site safety, etc
 - The construction time schedule and works sequencing
- (iii) Technical, Environmental and Social Safeguards aspects
 - The technical standards / quality control / quality assurance procedures
 - The EMMP
 - The social safeguards aspects with compliance with land settlement confirmed from subproject LARP or DDR
 - The grievance procedures with confirmation from villagers that they are understood
 - Monitoring and recording of works progress and compliance with technical, environmental and social standards. The on-site works register to be maintained and completed on a daily basis by on-site staff and during all visits / inspections
 - Recording and reporting of grievances or other concerns of individuals or community, including procedures for recording complaints (verbal or written) and confidential meeting requests

d. Works supervision

11. Under SRIWMP, the role of the construction site supervisor is paramount. He or she must not only work in close liaison with the contractor on technical aspects but also will assume overall responsibility for day to day monitoring of the environmental and social safeguards applicable to the scheme. This will involve familiarising himself / herself with the scope of works, conditions of contract, technical specifications, environmental management and monitoring plan (EMMP), social safeguards requirements (LARP / DDR), and Gender Action Plan (GAP) for the scheme prior to commencement of the works and then liaising closely with the contractor and communities to check and report compliance during implementation. Check lists for regular recording of site observations are attached (Annexes 2 – 4). The construction supervisor will also need to work closely with the PGT External Monitor for Social Safeguards on a no-decline request basis.

12. In addition to the assigned site supervisor who is responsible for the day to day supervision and quality control, the works will be inspected at least twice per month during the construction period by a senior engineer / supervisor from the PPIT who will provide quality assurance assessments. These checks are to ensure the day to day monitoring, reporting and follow-up of issues are being undertaken, technical standards are being met (test reports inspected), environmental and social safeguards are being complied with and appropriate actions and mitigation are being undertaken in a timely manner. In addition spot inspections, measurements and audits of recorded quantities will be undertaken as will materials supply and delivery documents. All materials used on site must be legal and hence require traceability and proof of source.

13. These visits are to be a mix of unannounced and prearranged inspections with the inspector being accompanied by the site supervisor, contractor's representative, village liaison person (for at least the prearranged visits) and other villager representatives as necessary during the walkover surveys. The site record book which is to be kept at the project site at all times during

the construction period is inspected and countersigned by the senior engineer / supervisor. A quality assurance inspection visit should be scheduled immediately before the monthly PPIT meeting.

e. Monthly meeting

14. The PPIT will be fully briefed on works progress with decisions on actions to address any outstanding issues taken at the monthly project meeting. Where matters are in dispute, both the project site supervisor and the contractor (or contractor's representative) are to be given the opportunity to present their views. This meeting is also the forum at which changes and variation orders are presented and ratified.

15. The items to be discussed with respect to the works contract are:

- (i) Time schedule
 - Progress and revision of the time schedule if necessary
- (ii) Quality and quantity control.
 - Checks of quality and quantity test results and documents
 - Findings from spot audits
 - General observations of site management and environment
- (iii) Problems encountered
 - Reported issues and actions taken / yet to be taken
 - Other observed issues or issues raised by villagers during visit
 - Actions to be taken to resolve reported or observed issues
- (iv) Variation orders and changes during the month
 - Ratification of changes and variation orders that have been issued
 - Discussion and decisions on new or pending issues
- (v) Payments
 - Approval of payment request documents (The payment requests to be prepared by the contractor as per supporting documents confirmed by site supervisor and certified by senior inspector)
- (vi) Planned work activities in next month

16. Use of photos to illustrate points discussed during the meeting is important to ensure clear understanding by all participants.

f. Contract Variations

17. Variation orders are required where additions or deductions to the works quantities, changes in specified materials or adjustments in technical methods increase or decrease the contract sum. During the course of the construction, the site supervisor (in consultation with the design engineer, senior supervisor or LIC technical advisor as appropriate) may instruct the contractor to make any necessary variation of the quantity, quality or form of the works described in the specifications and/or shown on the drawings without invalidating the contract. This instruction will be done in writing as a Variation Order.

18. Note: As per Lao regulations, Variation Orders are not permitted to exceed 15 % of the total original contract value. A standard physical contingency of 10% of original contract sum should be included within the contract under the SRIWMP which can be utilised for Variation

Orders to facilitate changes to this level without the need to seeking approval for a revised budget which often leads to delays.

19. Variations are most commonly applied to increase or decrease of quantities already included in the Bill of Quantity. The PPIT may approve a twenty percent (20%) increase or decrease in an item of work without entitling the contractor to claim an adjustment in item rates. The site supervisor must provide justification for additional work with the request certified by the senior engineer / supervisor. Comments and recommendations, if any, with respect these variations must be retained in the contract file.

20. For variations exceeding 20% of listed quantities or when introducing items not included in the Bill of Quantities, the contractor has the right to request an increase or decrease in the current contract unit price and to negotiate the unit price for new items, As for all variations, the site supervisor must provide justification for the additional works with the request certified by the senior engineer / supervisor and comments and recommendations, if any, with respect these variations must be retained in the contract file.

21. A copy of all approved variations should be provided to the contract file in the PPIT and at PGT- DoI. Where there are increases in the contract sum, the revised contract sum must be updated on the Provincial Contract Register and advised to ADB to adjust the PCSS.

g. Filing system

22. A copy of the contract drawings, specifications and bills of quantities is to be kept on site along with the site register (record book) at all times for reference by the contractor and site supervisor. In addition, copies of the technical, environmental and social safeguard check lists are to be on site for completion during inspections. On completion of inspections, digital copies are to be made of the completed site forms and sent to the PPIT for review by the senior engineer / supervisor before filing in the main contract file held in the project office.

23. The following filing structure is recommended:

- (i) Contract documents
- (ii) Letter of Acceptance, Contract Agreement, Bank Guarantees, Contractor's Workplan etc.
- (iii) Payment documents
 - Payment requests and payment certificates
 - Handing-over inspection forms, defects liability inspection forms
 - Letters to and from the contractor
 - Minutes of meetings
- (iv) Materials testing results
- (v) Site records (copies of register and check-lists)
- (vi) Photographs

h. Works completion inspection

24. The contractor is to advise the PPIT in writing when the construction works are completed and the irrigation system (or other infrastructure) is ready for commissioning. Within seven calendar days of receiving notice the PPIT will arrange a "contract works completion inspection" involving the contractor, site supervisor and appropriate technical specialists (i.e. civil, bridge,

road engineers, etc) as necessary. Village representatives will also be invited to accompany the inspection team.

25. This inspection shall involve:

- (i) Walk-over visual inspection of the works, and
- (ii) Check of supporting documents (site register, test reports, materials verification statements, etc) submitted to confirm that the works fulfil the contract requirements

26. Any works found to be outstanding, areas where additional works are considered necessary and / or any defects identified are to be noted.

27. If the PPIT inspection team and the contractor agree that the works are completed (save for the minor pending or additional works noted), and there is no reason to prevent the infrastructure being used for the intended purpose, then the PPIT inspection team will recommend that Contract Works Completion Certificate be issued. The defects liability period (normally 12 months) will commence from the date of issue of this Certificate. A list of the outstanding works which must be completed during the defects liability period is agreed with the contractor. During the defects liability period, the Contractor also remains responsible for maintaining the works and therefore a maintenance schedule should also be agreed.

28. At this stage typically up to 80 to 90% payment of Contract Sum is made to the contractor, depending on the payment schedule agreed in the Contract.

i. **Commissioning**

29. During the defects liability period and before final acceptance (and final payment), the infrastructure must be commissioned. For an irrigation scheme this requires testing the entire system at the design full supply level (FSL) to confirm that all infrastructure is functioning as designed and water is able to be effectively managed to reach (or shown to have the potential to reach) every field within the command area. Water must be able to be provided at the correct flow rate at every outlet under a rotational water management schedule for dry season irrigation. Commissioning tests must therefore take place in the dry season or under conditions which simulate expected dry season operational requirements. Testing during the wet season based on simulating wet season operation is NOT acceptable.

30. The commissioning must be organised by the contractor assisted by the PPIT water management staff and the water users. The PPIT must prepare an appropriate irrigation schedule to be followed and advise the farmers in advance to participate in witnessing the event. Testing should be of sufficient duration to identify any infrastructure and/or management issue. Any issues identified must be clearly recorded, remedial actions determined and appropriately addressed by the contractor (if deemed his responsibility) or by the PPIT (if deemed project responsibility). In either case, the Final Completion Certificate (and final payment) can only be issued once all defects are rectified and scheme commissioned.

31. It is important to note that under SRIWMP, final acceptance and final contract payment is only made once the irrigation system is proven to be fully functioning with all water users can receive water as per the design.

j. Final inspection

32. This final inspection is carried out at the end of the defects liability period once all defects have been reported as rectified by the Contractor and commissioning is completed. As for the contract works completion inspection, within seven calendar days of receiving notice the PPIT will arrange a final inspection involving the contractor, site supervisor and appropriate technical specialists (i.e. civil, bridge, road engineers, etc) as necessary. Village representatives will also be invited to accompany the inspection team.

33. This inspection will undertake a walk-over visual inspection of the rectified works, and again check supporting documents submitted to confirm that the works fulfil the contract requirements.

34. If the PPIT inspection team and the contractor agree that the works are completed and in the case of the irrigation scheme it is fully operational, then the PPIT inspection team will recommend that Final Completion Certificate be issued. At this stage the balance contract amount and any retention monies will be paid and infrastructure handed over to the agency or organisation responsible for its ongoing O&M.

35. If during final inspection it is demonstrated that any of the affected households who has voluntarily released land and assets to the project do not receive the designed level of irrigation water, these AHHs are notified that they may be adversely affected and the land and assets released by them may be eligible for compensated and as such they still have access to the GRM within the REGDF. If households trigger the GRM a corrective action plan will be developed by the PPIT and submitted to the ADB for approval.

k. Sub-project handover

36. After the Final Completion Certificate is issued, responsibility for the O&M of the irrigation and associated infrastructure constructed under the sub-project is formally “handed over” to the respective WUG / WUA. At this stage a ceremony will be conducted to formalise the event.

37. However, the “hand-over” process actually starts 12 months earlier once the construction is completed and the scheme can be operated. It continues during the commissioning phase when water users participate in the testing and by the end of the first year they will have observed and be familiar with its operation. During this year the WUG/WUA will be also established (if not already organised) and strengthened with the project providing training to develop its management capacity. With the contractor responsible for organising and undertaking the maintenance in the first year, by working with the WUG/WUA, the water users will gain an appreciation of what these activities involve. It is imperative that the project facilitates close cooperation between the contractor and the water users throughout this first year to ensure the WUG/WUA has a good understanding and appreciation of scheme operation and maintenance at the time of formal handover.

38. It is generally accepted that it takes three years of experience after construction for farmer managed irrigation schemes to become fully operational. Therefore even though the WUG/WUA will have had a full year of familiarisation before formal handover, the support throughout the second and third years which is planned by the project is very important for the sustainability of the scheme.

Annex 1: Construction Site Register (Record book):

Prepared: 12 Oct 2018

A **construction site register** is an A4 hard bound notebook with numbered pages that remains on site along with the construction drawings, contract specifications, BoQs and other site documents. It is to be used as follows:

- A **daily** record of work progress, i.e. work completed, staff working on site (male /female) and materials used. To be signed by foreman each day, and
- A record of each **inspection** by the assigned District / Province Site Supervisor(s) and other persons associated with the construction inspection / supervision

For each inspection, the original page(s) is to be retained in the site book with a copy (either carbon or digital) to be taken by the person visiting/ writing the report. The book is to be handed over by Contractor to the Engineer to the Contract (PPIT) at Contract Works Completion

Note: The copy of the inspection report is to be retained by the reporter with a further copy provided to the responsible site supervisor (if not the reporter) plus another given to the PPIT. Where variations or use of contingency funds are required, the report is to be immediately submitted to the Engineer to the Contract (PPIT) for NOC.

Topics / Headings for Inspection Report:

1. Date and time of inspection

2. Persons participating in inspection

- Names and positions and tel nos.

3. Purpose of visit / inspection

Specific for inspection of construction/ infrastructure – specific item / stage of construction (Note whether it is a mandatory inspection i.e. condition for payment or not), or

- General visit to village for patrolling, or other activity, etc

4. Infrastructure Site observations

- Activities reported as completed / in progress since last inspection (check earlier records)
- Activities / items inspected / checked
- Quality of activities executed / deficiencies observed
- Quality of items / materials used, compliance with specifications, documentation,
- General observations of site including contractor's staff (nos. male/female), safety, etc
- Compliance with Environmental Management and Monitoring Plans (use checklist provided)
- Compliance with Social Safeguards requirements (use checklist provided)

5. Discussions and agreements

- Technical points discussed / recommendations / instructions made verbally on site
- Agreements reached / variations or use of contingencies required
- Activities / structures accepted (especially mandatory items)
- Environmental aspects discussed / recommendations / instructions given
- Social safeguards aspects discussed / recommendations / instructions given
- Photos taken – of what and by whom

6. Follow-up items

- List of items / actions to be followed up, by whom and by when
 1. (Note: Details to be very specific for any contract variations / use of contingencies)

7. Signatures

- District / province site supervisor or other visitor (person preparing report), and
- Contractor's site representative

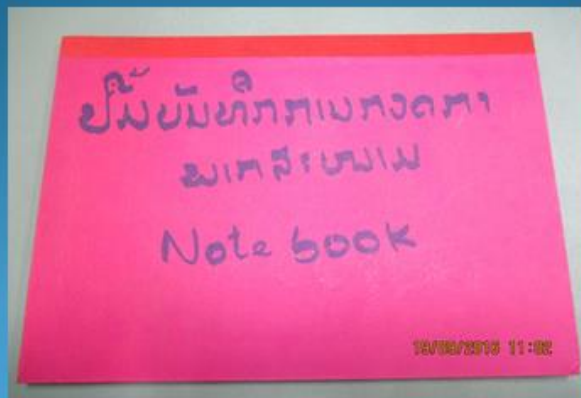
ວຽກກວດກາພາກສະໜາມ Site Inspection works

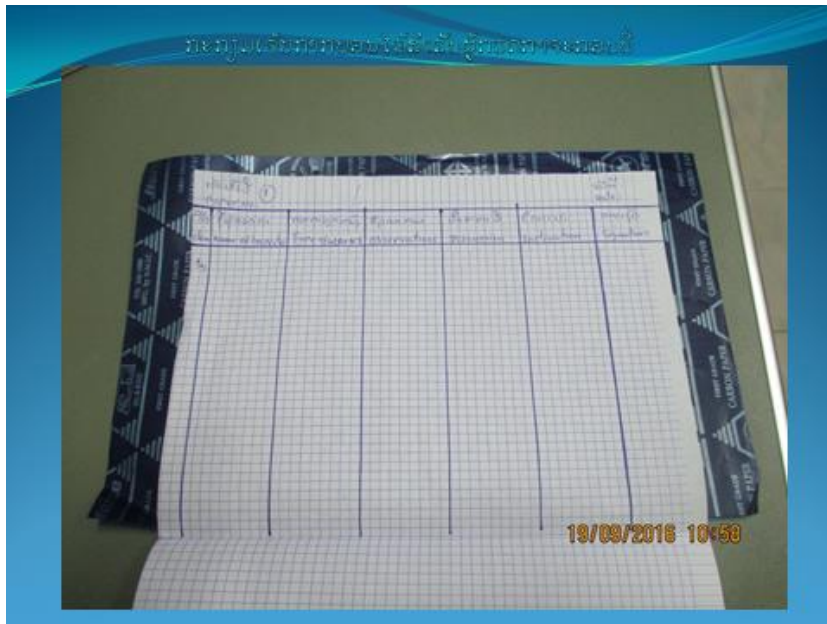
- ບໍລິສັດ ຜູ້ຮັບເໝົາຈະຕ້ອງປະຕິບັດລະບຽບຫຼັກການຢ່າງເຂັ້ມງວດ
- ທຸກໆ ບໍລິສັດ ຜູ້ຮັບເໝົາ ຈະຕ້ອງໄດ້ເຮັດ ປຶ້ມຕະດຕາມສະໜາມໜຶ່ງຫຼວງ ພ້ອມດ້ວຍເຈ້ຍ ກາກບ່ອນ ເພື່ອເອົາໄວ້ບັນທຶກ ຜູ້ທີມາກວດກາສະໜາມ ເພື່ອຂຽນຄຳເຫັນຕ່າງໆ ພ້ອມລົງລາຍເຊັນ.
- ປຶ້ມດັ່ງກ່າວ ແມ່ນຈະຖືກຮັກສາໄວ້ ໂດຍວິຊາການ ຂອງບໍລິສັດ ໃນສະໜາມ

ໝາຍເຫດ: ຈຳເປັນຕ້ອງມີ ທຸກໆໂຄງການ

ຮູບລັກຊະນະຂອງປຶ້ມ

ຈະຕ້ອງແມ່ນປຶ້ມກາບແຂງ ແລະຂະໜາດເທົ່າກັບເຈ້ຍ A4
ເປັນປຶ້ມບັນທຶກການກວດກາພາກສະໜາມ / Note book on site





Annex 2:**Technical Monitoring**

Prepared 12 Oct 2018

To be used during construction phase of the sub-project

Sub-Project Name:

Village:

Construction Phase Technical Monitoring – Observations (give details)									
		Location and dates							
No.	Activity to check	L:							
		D:							
I	Headworks								
1	Progress since last inspection (overall % completed)								
2	Foundations - - Depths - Soils (mandatory inspection / approval before placing steel / concrete work)								
3	Reinforcing Steel - Sizing - Quantity - Placing (mandatory inspection / approval before concrete work)								
4	Concrete - Formwork - Cement - Aggregates - Sand - Quality (test?) (mandatory inspection / approval at early stage of infrastructure)								
5	Pipes - Sizes - Quality - Installation								
6	Other site observation: - Embankments - Compaction - Rock/.riprap (Note items for special attention)								
II	Canals								

Construction Phase Technical Monitoring – Observations <i>(give details)</i>									
		Location and dates							
No.	Activity to check	L:							
		D:							
1	Progress since last inspection <i>(overall % completed)</i>								
2	Excavation/ Foundations - - Depths - Soils - Slopes (RLs) <i>(mandatory inspection / approval before placing steel / concrete work)</i>								
3	Embankments: - Compaction - Slopes - Rock/.riprap <i>(Note items for special attention)</i>								
4	Reinforcing Steel - Sizing - Quantity - Placing <i>(mandatory inspection / approval before concrete work)</i>								
5	Concrete - Formwork - Cement - Aggregates - Sand - Quality (test?) <i>(mandatory inspection / approval at early stage of construction)</i>								
6	Structures / Pipes - Locations - Sizes - Quality - Installation (RLs)								
7	General site observation: <i>(Note items for special attention)</i>								
III	Roads								

Construction Phase Technical Monitoring – Observations <i>(give details)</i>									
No.	Activity to check	Location and dates							
		L:							
		D:							
1	Progress since last inspection <i>(overall % completed)</i>								
2	Excavation/ Foundations - - Depths - Soils - Slopes (RLs) <i>(mandatory inspection / approval before filling / placing running surface)</i>								
3	Base / running surface: - Compaction - Depths - Slopes <i>(Note items for special attention)</i>								
4	Culverts - Locations - Sizes - Quality - Installation (RLs) <i>(mandatory foundations inspection / approval before pipe laying / concrete work)</i>								
5	Road side drains - Depths - Soils - Slopes (RLs) - Protection <i>(mandatory inspection of excavation / approval before placing protection)</i>								
6	General site observation: <i>(Note items for special attention)</i>								
IV	Structures eg bridges, buildings								

Construction Phase Technical Monitoring – Observations <i>(give details)</i>									
		Location and dates							
No.	Activity to check	L:							
		D:							
1	Progress since last inspection <i>(overall % completed)</i>								
2	Foundations - - Depths - Soils <i>(mandatory inspection / approval before placing steel / concrete work)</i>								
3	Reinforcing Steel - Sizing - Quantity - Placing <i>(mandatory inspection / approval before concrete work)</i>								
4	Concrete - Formwork - Cement - Aggregates - Sand - Quality (test?) <i>(mandatory inspection / approval at early stage of infrastructure)</i>								
5	Structural steelwork - Sizes - Installation - Corrosion protection - Other								
6	Cladding - Quality - Installation								
7	Other site observation: - Earthworks - Rock/.riprap - Pipework - Site management <i>(Note items for special attention)</i>								

Annex 3:**Environmental Monitoring**

Prepared 12 Oct 2018

To be used during construction phase of the sub-project

Sub-Project Name:

Village:

Construction Phase Environmental Management and Monitoring – Observations (<i>give details</i>)									
No.	Potential Impact	Date							
1	Release of silt into water courses from excavations and earthworks								
2	Environmental damage of any form results from the poor understanding of sub-project requirements by the contractor								
3	Clearance of vegetation leads to the unnecessary removal of trees and other plants.								
4	Temporary closure of irrigation systems during construction.								
5	Disposal of soil from excavations such as irrigation canals.								
6	Release of dust into the atmosphere from excavations and other construction activities.								
7	Release of noxious gases into the atmosphere.								
8	Noise nuisance from construction activities.								

Construction Phase Environmental Management and Monitoring – Observations (<i>give details</i>)									
No.	Potential Impact	Date							
9	Temporary use of land for construction affects livelihoods or leaves it damaged.								
10	Influx of temporary labour disrupts local communities.								
11	Operation of construction machines affects both workers and local society.								
12	Pollution by hydrocarbons from construction plant.								
13	Pollution from construction site wastewater, from camps and other work sites.								
14	Pollution from solid waste materials.								
15	Injuries to workers and others.								
16	Disruption of cultural sites.								
17	Subsequent users may not fully understand how to manage the subproject works.								

Annex 4:
Checklist
Social Monitoring

Prepared 12 Oct 2018

To be used during construction phase of the sub-project

Sub-Project Name:

Village:

	Item	Results of Inspection / Monitoring							
	Date								
I	Consultation and Information Disclosure								
1	Grievance procedures explained / confirmed with villagers in required local languages (No. persons M/F/ethnicity)								
2	Meeting / public consultation on impacts on community assets eg land, access, trees, crops etc in required local languages (No. persons M/F/ethnicity and discussion details)								
3	Labors are aware of the grievance procedures, and have contact details of relevant grievance officers and contact persons with them to hand out to affected people								
4	Grievance process contact details are listed on subproject notice boards								
5	No. of grievance cases, either verbal or written, recorded and reported to PRC and PPIT (disaggregated by sex and ethnicity)								
II	Labor Employment								
1	Contractor is following Lao Labour Law (2013)								

	(Art 101). No child labor is allowed								
2	Village labor employed with AP, IP/EG and poor families given priority. Equal opportunity for M/F.								
3	Employment contract in place between Contractor / community or labors								
4	M/F receive equal pay for equal work								
5	All labors have received work safety training & safety equipment (eg. clothes, gloves, glasses, boots, helmet)								
6	Workplace is gender sensitive (eg. separate toilet facilities for M/F labors)								
7	All labors received training on HIV/AIDS and human trafficking								
III Land Acquisition and Resettlement									
1	All activity undertaken on private land, prior arrangement agreed (voluntary temporary land release) / compensated (permanent land acquisition) with land owner (eg camps, borrow pits, site access, etc)								
2	Notification of works to be given 2 months in advance of construction to affected community and HHs								

3	Work schedule and any impacts on normal HH and community activities will be consulted and agreed with HHs and community								
4	Any loss of access to HH, natural resources or community facilities will be minimized in consultation and agreement with the HHs, with alternative access facilitated when possible								
IV Social culture and security issues									
1	Community rules are respected by Contractor (eg. <i>traditional beliefs, sacred places, etc</i>)								
2	In case of relocation of tombs local reburial ceremonies are organised								
3	Any problem / conflicts between Contractor employees and community? (eg. <i>theft, violence, alcohol, drugs, prostitution, etc</i>)								

ANNEX 7: TERMS OF REFERENCE FOR INDEPENDENT PROJECT AUDIT OF PROJECT FINANCIAL STATEMENTS

A. Objective

1. The objective of the audit of the Project Financial Statement (PFS) is to enable the auditor to express a professional opinion on the financial position of [] project at the end of each fiscal year and of the funds received and expenditures for the accounting period ended mm/dd/yy, as reported by the PFS, [as well as an opinion on the Statement of Expenditures].
2. The project accounts (books of account) provide the basis for preparation of the PFS and are established to reflect the financial transactions in respect of the project, as maintained by the project implementing agency [].

B. Scope

3. The audit will be carried out in accordance with International Standards of Auditing and will include such tests and controls as the auditor considers necessary under the circumstances. In conducting the audit, special attention should be paid to the following:
 - (a) All external funds have been used in accordance with the conditions of the relevant financing agreement, with due attention to economy and efficiency, and only for the purposes for which the financing was provided. Relevant financing agreements are (----- --name of loan agreement);
 - (b) Counterpart funds have been provided and used in accordance with the relevant financing agreements, with due attention to economy and efficiency, and only for the purposes for which they were provided;
 - (c) Goods and services financed have been procured in accordance with the relevant financing agreements;
 - (d) All necessary supporting documents, records, and accounts have been kept in respect of all project ventures [including expenditures reported via SOEs or IAs]. Clear linkages should exist between the books of account and reports presented to the Bank.
 - (e) Where the project's advance account, PCU and PIU sub-accounts have been used, they have been maintained in accordance with the provisions of the relevant financing agreements.
 - (f) The project accounts have been prepared in accordance with consistently applied International Accounting Standards and give a true and fair view of the financial situation of the project at mm/dd/yy and of resources and expenditures for the year ended on that date.

C. Project Financial Statements

4. The Project Financial Statements should include:
 - (a) a Summary of Funds received, showing the ADB, project funds from other donors, and counterpart funds separately;
 - (b) a Summary of Expenditures shown under the main project headings and by main categories of expenditures, both for the current fiscal year and accumulated to date; and
 - (c) a Balance Sheet showing Accumulated Funds of the Project, bank balances, other assets of the project, and liabilities, if any.

5. As an annex to the Project Financial Statements, the auditor should prepare a reconciliation between the amounts shown as “received by the project from the ADB” and that shown as being disbursed by the Bank. As part of that reconciliation, the auditor should indicate the mechanism for the disbursement, i.e. project’s advance account, PCU and PIUs sub-accounts, Statements of Expenditures, or direct reimbursement.

D. Statements of Expenditures

6. In addition to the audit of the PFS, the auditor is required to audit all SOEs used as the basis for the submission of withdrawal applications. The auditor should apply such tests and controls as the auditor considers necessary under the circumstances. These expenditures should be carefully compared for project eligibility with the relevant financing agreements. Where ineligible expenditures are identified as having been included in withdrawal applications and reimbursed against, these should be separately noted by the auditor. Annexed to the Project Financial Statements should be a schedule listing individual SOE withdrawal applications by specific reference number and amount. The total withdrawals under the SOE procedure should be part of the overall reconciliation of Bank disbursements described above.

E. Advance Accounts

7. In conjunction with the audit of the Project Financial Statements, the auditor is also required to audit the activities of the project’s advance account and all sub-accounts associated with the Project. The advance accounts and all sub-accounts usually comprise

- (a) deposits and replenishments received from the Bank
- (b) payments substantiated by withdrawal applications
- (c) interest that may be earned from the balances and which belong to the borrower;
and
- (d) the remaining balances at the end of each fiscal year.

8. The auditor must form an opinion as to the degree of compliance with the ADB’s procedures and the balance of the advance account at year-end. The audit should examine the eligibility and correctness of financial transactions during the period under review and fund balances at the end of such a period, the operation and use of the advance account in accordance with the financing agreement, and the adequacy of internal controls for this type of disbursement mechanism.

9. For this project, the project advance accounts are referred to in [cite references] of the relevant financing agreements. Project advances account statements and the auditor’s report should be attached with the Project Financial Statements

F. Audit Opinion

10. Besides a primary opinion on the Project Financial Statements, the annual audit report of the Project Accounts should include a separate paragraph commenting on the accuracy and propriety of expenditures withdrawn under SOE procedures and the extent to which the Bank can rely on SOEs as a basis for loan disbursement. The financial statements, including the audit report, should be received by the Bank no later than [three to six] months after the end of the accounting period to which the audit refers. The auditor should submit the report to the borrower’s designated agent rather than to any staff member of the project entity. The agent should then promptly forward two copies of the audited accounts and report to the Bank.

G. Management Letter

11. In addition to the audit reports, the auditor will prepare a “management letter,” in which the auditor will:

- (a) give comments and observations on the accounting records, systems, and controls that were examined during the course of the audit;
- (b) identify specific deficiencies and areas of weakness in systems and controls and make recommendation for their improvement;
- (c) report on the degree of compliance of each of the financial covenants on the financing agreement and give comments, if any, on internal and external matters affecting such compliance;
- (d) communicate matters that have come to attention during the audit which might have a significant impact on the implementation of the project; and
- (e) bring to the borrower’s attention any other matters that the auditor considers pertinent.

H. General

12. The auditor should be given access to all legal documents, correspondence, and any other information associated with the project and deemed necessary by the auditor. Confirmation should also be obtained of amounts disbursed and outstanding at the Bank [and of amounts disbursed under [specify other donor, loan or grant, if any]. ADB Project Officer can assist in obtaining these confirmations.

13. It is highly desirable that the auditor become familiar with a copy of the ADB’s *Guidelines on Financial Governance and Management of Investment Projects Financed by the Asian Development Bank* (2002, as amended time to time),⁶¹ which summarizes the ADB’s financial reporting and auditing requirements. The auditor should also be familiar with the ADB’s *Loan Disbursement Handbook* (2012, as amended time to time).⁶²

⁶¹ Available at: http://www.adb.org/sites/default/files/pub/2002/guidelines_financial.pdf

⁶² Available at: <http://www.adb.org/sites/default/files/loan-disbursement-handbook.pdf>

TERMS OF REFERENCE FOR THE AUDIT OF PROVINCE XXX

A. Background

1. The (name of province) Provincial XXX is a state-owned enterprise (state company) responsible for the provision of water supply service in the province. Under Articles 153 and 216 of the Law on Enterprises (No. 11/NA, 9 November 2005), a state-owned enterprise shall recruit an independent auditor to verify the accuracy of information in the accounting records in accordance with the Law on Enterprise Accounting prior to the submission of its balance sheet and annual report to the shareholders at least once a year. These Terms of Reference (TOR) are issued in compliance with the requirements on independent audit under the existing law.

B. Objectives of the Audit

- To verify if the accounting records provide the correct basis in the preparation of the financial statements of the enterprise in compliance with the Law on Enterprise Accounting and generally accepted accounting principles;
- To determine if the enterprise maintains an adequate system of internal control and supporting documentation and records for its financial transactions; and
- To enable the auditor to express a professional opinion on whether the financial statements, comprising the balance sheet and related statement of income, present fairly in all material respects the financial position of the enterprise as of end of the fiscal year and its financial performance for the year then ended in accordance with Lao PDR and generally accepted accounting and financial reporting standards.

C. Preparation of Annual Financial Statements

- The enterprise is responsible for the preparation and fair presentation of these financial statements in accordance with Lao PDR and generally accepted accounting and financial reporting standards. This responsibility includes: designing, implementing and maintaining internal control relevant to the preparation and fair presentation of the financial statements that are free from material misstatements, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.
- The auditor's responsibility is to express an opinion on the financial statements based on his audit. He shall conduct his audit in accordance with Lao PDR and generally accepted standards on auditing. Those standards require that he comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatements. The audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risk of material misstatements of the financial statements, whether due to fraud or error. In making those risks assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design the audit procedures that are appropriate in the circumstances. The audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

D. Audit Scope

2. These TOR address the requirements for the audit of financial statements of the enterprise covering the period 1st January – 31st December of each year.

3. A draft audit report should be submitted by 15th April and a final signed audit report with certified statements by 30th April each year. The financial statements for the financial year will be made available by the enterprise no later than 15th February following the end of the financial year.

4. The audits should be carried out in accordance with International standards on auditing. In complying with audit standards, the auditor is expected to pay attention to the following matters:

- **Fraud and Corruption:** Consider the risks of material misstatements in the financial statements due to fraud. The auditor is required to identify and assess these risks (of material misstatement of the financial statements) due to fraud, obtain sufficient appropriate audit evidence about the assessed risks; and respond appropriately to identified or suspected fraud;
- **Laws and Regulations:** In designing and performing audit procedures, evaluating and reporting the results, consider that noncompliance by the enterprise with laws and regulations may materially affect the financial statements;
- **Governance:** Communicate audit matters of governance interest arising from the audit of financial statements with those charged with governance of an entity as required, and
- **Risks:** In order to reduce audit risk to an acceptable low level, determine the overall responses to assessed risks at the financial statement level, and design and perform further audit procedures to respond to assessed risks at the assertion level.

5. Sufficient audit evidence should be gathered to substantiate in all material respects the accuracy of financial statements. The audit report of the auditors should state if the audit was not in conformity with any of the above standards.

E. The Audit Report and Management Letter

1. Audit Report

6. The audit report, which shall be in Lao and English languages, should clearly indicate the auditor's opinion. This would include at least the following:

- An opening or introductory paragraph containing identification of the financial statements audited including the period covered;
- Statement of responsibility of the enterprise's management and referencing the accounting standards that were applied by the enterprise and indicate the effect of any deviations from those standards;
- Statement of responsibility of the auditor including a scope and methodology paragraph describing the nature of the audit, the audit standards that were applied and the work the auditor performed; and
- An opinion paragraph disclosing whether the financial statements and supporting schedules fairly present the financial condition and performance of the enterprise in all material respects for the audit period covered.

2. Management Letter

7. The auditor should submit a letter to the management, which shall be in Lao and English languages, at the completion of the audit. The topics/issues to be covered in the letter should include:

- Comments and observations on the accounting records, systems and controls that were examined during the course of the audit;
- Identification of specific deficiencies or areas of weakness in systems and controls, and make recommendations to improve the systems or eliminate the internal control weaknesses noted;
- Comments on previous audits' recommendations that have not been satisfactorily implemented; and
- Management comments/response to audit findings and recommendations.

F. Auditor Independence and Qualification

8. The auditor must be completely impartial and independent from all aspects of management or financial interests in the enterprise being audited. The auditor should not, during the period covered by the audit nor during the undertaking of the audit, be employed by, serve as director for, or have any financial or close business relationships with any management officer or director of the enterprise. The auditor should disclose any relationship that might possibly compromise his independence.

9. The auditor should be experienced in applying Lao PDR and generally accepted audit, accounting and financial reporting standards. The auditor must employ adequate staff with appropriate professional qualifications and suitable experience in Lao PDR and generally accepted audit, accounting and financial reporting standards.

10. Curriculum vitae (CVs) should be provided to the enterprise by the principal of the audit firm who would be responsible for signing the opinion, together with the CVs of managers, supervisors and key personnel proposed as part of the audit team. CVs should include details on audits carried out by the applicable staff, including ongoing assignments indicating capability and capacity to undertake the audit and experience in auditing financial statements compliant with Lao PDR and generally accepted accounting and financial reporting standards.

G. Access to Facilities and Documents

11. The auditor will have full and complete access at any time to all records and documents (including books of account, legal agreements, minutes of committee meetings, bank records, invoices and contracts etc.) and all employees of the enterprise. The auditor will have a right of access to banks and depositories, consultants, contractors and other persons or firms engaged by the management over the period under audit.

H. Auditor Experience & Qualification

12. The Auditor Firm should be registered, and have a practicing license from Lao Institute of Certified Public Accountants. The audit firm should have at least two full time partners, not less than 10 employees and have been in existence for not less than five (5) years.

13. The Key Team will comprise of at least:

- **Engagement Partner** with over 10 years audit experience
- An **Audit Manager** with over 5 years of audit experience;
- An **Audit Team Leader** with at least 3 yrs audit experience; and
- Sufficient **Assistant Auditors** with adequate experience & professional qualifications.

ANNEX 8: PROCUREMENT PLAN FOR LAO: SUSTAINABLE RURAL INFRASTRUCTURE AND WATERSHED MANAGEMENT SECTOR PROJECT

Basic Data		
Project Name: Sustainable Rural Infrastructure and Watershed Management Sector Project		
Project Number: 50236-002	Approval Number:	
Country: Lao People's Democratic Republic	Executing Agency: Ministry of Agriculture and Forestry (Department of Irrigation)	
Project Procurement Classification: B	Implementing Agency: Provincial Agriculture and Forestry Offices.	
Procurement Risk: Low to Moderate		
Project Financing Amount: \$51.46 million ADB Financing: - CoL Loan \$40 million - DRRF Grant \$5 million Cofinancing (ADB Administered): - EU Grant \$4.46 million Non-ADB Financing: GOL \$2.0 million –in-kind	Project Closing Date: 30 September 2027	
Date of First Procurement Plan <i>{loan/grant approval date}</i> :	Date of this Procurement Plan: 26 July 2019	
Procurement Plan Duration: 18 months	Advance contracting: Yes	eGP: No

A. Methods, Review and Procurement Plan

Except as the Asian Development Bank (ADB) may otherwise agree, the following methods shall apply to procurement of goods, works, nonconsulting services, and consulting services.

Procurement of Goods, Works and Nonconsulting Services	
Method	Comments
Open Competitive Bidding (OCB) for Works (nationally advertised). Prior review for the first round; post review (sample) thereafter.	DOI has a lot of institutional experience in the procurement of the proposed scale of works. Adequate numbers of national contractors able to qualify for the value of subprojects proposed. Full-time assigned government/contract staff assigned. Consulting services support.
Open Competitive Bidding for Goods (nationally advertised). Prior review for the first round; post review (sample) thereafter.	DOI has a lot of institutional experience in the procurement of vehicles and equipment. Several agents in Lao PDR experienced in the import of specialist equipment and materials.
Request for Quotation (RFQ – Shopping) for Works (nationally advertised). Prior review for the first round; post review (sample) thereafter.	Many experienced local contractors at this level. Shopping procedures are quick and suitable for small works.
Request for Quotation (RFQ - Shopping) for Goods (nationally advertised). Prior review for the first round; post review (sample) thereafter.	Vehicles and equipment expected to fall into this category. Several agents in Lao PDR can package vehicle contracts; refer experience on all ADB-funded projects.
Direct Contracting. Post review.	Small packages such as office furniture, etc., fall into this category.

Consulting Services and Capacity Building	
Method	Comments
Quality and Cost Based Selection (QCBS). Internationally advertised. Prior review.	Loan Implementation Consultant and development of investment master plan. International advertising required to acquire the necessary level of expertise.
Consultant Qualification Selection (CQS). Nationally advertised and through CMS. Prior review.	Baseline Survey and Social Impact Assessment. Advertising nationally and through CMS have been selected as there are several national companies in Lao PDR with a mix of international and national staff, with good experience of the country. This will also help build capacity in the domestic consulting industry.
Consultant Qualification Selection (CQS). Nationally advertised and through CMS. Prior review.	External Audit. Advertising nationally and through CMS. There are several reputable international accounting companies with offices in Vientiane.
Consultant Qualification Selection (CQS). Nationally advertised and through CMS. Prior review.	External/Independent Safeguard Monitoring. Advertising nationally and through CMS have been selected as there are several national companies in Lao PDR with a mix of international and national staff, with good experience of the country. This will also help build capacity in the domestic consulting industry.
Consultant Qualification Selection (CQS). Nationally advertised and through CMS. Prior review.	Translation Services. National advertising. There are several reputable, small companies specializing in translation services Vientiane Capital City.
Consultant Qualification Selection (CQS). Nationally advertised and through CMS. Prior review.	Watershed Management Master Plan. National advertising and through CMS. There will be several small packages.
Consultant Qualification Selection (CQS). Nationally advertised and through CMS. Prior review.	Catchment Studies. National advertising and through CMS. There will be two packages.
Competitive Selection. Prior review.	Project Start-up Specialists. Advertised through CMS to acquire the necessary level of expertise.
Direct Contracting. Prior review.	IT Support; Promoting Nutrition Sensitive Agriculture.

B. List of Active Procurement Packages (Contracts)

The following table lists goods, works, nonconsulting, and consulting services contracts for which the procurement activity is either ongoing or expected to commence within the procurement plan's duration.

Goods, Works, and Nonconsulting Services							
Package Number ¹	General Description	Estimated Value (\$)	Procurement Method	Review ²	Bidding Procedure ³	Advertisement Date ⁴	Comments ⁵
Output 1: Market- oriented agricultural production increased¹							
Output 2: Watershed ecological services protected²							

¹ \$1,900,000 in grants to be disbursed under this output during implementation from the sub-imprest account.

² \$180,000 for tea plantation and processing equipment to be disbursed during implementation from the sub-imprest account. Houaphan catchment land use change program disbursed from imprest account

Goods, Works, and Nonconsulting Services							
Package Number ¹	General Description	Estimated Value (\$)	Procurement Method	Review ²	Bidding Procedure ³	Advertisement Date ⁴	Comments ⁵
OP2-CW01	Upstream Check Dams and Road Construction Works, Ban Xouan (Xiangkhouang)	556,000	OCB	Prior	1S1E	IFB, Q3 2019	Harmonized Bidding Documents for Small Works. Nationally Advertised. Post-qualification. No advance contracting. No e-GP.
OP2-S01	Cattle Pilot Equipment	46,000	RFQ	Prior	1S1E	IFB, Q2 2020	Harmonized Bidding Documents Shopping (Goods). Internationally Advertised. Post-qualification. No advance contracting. No e-GP.
Output 3: Command area irrigation reliability improved							
OP3-CW01-HW/MC/SC	Modernization of the Nam Seng Irrigation Scheme: Headworks, Main Canals, SC and TC Canals (Louangphabang)	2,393,730	OCB	Prior	1S1E	IFB, Q4 2019	Harmonized Bidding Documents for Small Works. Nationally Advertised. Post-qualification. No advance contracting. No e-GP.
OP3-CW02	Modernization of the Nam Tong Irrigation Scheme (Xiangkhouang)	873,000	OCB	Prior	1S1E	IFB, Q4 2019	
OP3-CW03	Modernization of the Nam Pua Irrigation Scheme (Houaphan)	480,000	OCB	Prior	1S1E	IFB, Q4 2019	
OP3-CW04	Modernization of the Nam Phieng Irrigation Scheme (Xaignabouli)	860,000	OCB	Prior	1S1E	IFB, Q4 2019	
OP3-CW05	Bridge Construction Works, Nam Pua (Houaphan)	155,000	OCB	Prior	1S1E	IFB, Q4 2019	
Output 4: Nutrition awareness and facilities improved							
Improved Project Implementation							
OP5-S01	Supply of Vehicles and Motorcycles	1,020,000	OCB	Prior review first round; post review	1S1E	Q4 2019	Harmonized Bidding Documents for Small Works. Nationally

Goods, Works, and Nonconsulting Services							
Package Number ¹	General Description	Estimated Value (\$)	Procurement Method	Review ²	Bidding Procedure ³	Advertisement Date ⁴	Comments ⁵
				(sampling) thereafter.			Advertised. Post-qualification. No advance contracting. No e-GP.
OP5-S02	Office Refurbishment and Equipment (DOI, PAFOs)	1,142,000	OCB and RFQ	Prior review first round; post review (sampling) thereafter.	1S1E	Q1 2020	
OP5-S03	Software procurement M&E, Accounting, etc.) and associated equipment	162,000	OCB, RFQ, and DC	Prior review first round; post review (sampling) thereafter.	1S1E	Q1 2020	

Consulting Services							
Package Number	General Description	Estimated Value (\$)	Selection Method	Review ²	Type of Proposal ⁶	Advertisement Date	Comments ⁷
Improved Project Implementation							
OP5-CS01	Loan Implementation Consultant - DOI	3,200,000	QCBS	Prior	FTP	Q4 2019	Type: Firm. Assignment: International/National Prequalification: Yes Domestic preference: No Advance contracting: yes E-procurement: No 10-page proposal on approach and methodology plus CVs.
OP5-CS02	Loan Implementation Consultant –LPB	810,000	QCBS	Prior	STP	Q4 2019	Type: Firm. Assignment: National Prequalification: Yes Domestic preference: No Advance contracting: yes

Consulting Services							
Package Number	General Description	Estimated Value (\$)	Selection Method	Review ²	Type of Proposal ⁶	Advertisement Date	Comments ⁷
							E-procurement: No 10-page proposal on approach and methodology plus CVs.
OP5-CS03	Loan Implementation Consultant – Xiangkhouang	1,000,000	QCBS	Prior	STP	Q4 2019	Type: Firm. Assignment: National Prequalification: Yes Domestic preference: No Advance contracting: yes E-procurement: No 10-page proposal approach and methodology plus CVs.
OP5-CS04	Loan Implementation Consultant – Houaphan	550,000	QCBS	Prior	STP	Q4 2019	Type: Firm. Assignment: National Prequalification: Yes Domestic preference: No Advance contracting: yes E-procurement: No 10-page proposal approach and methodology plus CVs.
OP5-CS05	Loan Implementation Consultant – Xaignabouli	415,000	QCBS	Prior	STP	Q4 2019	Type: Firm. Assignment: National Prequalification: Yes

Consulting Services							
Package Number	General Description	Estimated Value (\$)	Selection Method	Review ²	Type of Proposal ⁶	Advertisement Date	Comments ⁷
							Domestic preference: No Advance contracting: yes E-procurement: No 10-page proposal approach and methodology plus CVs.
OP5-CS06	External/Independent Safeguard Monitoring	276,000	CQS	Prior	BTP	Q4 2019	Type: Firm.
OP5-CS07	Surveys: Social Impact Assessment and Resettlement	281,000	CQS	Prior	BTP	Q4 2019	Assignment: National Prequalification: Yes Domestic preference: No Advance contracting: yes E-procurement: No 10-page proposal approach and methodology plus CVs.
OP5-CS08	Translation Services	200,000	CQS	Prior	BTP	Q4 2019	Type: Firm. Assignment: International/National Prequalification: Yes Domestic preference: No Advance contracting: yes E-procurement: No
OP5-CB01	Watershed Master Plan	850,000 Multiple Packages	CQS	Prior	BTP	Q3 2020	Type: Firm.

Consulting Services							
Package Number	General Description	Estimated Value (\$)	Selection Method	Review ²	Type of Proposal ⁶	Advertisement Date	Comments ⁷
							Assignment: International/National Prequalification: Yes Domestic preference: No Advance contracting: No E-procurement: No
OP5-CS010	IT Support	108,000	DC	Prior	BTP	Q4 2019	Type: Firm. Assignment: National Prequalification: No Advance contracting: yes E-procurement: No
OP5-CS011/1	Project Management Start-up Specialist	273,000	Competitive Selection	Prior	BTP	Q3 2019	Type: Individual. Assignment: International Prequalification: No Domestic preference: No Advance contracting: yes E-procurement: No
OP5-CS011/2	Procurement Specialist Start-up Specialist	64,000	Competitive Selection	Prior	BTP	Q3 2019	Type: Individual. Assignment: National Prequalification: No Domestic preference: No Advance contracting: yes

Consulting Services							
Package Number	General Description	Estimated Value (\$)	Selection Method	Review ²	Type of Proposal ⁶	Advertisement Date	Comments ⁷
							E-procurement: No
OP5-CS012	External Audit	170,000	CQS	Prior	BTP	Q4 2019	Type: Firm. Assignment: National Prequalification: Yes Domestic preference: No Advance contracting: yes E-procurement: No
OP5-CB02	Catchment Study LPB	180,000	CQS	Prior	STP	Q4 2020	Type: Firm. Assignment: National Prequalification: Yes Domestic preference: No Advance contracting: yes E-procurement: No
OP5-CB03	Catchment Study XBY	180,000	CQS	Prior	STP	Q4 2020	Type: Firm. Assignment: National Prequalification: Yes Domestic preference: No Advance contracting: yes E-procurement: No

C. List of Indicative Packages (Contracts) Required under the Project

The following table lists goods, works, nonconsulting, and consulting services contracts for which the procurement activity is expected to commence beyond the procurement plan duration and over the life of the project (i.e. those expected beyond the current procurement plan's duration).

Goods, Works and Nonconsulting Services							
Package Number ¹	General Description	Estimated Value (\$)	Procurement Method	Review ²	Bidding Procedure ³	Comments ⁵	
Output 1: Market -oriented agricultural production increased							
Output 2: Watershed ecological services protected							
Output 3: Command area irrigation reliability improved							
Package Number ¹	General Description	Estimated Value (\$)	Procurement Method	Review ²	Bidding Procedure ³	Advertisement Date ⁴	Comments ⁵
OP3-CW06 and OP3-CW07 and OP3-CW08	Modernization of Additional Irrigation Schemes (3 No. Subprojects) in Louangphabang	1,672,000	OCB	Post (sampling)	1S1E	IFB, Q2 2021 through to Q4 2021	Harmonized Bidding Documents for Small Works. Nationally Advertised. Post-qualification. No advance contracting. No e-GP.
OP3-CW09, OP3-CW10 and OP3-CW11 and OP3-CW12	Modernization of Additional Irrigation Schemes (4 No. Subprojects) in Xiangkhouang	2,387,000	OCB	Post (sampling)	1S1E	IFB, Q2 2021 through to Q3 2022	
OP3-CW13, OP3-CW14 and OP3-CW15	Modernization of Additional Irrigation Schemes (3 No. Subprojects) in Houaphan	2,310,000	OCB	Post (sampling)	1S1E	IFB, Q2 2021 through to Q3 2022	
OP3-CW16, OP3-CW17 and OP3-CW18 And OP3-CW19	Modernization of Additional Irrigation Schemes (4 No. Subprojects) in Xaignabouli	2,106,000	OCB	Post (sampling)	1S1E	IFB, Q2 2021 through to Q3 2022	
Output 4: Nutrition awareness and facilities improved							
OP4-CW01	WASH Infrastructure: Houaphan	634,000	OCB	Post (sampling)	1S1E	IFB, Q2 2021	Harmonized Bidding Documents for Small Works. Nationally Advertised. Post-qualification. No advance contracting. No e-GP.
OP4-CW02	WASH Infrastructure: Xiangkhouang	634,000	OCB	Post (sampling)	1S1E	IFB, Q2 2021	
Improved Project Implementation							

Goods, Works and Nonconsulting Services							

Consulting Services							
Package Number	General Description	Estimated Value (\$)	Selection Method	Review ²	Type of Proposal ⁶	Advertisement Date	Comments ⁷
Improved Project Implementation							

D. List of Awarded and Completed Contracts

The following table lists the awarded contracts and completed contracts for goods, works, nonconsulting, and consulting services.

Goods, Works and Nonconsulting Services					
Package Number	General Description	Contract Value ⁸	Date of ADB Approval of Contract Award ⁹	Date of Completion ¹⁰	Comments ¹¹
Output 1: Market-oriented agricultural production increased					
Output 2: Watershed ecological services protected					
Output 3: Command area irrigation reliability improved					
Output 4: Nutrition awareness and facilities improved					
Improved Project Implementation					

Consulting Services					
Package Number	General Description	Contract Value ⁸	Date of ADB Approval of Contract Award ⁹	Date of Completion ¹⁰	Comments ¹¹
Improved Project Implementation					

E. Non-ADB Financing

The following table lists goods, works, nonconsulting, and consulting services contracts over the life of the project, financed by non-ADB sources.

Goods, Works and Nonconsulting Services				
General Description	Estimated Value (cumulative, \$)	Estimated Number of Contracts	Procurement Method	Comments ¹²
Equipment and Motorcycles	188,000	Several	OCB (RFQ)	EU funding through co-financing agreement

Consulting Services				
General Description	Estimated Value (cumulative, \$)	Estimated Number of Contracts	Recruitment Method	Comments
Promoting Nutrition Sensitive Agriculture	2,727,000	1	DC	EU funding through co-financing agreement

ANNEX 9: INDEPENDENT SOCIAL SAFEGUARDS MONITORING

A. Introduction

1. The Government of Lao PDR recognizes has recognized the importance of productive rural infrastructure (PRI) in driving rural growth and has invested heavily in it over the past 30 years. Irrigation investment has until now targeted food security policy objectives mostly through the production of wet season rice. Lao PDR is currently self-sufficient in rice and as such the Sustainable Rural Infrastructure and Watershed Management Sector Project (SRIWSM) will direct irrigation investment into economic growth policy objectives with a focus on dry season irrigated agriculture. An integral part of this move is the integration of nutrition sensitive agriculture and nutrition improvement by diversifying food sources.

2. The project will modernize at least 16 irrigation schemes to secure reliable dry season irrigation for water users that is both reliable in terms of quantity, time of delivery and place of delivery. The project seeks to offset risks to producers from high value crop markets and the destruction of upstream catchments. Smallholders who to date have grown a wet season rice crop will be able to grow and market high value crops and livestock farming systems.

3. The SRIWSM will achieve its outcome of *high-value agricultural production, natural resources management, status of women, and community nutrition improved* by bringing approximately 3,800 hectares of land under dry season irrigation, producing and marketing over 30,000 tons of high value crops and improving the number of women who meet minimum dietary diversity in target communities by 50%. It will do this through four outputs:

4. **Output 1: Market-oriented agricultural production increased.** The output involves identifying markets and connecting producers to these markets, providing support for value addition along the market chain. Technical support will be provided for development of the agribusiness capacity for market assessments, market-led farm planning and facilitating investment into post-harvest value addition, improved logistics for market connectivity, and quality assurance and traceability systems that respond to trade requirements. The LIC will support the establishment and institutionalization of agribusiness capacity within each PAFO supporting the development of market-led commercial agriculture including irrigated dry season high value crops and livestock.

5. **Output 2: Watershed ecological services protected.** The project will support the update or development of participatory land use plans for villages within the catchments of PRI infrastructure. The project will support land use behavior change programs to protect the soil and water based ecological services and embed these changes within negotiated community agreements. The LIC will support this process through the provision of a land use management and land use change advisor to support the Provincial Land Use Planning teams. Further technical support will be mobilized to support the technical requirements of behavior change programs.

6. **Output 3: Command area irrigation reliability improved.** This output supports irrigation infrastructure modernization for dry season irrigated agriculture and other infrastructure to support community wellbeing. A key element of the investment is the capacity of local water users to operate and manage water delivery systems during the dry season. The LIC will support the establishment of water user groups and the members to develop knowledge, skills and information systems to operate dry season irrigation reliably whilst also maintaining their irrigation assets.

7. **Output 4: Nutrition awareness and facilities improved.** This output will be undertaken in Xiangkhouang and Houaphan provinces. The project will upscale existing pilot programs in approximately 20 nutrition-priority villages in each of the six districts. The scale-up methods will nutrition clubs, providing social behavior change communication programs and nutrition training, and supporting club and individual development plans designed to increase the production and year-round consumption of diverse and nutritious foods. This output will not be within the scope of the LIC technical consultants and will be single sourced to an existing service provider in the two provinces included.

8. SRIWSM is the first ADB irrigation subsector project to use decentralized implementation. The role of the Department of Irrigation is to establish common systems and to manage governance risks within the provincial implementation agencies. Risks associated with procurement, delays, decentralized financial management, and safeguard requirements will be subject to oversight from a Program Governance Team in DOI. The LIC will support the Program Governance Team in overall project planning and coordination, project management and reporting, financial and procurement support, monitoring and safeguard reporting.

9. Within each province the project will be implemented through the structure of the PAFO. Here the LIC will support the PAFO implementation teams through the provision of skills relating to Project management coordination, safeguards and technical expertise relating to dry season irrigated agriculture and high value crops with each Province having a project team leader that reports to and support the DG PAFO.

10. The SRIWSM will be implemented over a period of seven years. The Ministry of Agriculture and Forestry (MAF) will be the executing agency and implementation will be through the Provincial Agriculture and Forestry Offices, in collaboration with other provincial and district level offices.

B. Consulting Services

11. As part of the implementation arrangements a range of consulting services packages will be procured along with project management support services to support the devolved nature of project implementation. The project implementation will be supported by the following consultant services packages:

- (i) An international project start-up consultant for 4 person months recruited as an individual who will has experience in project management, procurement and project management systems, preferably over at least ten years. The role will work closely with the PGT and the respective PPITs in each province to advance the start-up through building project implementation teams, ensuring all are staff as agreed, ensure all are fully aware of the project, roles and responsibilities and the systems that will be established in the first two quarters of the project calendar.
- (ii) A loan implementation consultant (LIC) team recruited as a company using ADBs CMS and QCBS procedures based on a 95:05 (technical: financial) criterion due to the nature of changes to Project Governance and administration, and for technical innovation in terms of dry season irrigation, commercial agribusiness and market led high value crop systems necessitates quality technical inputs to ensure project effectiveness and sustainability. The team will be based in Vientiane, and in each province where project

management support will be provided to the PAFOs. The team will comprise (i) project management, (ii) financial management, (iii) procurement, (iv) monitoring expertise along with project safeguards support for social safeguards, environmental safeguards, and gender advancement. Technical skills for agribusiness will also be provided. Technically engineer skills are not included in the team, however water management expertise for supporting the planning of water use and irrigation scheme operation are included. Specialist support is provided in Xiengkhouang for the tea and livestock sector whilst in the remaining provinces a limited unallocated person month is provided to support technical inputs as cropping systems and markets are prioritized. The team will be led by a long-term program management advisor that will report to the assigned DDG of DoI and will work closely to ensure that project implementation efficiency is actively managed by both IAs and EAs. Advance actions will enable contracting within the first 6 months. No Project procurement of goods and works shall be approved prior to the LIC being contracted.

- (iii) Social Safeguard External Monitoring contractor will be contracted using QCBS (95:05) and will be responsible for ensuring the RSP safeguards processes develop and apply best practice and that once undertaken the provisions of the REGDF will be ratified in a minimum of 20% of selected households. The contract will be awarded prior to the procurement of the first works contract and will operate for the duration of the project. It is expected that the firm would mobilize a minimum of two person one of which will need to be an international safeguards expert.

C. Social Safeguard External Monitoring Consultant

D. Terms of Reference

12. A loan implementation consultant team recruited as a company using ADB's CMS and QCBS procedures based on a 95:05 (technical: financial) criterion due to the nature of changes to Project Governance and administration, and for technical innovation in terms of dry season irrigation, commercial agribusiness and market led high value crop systems necessitates quality technical inputs to ensure project effectiveness and sustainability.

13. The team will be posted to Louangphabang and will be required to travel between provinces. Reporting will be to the PGT Vientiane and ADB.

Category	Description
A: Position /Title	External Monitoring Organization
B: Position / Type	Sub-Contractor
C: International or National	National company (International and national specialists to be provided)
D: Qualifications	Company or NGO with overall minimum five years' experience in social, resettlement and ethnic minority safeguards

	<p>Minimum three successfully completed contracts over the last five years in external monitoring, review or evaluation for development projects, or development of resettlement plans and/or frameworks following ADB SPS or similar multi-lateral safeguards policies</p> <p>Annual turnover exceeding USD 100,000 per annum for the last three years</p> <p>Personnel for the team: both qualified international and national Social Safeguard and Ethnic Group Specialist available for the assignment</p>
E: Experience	<p>Considerable prior experience in conducting socio-economic or baseline surveys, and/or IOL/DMS for development projects</p> <p>Solid experience in interview and consultation with affected households and persons</p> <p>Proven experience in consultative engagement at the household level with a view to facilitating the identification of safeguard response options and negotiation skills to enable households and the Project Staff reach agreed positions necessary to determine project responsibilities.</p> <p>Understanding of ADB processes on land acquisition and resettlement, resettlement planning, due diligence and corrective action plans</p>
F: Posting	Intermittent across all four project provinces based LPB
G: Reporting To	ADB/MAF
H: Duration of role	International 10 person-months and National 10 person-months or a mix thereof
I: Starting Date	<p>Advance action required on RSP LARPs (3)</p> <p>Mobilized within three months of effectiveness</p> <p>Person-months by Project Year: 2,2,2,2,2 (for both experts)</p>
J: Deliverables	<ol style="list-style-type: none"> 1. Representative and Additional Subprojects 2. Land Release Due Diligence Reports for each LARP 3. Semi-annual monitoring reports on social and ethnic minority safeguards (2 times per year) for all subprojects with LARP 4. Resettlement monitoring completion report 5. Additional Subprojects 6. Development of final LARP in line with the Project REGDF
K: Outputs	<ol style="list-style-type: none"> 1. Representative and additional Subproject voluntary land and assets release verified 2. Monitoring of compliance with social, resettlement and ethnic minority safeguards of REGDF, LARP, Government of Lao legislation and ADB SPS
L: Tasks	<ol style="list-style-type: none"> 1. An external monitoring organization (EMO) will be engaged for the Project. The EMO will evaluate compliance with various safeguard management plans, and therefore will include expertise in both social (resettlement) and ethnic minorities / indigenous peoples' assessment specialists. 2. The general objective of external monitoring is to verify the ongoing monitoring information of the implementation of a resettlement plan and to provide independent periodic review and assessment of achievement of resettlement objectives, the changes in living standards and livelihoods, restoration of the economic and social base of the affected people, the

	<p>organizational effectiveness, impact and sustainability of entitlements, and the need for further mitigation measures if any. Specific objective for the EMO is to verify process, consultations and documentation of voluntary land and assets release of the affected households (AHHs), and verify that it was implemented according to REGDF, LARP of each subproject, Government of Lao legislation and ADB SPS.</p> <ol style="list-style-type: none"> 3. External resettlement monitoring will conduct the following detailed scope of work and cover all subproject LARPs: 4. Review and verify the progress in implementing the resettlement plan through the monitoring information internally generated; 5. Verify the process of the detailed measurement survey and determine whether activities are carried out in a participatory and transparent manner, and determine the level of participation of affected people in the developing of LARPs for additional subprojects; 6. Undertake periodical monitoring missions to verify that LARPs have been implemented in an effective and timely manner and in compliance with approved plans and REGDF, and guidelines and regulations related to LAR issued by the government and ADB; 7. Determine whether payment of compensation and allowances are made in a timely manner to all affected people as approved in the LARPs; 8. Determine whether public consultations and awareness programs have been conducted as approved in the LARPs; 9. Verify whether the implementation of resettlement activities is well coordinated with the implementation schedule of the project; 10. Verify the level of satisfaction of affected people with the provisions of compensation and allowances and implementation of the LARPs; 11. Assess the adequacy and implementation of the Grievance Redress Mechanism (documentation, process, resolution and satisfactory); 12. Determine the effectiveness, impact, and sustainability of entitlements and income restoration programs and the need for further improvement and mitigation measures; 13. Assess the capacity of affected people to restore livelihoods and living standards with special attention to be given to severely affected people and vulnerable groups including female headed households and ethnic minorities; 14. Assess whether there are any impacts on the host communities with regards to gender, HIV/AIDS, other infectious diseases, and human trafficking; 15. Assess whether any resettlement impacts are incurred during construction activities and compensation for them; 16. Assess if corrective plans are prepared for non-compliance, and follow up the implementation of these plans; 17. Verify EGDP compliance in each subproject LARP, as well as EGDP performance indicators, including ethnic minority participation, training and employment targets. 18. Prepare and submit detailed monitoring reports on a semi-annual basis. The reports will describe in detail the findings, including (i) progress of
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	<p>LARP implementation, including any deviations from the provisions in the LARP; (ii) identification of issues and recommended solutions for improvement and resolving issues; (iii) identification of specific issues related to gender, ethnic minorities, and other vulnerable groups; (iv) reporting on progress of resolving issues and problems identified in previous reports; (v) reporting on differences between internal and external monitoring; and (vi) conduct a post-resettlement evaluation and prepare and submit a detailed resettlement monitoring completion report within 6 months of completion of all resettlement activities.</p>
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ANNEX 10: TERMS OF REFERENCE FOR SERVICE PROVIDER FOR SOCIAL IMPACT ASSESSMENT AND SOCIAL SAFEGUARD SURVEYS

A. Introduction and Background

1. The Lao People's Democratic Republic (Lao PDR) will receive a Loan in late-2019 from the Asian Development Bank (ADB) towards the cost of implementation of further works under the proposed Sustainable Rural Infrastructure and Watershed Management Sector project (the Project). The further works will be funded through an ADB loan and grant-financed Project, part of which will be used to finance eligible payments for the consulting services required to assist with the overall implement of the Project. The executing agency (EA) for the Project is the Ministry of Agriculture and Forestry (MAF), which exercises its responsibilities through its Program Governance Team (PGT) situated in Vientiane capital city, comprising representatives of the Department of Irrigation (DoI), and supported by a loan implementation consultant (LIC). Implementation of the subprojects under the Project will be carried out by the provincial offices of agriculture and forestry (PAFOs) in the provinces of Houaphan, Louangphabang, Xaignabouli and Xiangkhouang.

2. The Project has four outputs (i) market-oriented agricultural production increased; (ii) watershed ecological services protected; (iii) command area irrigation reliability increased; and (iv) nutrition awareness and facilities improved. Within the scope of these outputs, MAF together with the four target PAFOs will identify up to about 11 additional subprojects. The period for which SIA services are required is around five years, commencing in project year 1 last quarter.

B. Social Impact Assessment teams

3. Essentially, SIA will be undertaken as part of the preparation of the remaining 11 additional subprojects to (i) provide socio-economic data to PAFO-PPIT for use in the preparation of feasibility and other studies, and (ii) provide a reference point for assessing social impact and the likely contribution to project outcomes and outputs. The data collected will contribute to the project baselines.

4. Following completion of each subproject, SIA-SSG will conduct a post-implementation survey and collect all other secondary data as necessary to undertake a social impact assessment and prepare a report on its findings. The framework and approach for survey, data collection, analysis and reporting will be agreed with LIC and the executing agency prior to the commencement of any work, as well as any social indicators to be used. SIA will work under the supervision and guidance of LIC and under the overall direction of PGT to ensure all aspects are effectively coordinated and meet ADB requirements.

1. Scope of work for producing Additional Subproject SIA reports

1. The scope of work for SIA is summarized below:

- (i) Review the procedure for the conduct of the Socio-Economic Analysis and Social Impact Assessment in accordance with ADB's Policy on Gender and Development (1998) and Safeguard Policy Statement (2009);
- (ii) Conduct socio-economic analysis and social impact assessment of around 11 subprojects as part of the feasibility study, using a statistical analysis package such as SPSS;
- (iii) The socio-economic analysis above includes:

- a. Preparation of Master Lists (Village household master list, Female-headed households master list, Landless household master list, WUG household master list);
 - b. Conduct village agro-socio-economic survey;
 - c. Irrigation related information survey;
 - d. Sample household agro-socio-economic survey;
 - e. Focus group discussions;
 - f. Post implementation survey and data collection; and
 - g. Social impact assessment of the subproject.
- (iv) Involve and train (on-the-job) concerned staff of PAFO in designing and conducting socio-economic analysis and social impact assessment.

2. Scope of Works Social Safeguard LARP preparation for up to 11 subprojects

- (i) Identify Affected households – note this may be integrated with the subproject SIA provide a preliminary georeferenced design is available to overlay existing cadastre maps
- (ii) Complete a Detailed Measurement Survey (DMS) for all negatively affected households as per the REGDF
- (iii) Conduct, if necessary SESA surveys and with the provision of the DMS identify adversely impacted households as per the REGDF requirements
- (iv) For adversely impacted households hold consultations with respect to land release options and choices as specified in the REGDF
- (v) Prepare LARPs according to the REGDF

3. Deliverables

- (i) Social Impact Assessment Reports for up to 11 subprojects
 - (a) Encode the agro-socio-economic (baseline) data of each subproject following the SIA procedure, which will be compiled with the initial SIA report.
 - (b) Prepare and submit to LIC/PGT three (3) copies of the draft initial SIA report of each subproject in English, which includes (a) Social Impact Assessment, and (c) baseline data. Hard copies of the reports must be accompanied with soft copies (not pdf).
 - (c) Final SIA reports which includes (a) Social Impact Assessment, and (c) baseline data. Hard copies of the reports must be accompanied with soft copies (not pdf).
- (ii) Prepare reports for the REGDF including SESA reports, DMS and IOL reports and LARP
 - (a) Based on the REGDF conduct a SESA socio-economic survey (baseline) data of each subproject following the SIA procedure in the ADB guidelines and prepare a SESA report.
 - (b) Coinciding with the SESA report for confirmed affected households conduct a Detailed Measurement Survey with a database of affected household and a description of the DMS findings at the household level
 - (c) Conduct interviews with each of the AHs with respect to the release of land and the provisions of the REGDF to ascertain the status of each with

- respect to release of land, options to mitigate adverse impacts and the preferred option agreed with the household. Provide each into a report
- (d) Develop an Inventory of Losses based on the provision of the REGDF
 - (e) Prepare a LARP for the subproject with supporting HH level and subproject level data sheets for monitoring and managing of safeguards
 - (f) Prepare and submit to LIC/PGT three (3) copies of the above reports

C. Terms of Reference

Category	Description
A: Position /Title	Survey company
B: Position / Type	Sub-Contractor
C: International or National	National company
D: Qualifications	<ol style="list-style-type: none"> 1. Company or NGO with overall minimum five years' experience in social, resettlement and ethnic minority safeguards. 2. Minimum three successfully completed contracts over the last five years in socio-economic survey and detailed measurement survey/inventory of losses for development projects. 3. Annual turnover exceeding USD 200,000 per annum for the last three years.
E: Experience	<ol style="list-style-type: none"> 1. Solid experience in interview and consultation with affected households and persons. 2. Understanding of ADB processes on land acquisition and resettlement, resettlement planning, due diligence and corrective action plans.
F: Posting	Intermittent till project year 3 across all four project Provinces
G: Reporting To	DG/DDG-PAFO and DG-PGT
H: Duration of role	<p>The contractor will perform this work under the guidance and instruction of the PGT consultant team's Social Safeguard Specialists. The contractor will provide a survey team leader, team coordinator, data manager, focus group discussion (FGD) moderators, land surveyors and enumerators.</p> <p>Team Gender Balance – the survey team should be balanced between male and females. This is to ensure that female facilitators are assigned to women's FGD meetings.</p> <p>The contractor's survey manager and coordinators will handle the coordination with the PGT consultant team, and will manage and be responsible for the quality of the data collection in the field, data analysis, and the preparation of the report(s) in English.</p> <p>The field enumerators shall conduct the FGD interviews; interviews with the agency representatives, village committee, and prepare summary reports of each interview in English. They shall also be responsible for conducting the affected household interviews for social impact assessment.</p>
I: Starting Date	Mobilized within six months of effectiveness

J: Deliverables	<p>Additional Subprojects</p> <ol style="list-style-type: none"> 1. Social Impact Assessment (at pre-design stage) 2. Detailed measurement survey (at design stage) 3. Socio-Economic Survey of Affected Households (at design stage)
K: Outputs	<p>For each additional subproject:</p> <ol style="list-style-type: none"> 1. SIA report, and analysed and summarized data 2. DMS, and analysed and summarized data 3. SESA report, and analysed and summarized data
L: Tasks	<p>A Survey Company will be engaged for the Project. The Survey Company will conduct necessary SIA, DMS and SESA for all the additional subprojects.</p> <p>The Survey Company will conduct the following detailed scope of work and cover all additional subprojects (these can be combined for DMS and SESA):</p> <p>All surveys:</p> <ul style="list-style-type: none"> • Questionnaire /survey form translation. The survey firm will prepare questionnaire / survey form for each survey and a translation of all survey and questionnaire forms, and submit to the TRTA social safeguards expert for review and “no objection”. The use of questionnaire / survey forms on tablet or similar is encouraged. • Conduct training for interviewers and facilitators. The training will commence with training for all field staff and will include Project background and purpose, project policies that can affect the households and community, reviewing data collection instruments, interview and discussion facilitation, data collection techniques and protocols, editing of completed questionnaires and focal group reports, cleaning and formatting of collected data. • Develop a field visit, data collection and milestone schedule – Survey firm will provide the Project – and the DOI counterpart - with a work plan schedule showing when field work will take place in each target village and when payment milestones will be achieved. • Public consultation and information dissemination. Prior to commencing actual data collection and surveys, a village meeting to be convened explaining the Project, purpose, goals, main activities, basic policy towards land acquisition, Grievance Resolution Mechanism and compensation policy. • Participation and Attendance Records. Details of participants must be obtained from each and every meeting, interview and consultation. An attendance sheet is to be used for all events with communities, groups and also government agencies as needed, and all participants must fill in and sign the attendance sheets. • Photo record. Photos will be taken of all meetings and interviews, and of impacted plots with land owners. These must be properly labelled indicating the names, location, date and event.

	<ul style="list-style-type: none"> • Develop quality control procedures to ensure that high quality primary data is collected. The survey team leader must undertake ongoing checks of data collected for accuracy and quality. Upon start-up, the TL should check the datasets by each team member to ensure correctness. Data collected in each village must be checked before leaving the village. • Data analysis – Provide the Project with electronic versions of the raw data collected and produce summary data tables as a minimum. The firm may produce additional summary tables if regarded as adding value to the information. The data should be presented on single excel sheet for clarity, but with necessary drop down and filter menus. • Reporting - All reports shall be produced using Microsoft Office software in English language. Text will be Arial 11 font, and tables will be prepared in a separate Excel file and pasted into the report document. The report shall contain short text descriptions of tables, figures, and graphs to present the survey data and report against the variables and conditions as indicated in the survey instruments. Photos should be contained in a separate appendix to the report. Copies of Word, Excel and photograph files used in preparation of the data and report will be provided to the client, along with 5 hard copies of the report itself. <p>(1) Social Impact Assessment (SIA) need to cover the following:</p> <ul style="list-style-type: none"> • PAFO/DAFO and Dept Planning. (Data requirements: area demographics – population, No. villages, HHs, EMs, poverty data, single women HHs, vulnerable HHs, local issues, local initiatives/plans). • Village committee. The VC comprise the head and deputies, Party representative, LWU, Elders, Tax, Security, WUG/WUA and other CBO management, and other key persons. • Separate Women's and Men's Focal Group Discussions. Focal Groups should comprise of between 6 to 8 people per group in order to allow for group discussion and the number, sex and ethnicity of people participating in these FGDs must be recorded. • Water User Groups. Water User Groups (WUGs) are essential for the project as the affordability and viability of the project investments will largely be determined by the operation of dry season irrigation and water control systems. These will require WUG members through the irrigation service fee to finance these inputs, which will require substantial awareness and capacity building within the WUGs. • Civil Society Organizations. If there are civil society organizations working in the subproject villages, especially active on rural development, agriculture, poverty reduction, ethnic minority groups or similar fields, interviews need to be conducted following introduction of the project scope, purpose and objectives.
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	<ul style="list-style-type: none"> • Affected Household socio-economic survey. The socio-economic household level survey is conducted with HHs identified as potentially losing some land for the subproject construction. The Village Committee will assist in the identification and arranging an interview schedule. SES HH sample size should be between 5-10% of HHs in each selected village, depending on the village population, to ensure representative sample. Survey firm will select representative villages for the field survey. <p>(2) Detailed Measurement Survey (DMS) and Socio-Economic Survey of Affected Households (SESAH) need to cover the following:</p> <ul style="list-style-type: none"> • Cover 100% of the affected households. Interview and complete the SES with each AHH (AHH to sign completed form as a correct record of the interview). • Conduct meeting with village committee and the WUG to identify the Affected HHs. Arrange a time and schedule to conduct AHH impacted land structure and asset measurement and HH interview. • Conduct physical inspection of the impacted area with the Village Committee (VC) and AHH owners, measure and count affected assets (affected land by the project, and total land of affected households need to be both measured). Obtain GPS coordinates of affected assets (parcel boundaries and affected area boundaries), and photo of affected asset and owner. Record losses on DMS form (AHH and VC to sign as correct). • Any communal land or structures affected must be measured and agreed by the VC. • Design and prepare DMS data base – computer input of measurement and HH and affected asset ID data. Prepare the summary Inventory of Losses and SESAH data for each subproject based on the affected HH data. • Prepare a site map of affected land and other assets using the GPS coordinates and linking affected parcel to affected HH database (via title certificate number if available or if not, an identifying code for each affected HH). • Provide a summary details of land to be acquired under the Project that will be required in order to transfer the acquired land within existing titles to the government. • In case of communal land allocation systems confirm the system and clearly define use rights (even if rotational) to ensure that at the time of measurement the holder of the use right will still be the holder of use rights that are being compensated at the time of implementation. Check as to when (year and month) the next round of land allocations will take place and whether or not the VC know which HHs will be allocated what land. If known, these details should be summarized. • In case of Concessionaires leasing land verify details of the agreement for plantation(s) falling into the impacted areas, identify
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	<p>who is growing the products, the actual land owner and their plot size, and what the arrangements are regarding land rental or lease and the date of expiry of any existing agreements with the landowner.</p> <ul style="list-style-type: none"> • In the case of affected communal land, it is possible that the affected land may have been reserved for a specific use in the village development plan. Such uses could include land reserved for bridges, where the village plans to construct the bridge whenever it has sufficient budget. Such reserved land should be identified. • In all additional subprojects, it is possible that AHH have received compensation of the affected land under a previous project. The question has been included in the AHH SES form • AHH Agreement in Principle. Details of the inventory of losses for each household are taken from the DMS Summary form and inserted on the AHH Voluntary Land and Asset Release Form, which is to be distributed to the AHH for signing if they wish to do so.
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ANNEX 11: INDICATIVE MONITORING TEMPLATES

Report Template 2.1 Effectiveness - Summary Indicators change from Baseline								
	Houaphan		Luang Prabang		Xiengkhouang		Xayaboury	
	2020		2020		2020		2020	
	Baseline	2020	Baseline	2020	Baseline	2020	Baseline	2020
Number of villages								
Total Population								
Farmers - Male								
Farmers - Female								
Total Farmers	0	0	0	0	0	0	0	0
Catchment numbers included								
Protected Forest ha								
Conservation Forest ha								
Production Forest ha								
Reduction in degraded land								
Signed Agreements								
Sub projects approved								
ADB Safeguards approved								
Water User Groups Operational								
Water User Group members - Male								
Water User Group members - Female								
Total Water User Group Membership	0	0	0	0	0	0	0	0
Supply Canals available km								
Tertiary Canals available km								
	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season
Land used for dry season cultivation								

		Baseline 2018		Plan 2020		Actual 2020		Variance from plan		Variance from Baseline	
		Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season
Output 1.1	Enhanced market connections										
	Activity 1 Improved market connections, market knowledge, information										
	Number of producers participating in marketing	0	0	0	0	0	0	0	0	0	0
	Male							0	0	0	0
	Female							0	0	0	0
	Number of purchasers participating in scheme							0	0	0	0
	Percentage of production sold through scheme							0	0	0	0
	By men							0	0	0	0
	By women							0	0	0	0
	Number of Agriculture Grants to men							0	0	0	0
	Number of Agriculture Grants to women							0	0	0	0
	Total Agriculture Grants	0	0	0	0	0	0	0	0	0	0
	Value of Agriculture Grants for men							0	0	0	0
	Value of Agriculture Grants for women							0	0	0	0
	Total Value of Agriculture Grants	0	0	0	0	0	0	0	0	0	0
	Number of demonstrations / training sessions							0	0	0	0
	Attendance at training sessions	0	0	0	0	0	0	0	0	0	0
	Men							0	0	0	0
	Female							0	0	0	0
	Activity 2 Assessment of market opportunities							0	0	0	0
	Number of opportunities including market prices circulated							0	0	0	0
	Percentage of village councils saying information is useful (annual sample)							0	0	0	0
	Activity 4 Product Quality Assurance; agri chemical awareness										
	Numbers attending awareness seminars - male							0	0	0	0
	Numbers attending awareness seminars - female							0	0	0	0
	Total Attending Awareness Seminars	0	0	0	0	0	0	0	0	0	0
	Number of tests conducted							0	0	0	0
	Percentage compliance with test standards							0	0	0	0
	Sample percentage of male producers able to quote standards							0	0	0	0
	Sample percentage of female producers able to quote standards							0	0	0	0
Output 1.2	Irrigation farmers efficiently utilizing water to produce additional dry season incomes							0	0	0	0

	2018		2020							
	Baseline 2018		Plan 2020		Actual 2020		Variance from plan		Variance from Baseline	
	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season
Program 1 Retirement of Upland Cropping and Regeneration of Forest Cover										
Protected forest ha							0	0	0	0
Naturally regenerating forest - additional planting ha							0	0	0	0
Naturally regenerating forest total ha							0	0	0	0
Production forest							0	0	0	0
Conservation forest ha							0	0	0	0
Watershed protection forest ha							0	0	0	0
Village managed general purpose ha							0	0	0	0
Rotational Annual Crops ha							0	0	0	0
Swidden based ha							0	0	0	0
Program 2 Forest Tea Development										
Forest Tea - infill planting ha							0	0	0	0
Forest Tea new development							0	0	0	0
Forest Tea, Sub Total, including:			0	0	0	0	0	0	0	0
Program 3 Intensive grazing land developed to offset reduction in grazed forest										
Village Managed Grazing Block ha							0	0	0	0
Pasture Livestock Land ha							0	0	0	0
Natural Grassland livestock ha							0	0	0	0
Total Livestock land							0	0	0	0
Other Land Use (Ha)										
Total Cultivated Land							0	0	0	0
Premium rice Khao Kai Noi							0	0	0	0
Wet Rice paddy							0	0	0	0
Maize							0	0	0	0
Job's Tear							0	0	0	0
Dry Season crops Sub total, including:							0	0	0	0
Green Vegetables							0	0	0	0
Garlic							0	0	0	0
Green Soya							0	0	0	0
Cucumber							0	0	0	0
Melons							0	0	0	0
Beans							0	0	0	0
Chillies							0	0	0	0
Fruit							0	0	0	0
Peanut							0	0	0	0
Groundnut							0	0	0	0
Fodder							0	0	0	0
Fish Ponds - number							0	0	0	0
Fish Ponds area							0	0	0	0

[illegible]

	2018	2020							
Location:	Baseline	Plan 2020		Actual 2020		Variance from plan		Variance from Baseline	
		Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season
Program 4 Increased Water User Group membership									
Number of existing Water User Groups -						0	0	0	0
Newly established Water user groups						0	0	0	0
Water User Groups membership									
Male						0	0	0	0
Female						0	0	0	0
Total	0	0	0	0	0	0	0	0	0
Users reporting access at times agreed									
Male						0	0	0	0
Female						0	0	0	0
Total	0	0	0	0	0	0	0	0	0
Users reporting required quantities available									
Male						0	0	0	0
Female						0	0	0	0
Total	0	0	0	0	0	0	0	0	0
Income from members									
Income from grants						0	0	0	0
Total income	0	0	0	0	0	0	0	0	0
Operating Expenses						0	0	0	0
Surplus / Deficit	0	0	0	0	0	0	0	0	0
Operating cost per km						0	0	0	0
Operating cost per ha served						0	0	0	0
Operating cost per member	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
WUG members attending Environmental safeguard training						0	0	0	0
Male						0	0	0	0
Female						0	0	0	0
Total	0	0	0	0	0	0	0	0	0
Contractors attending Environmental Safeguard training						0	0	0	0
Quarterly environmental compliance inspections						0	0	0	0
Environmental non-compliances reported						0	0	0	0
Environmental mitigation completed						0	0	0	0

ANNEX 12: PROGRESS REPORT OUTLINE**A. Indicative Progress Report – Table of Contents**

Title	Page
TABLE OF CONTENTS	
LIST ABBREVIATIONS	
1. BASIC DATA	
2. FINANCING PLAN	
3. FUND UTILIZATION	
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5. PROJECT IMPACT AND OUTCOME	
5.1. IMPACT	
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6. IMPLEMENTATION PROGRESS	
6.1. PRESENT STATUS (SUMMARY OF CONSOLIDATED SUBPROJECT)	
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a. Output 1	
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7. KEY ASSUMPTIONS / Risks	
a. Quarterly Achievements and Delays	
b. Updated plan next quarter and rest of year	
c. Management Issues	
d. Proposed Actions	
8. Status of Loan Assurances and Covenants	
a. Covenants for Project Implementation	
b. Major problems and Risks/Remarks/Issues	
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1. Financial Progress Report as of Q***	
2. List of Subproject by Output	
3. Subproject Implementation Progress – work plans	
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5. Output 1: Grant Award Program and Progress	
6. Updated Contract Award and Disbursement progress and projections	
7. DMF Indicator status update - refer to Table 21 PAM	
a. Outcome Indicators by Output	
b. Output indicators – Output 1	
c. Output indicators – Output 2	
d. Output indicators – Output 3	
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ANNEX 13: TERMS OF REFERENCE FOR INTERNATIONAL START-UP PROGRAM MANAGEMENT CONSULTANT AND NATIONAL START-UP PROCUREMENT SPECIALIST

A. Introduction

1. The Government of Lao PDR has recognized the importance of productive rural infrastructure (PRI) in driving rural growth and has invested heavily in it over the past 30 years. Irrigation investment has until now targeted food security policy objectives mostly through the production of wet season rice. Lao PDR is currently self-sufficient in rice and as such the Sustainable Rural Infrastructure and Watershed Management Sector Project (SRIWSM) will direct irrigation investment into economic growth policy objectives with a focus on dry season irrigated agriculture. An integral part of this move is the integration of nutrition sensitive agriculture and nutrition improvement by diversifying food sources.

2. The project will modernize at least 16 irrigation schemes to secure reliable dry season irrigation for water users that is both reliable in terms of quantity, time of delivery and place of delivery. The project seeks to offset risks to producers from high value crop markets and the destruction of upstream catchments. Smallholders who to date have grown a wet season rice crop will be able to grow and market high value crops and livestock farming systems.

3. The SRIWSMP will achieve its outcome of *high-value agricultural production, natural resources management, status of women, and community nutrition improved* by bringing approximately 3,800 hectares of land under dry season irrigation, producing and marketing over 30,000 tons of high value crops and improving the number of women who meet minimum dietary diversity in target communities by 50%. It will do this through four outputs:

4. **Output 1: Market-oriented agricultural production increased.** The output involves identifying markets and connecting producers to these markets, providing support for value addition along the market chain. Technical support will be provided for development of the agribusiness capacity for market assessments, market-led farm planning and facilitating investment into post-harvest value addition, improved logistics for market connectivity, and quality assurance and traceability systems that respond to trade requirements. A loan implementation consultant (LIC) situated within the Department of Irrigation (DOI) will support the establishment and institutionalization of agribusiness capacity within each PAFO supporting the development of market-led commercial agriculture including irrigated dry season high value crops and livestock. A provincial LIC will be situated within the provincial agriculture and forestry office (PAFO) in each province to support the provincial project implementation team (PPIT).

5. **Output 2: Watershed ecological services protected.** The project will support the update or development of participatory land use plans for villages within the catchments of PRI infrastructure. The project will support land use behavior change programs to protect the soil and water based ecological services and embed these changes within negotiated community agreements. LIC will support this process through the provision of a land use management and land use change advisor to support the provincial land use planning teams. Further technical support will be mobilized to support the technical requirements of behavior change programs.

6. **Output 3: Command area irrigation reliability improved.** This output supports irrigation infrastructure modernization for dry season irrigated agriculture and other infrastructure to support community wellbeing. A key element of the investment is the capacity of local water users to operate a managed water delivery systems during the dry season. The LIC DOI will

support the establishment of water user groups and the members to develop knowledge, skills and information systems to operate dry season irrigation reliably whilst also maintaining their irrigation assets.

7. **Output 4: Nutrition awareness and facilities Improved.** This output will be undertaken in Xiangkhouang and Houaphan provinces. The project will upscale existing pilot programs in approximately 20 nutrition-priority villages in each of the six districts. The scale-up methods will nutrition clubs, providing social behavior change communication programs and nutrition training, and supporting club and individual development plans designed to increase the production and year-round consumption of diverse and nutritious foods. This output will not be within the scope of the LIC technical consultants and will be single sourced to an existing service provider in the two provinces included.

8. SRIWSM is the first ADB irrigation subsector project to use decentralized implementation. The role of DOI is to establish common systems and to manage governance risks within the Provincial implementation agencies. Risks associated with procurement, delays, decentralized financial management, and safeguard requirements will be subject to oversight from a Program Governance Team in DOI. The LIC DOI will support the Program Governance Team in overall project planning and coordination, project management and reporting, financial and procurement support, monitoring and safeguard reporting.

9. Within each province the project will be implemented through the structure of the PAFO. Here the LIC DOI will support the PAFO implementation teams through the provision of skills relating to Project management coordination, safeguards and technical expertise relating to dry season irrigated agriculture and high value crops with each Province having a project team leader that reports to and support the DG PAFO.

10. The SRIWSMP will be implemented over a period of seven years. The Ministry of Agriculture and Forestry (MAF) will be the executing agency and implementation will be through the PAFOs, in collaboration with other provincial and district level offices.

B. Consulting Services

11. As part of the implementation arrangements a range of consulting services packages will be procured along with project management support services to support the devolved nature of project implementation. Such services include five loan implementation consultant (LIC) packages, social survey and safeguards, etc. The LIC packages will each be recruited as a company using ADB's CMS and QCBS procedures based on a 95:05 (technical: financial) criterion. The main LIC team will be based in the Department of Irrigation (DOI) in Vientiane, and the four provincial LICs one in each province to provide project management support to the PAFOs. Advance actions will enable contracting by the third quarter of 2020.

12. Since procurement of the LIC packages will take some time (around 12 months), and to help kick-start project implementation, two start-up specialists will be engaged initially to bridge the support gap between the end of the TRTA and the start of the project. Advance action will be taken on the recruitment of these two specialists such that contracts can be signed immediately following effectiveness. The two specialists will help the executing agency and implementing agencies to initiate project activities and to help recruit the LICs and other consulting packages.

13. An international project management start up consultant for 12 person months will be recruited as an individual with experience in project management, procurement and project

management systems, preferably over at least ten years. The role will work closely with the Program Governance Team (PGT) in the Department of Irrigation (DOI) and the respective Provincial Project Implementation Teams (PPITs) situated in the Provincial Agriculture and Forestry Offices (PAFOs) in each province to advance the start-up through building project implementation teams, ensuring all staff are as agreed, ensure all are fully aware of the project, roles and responsibilities and the systems that will be established in the first 2–3 quarters of the project calendar.

14. A national procurement start-up specialist for 15 person-months will also be recruited.

C. Terms of References – Project Management Start-up Consultant

15. The following terms of reference are provided for the consulting services contract for the Project Management Start-up Consultant to be contracted individually for a total level of input of 12 person months.

Category	Description
A: Position /Title	Program Management Start Up
B: Position / Type	Consultant – contracted individually
C: International or National	International
D: Qualifications	Post graduate degree in Agriculture or Commerce or equivalent
E: Experience	<p>At least 20 years experience in more than 3 countries with project implementation and management in ADB projects, with roles that include work planning, budgeting and cashflows, provincial reporting and adaptive management.</p> <p>Working knowledge and experience of cofinanced projects is required with knowledge of EU implementation and reporting systems and knowledge of IFAD and Green Climate Fund programs</p> <p>Decentralised implementation through subnational implementation that has strong alignment and utilisation with government systems essential</p> <p>Knowledge and experience in procurement implementation and administration Proven ability to ensure quality program implementation management including the application of safeguards plans and implementation requirements according to the agreed frameworks, Candidates with past project experience where safeguards frameworks were not adhered to are not eligible.</p> <p>Experience in the preparation of detailed Project Management Manuals that guide implementation and support for training its application</p>
F: Posting	Vientiane with responsibility in each province.
G: Reporting To	DDG PGT
H: Duration of role	12 person-months
I: Starting Date	<p>Advance action required</p> <p>Appointed within one month of effectiveness</p> <p>Pmnths by Project Year: 12</p>

J: Deliverables	<ol style="list-style-type: none"> 1. Start-up work plan developed and agreed with all IAs within 4 weeks 2. Project Management Manual by End of Month 2 3. PPIT mobilisation training and awareness with a six month work plan by end of month 2 4. Procurement and contracting of required consultants completed by Month 3 with the view of mobilisation by end of Month 4 5. Procurement of equipment and vehicles completed by month 4. 6. Program Management Templates and Systems Awareness training 7. Project reporting systems defined and training provided
K: Outputs	<ol style="list-style-type: none"> 1. Start-up work plans for the first six months 2. Project Management Manual 3. Procurement Plan initiated and on time
L: Tasks	<p>By Output</p> <p>Output 1: Project Start up Workplans</p> <ol style="list-style-type: none"> 1. Review the PAM and update based on changes during loan negotiations and signing 2. Conduct meetings and workshops with all stakeholders in the EA and IAs to outline a work program for first six months with clear roles and responsibilities and timelines agreed with each IA 3. Ensure the DOI PGT and IA PPITs are staff and informed of the workplan and there is ratification of the workplan by the PGT 4. Assist the PGT Director to establish the work plans and project budgets with supporting cashflows, contract award projections and disbursement projections necessary for the formation of the IA subaccounts. <p>Output 2: Program Management Manual</p> <ol style="list-style-type: none"> 1. Based on the PAM and start up interviews support the PGT prepare a Project Management Manual and conduct briefing meetings for (i) national steering committee, (ii) provincial steering committees, (iii) each IA including DoI and the 4 PAFO's, and (iv) Provincial Vice Governor's office 2. Conduct follow on training and awareness sessions with each PGT and PPIT staff member to ensure that people understanding the content of the project management manual and provide training in the use of project level templates for a project management purposes. <p>Output 3: Procurement Plan Initiated</p> <ol style="list-style-type: none"> 3. Review the procurement plan and ensure the advance actions are progress to contracting for the LIC 4. Assist the PGT to advance procurement of vehicles and PPIT equipment 5. Prepare a briefing presentation for the LIC 6. Complete the first quarterly report for the project based on the achievement of the start-up phase. With the support of financial management and procurement specialists prepare training for all staff involved in program management

D. Terms of Reference – Procurement Start up Consultant

16. The following terms of reference are provided for the consulting services contract for the Procurement Start-up Consultant to be contracted individually for a total input of 15 person-months.

Category	Description
A: Position /Title	Procurement Start Up
B: Position / Type	Consultant – contracted individually
C: International or National	National
D: Qualifications	Tertiary qualifications in agriculture, rural development or similar and must have a good English language capability, both written and oral.
E: Experience	<p>At least 7 years' experience in procurement in ADB projects, with roles that include consultant and works procurement, work planning, budgeting and provincial reporting.</p> <p>Working knowledge and experience of cofinanced projects with knowledge of EU implementation and reporting systems and knowledge of IFAD and Green Climate Fund programs would be an advantage.</p> <p>Proven track record in the preparation of detailed procurement documentation is required.</p>
F: Posting	Vientiane with responsibility in each province.
G: Reporting To	DDG PGT
H: Duration of role	15 person months
I: Starting Date	<p>Advance action required</p> <p>Appointed within one month of effectiveness</p> <p>Pmnths by Project Year: 12, 3</p>
J: Deliverables	<ol style="list-style-type: none"> 1. Disbursement plan developed and agreed with PGT within 2 weeks. 2. Procurement schedules for all procurement packages developed and agreed with all IAs within 4 weeks 3. Technical and financial evaluation reports for all consulting packages, works packages and equipment supply packages in accordance with the approved procurement schedule. 4. Capacity development plan for PPIT procurement staff by end of month 2 5. Contract management templates for all types of procurement in place by end of month 3 6. Regular inputs to project monitoring and progress reports
K: Outputs	<ol style="list-style-type: none"> 1. Budget/disbursements prepared every six months until LIC is appointed. 2. Enhanced capacity of all IAs in procurement. 3. Consulting, works and equipment contracts in place. 4. Reporting and monitoring mechanisms approved and operational.
L: Tasks	<p>By Output</p> <p>Output 1: Disbursement Plans (Every 6 Months)</p> <ol style="list-style-type: none"> 1. Review the PAM and update procurement arrangements based on changes during loan negotiations and signing. 2. Together with the EA, IAs and other stakeholders, conduct meetings and/or workshops to prepare a procurement schedule for the first six months of the project and estimate disbursement requirements for the imprest account. Conduct this exercise every six months until LIC appointed, which will include

	<p>preparation of project budgets, contract award projections and disbursement projections necessary for the formation and maintenance of all imprest and sub-imprest accounts.</p> <p>Output 2: Enhanced Capacity of all IAs in Procurement</p> <ol style="list-style-type: none"> 1. Based on the PAM and start-up meetings and interviews identify the capacity development needs of all IAs in procurement, and in conjunction with all stakeholders prepare an appropriate capacity development program and schedule. 2. Based on the agreed capacity development program and schedule, arrange for the delivery of all capacity development initiatives including both on-the-job and classroom training. 3. Provide a mentoring role to all procurement related staff in PGT and PPIT, as well as provide advice to senior decision-makers on procurement-related matters. <p>Output 3: Consulting, Works and Equipment Supply Contracts</p> <ol style="list-style-type: none"> 1. In accordance with the updated procurement plan and the requirements of the Government and ADB, arrange for the recruitment of all consulting services packages, including the preparation of EOIs, shortlisting, preparation of RFPs, development of qualification criteria, RFPs, proposal evaluation and assistance with contract negotiations. Recruitment methods will include QCBS, CQS and ICS using FTP and STP formats. 2. In accordance with the updated procurement plan and the requirements of the Government and ADB, arrange for the bidding and contract award for all works and equipment supply contracts, including preparation of IFBs and bidding documents, development of qualification criteria, bid evaluation and assistance with contract negotiations. Harmonized documents will be used, and procurement methods will include OCB, RFQ and DP. <p>Output 4: Reporting and Monitoring Mechanisms Approved and Operational</p> <ol style="list-style-type: none"> 1. In conjunction with PGT and the PPITs, develop a contract management template to monitor and report on contractual issues and risks during the whole of the contract period, and ensure it is operationalized and maintained. 2. In conjunction with PGT and the PPITs, develop data transfer mechanisms and communication channels to meet all the procurement management needs of the project, both at the central and provincial levels. Consult and work closely with the IT support service provider who will be designing the cloud-based MIS. 3. Pilot test all data transfer mechanism and communication channels over several progress reporting periods and update/revise as necessary in consultation with PGT and the PPITs. 4. Prepare regular written inputs to PGT relating to all procurement related matters for inclusion in all progress reports. 5. Prepare a final report at the end of assignment for submission to and approval of PGT.
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ANNEX 14: TERMS OF REFERENCE FOR TRANSLATION SERVICE PROVIDER

Category	Description
A: Contract	Translation Service Provider to SRIWSM
B: Position / Type	Firm
C: International or National	National
D: Qualifications	<p>Commercial Translation Service provider based on Vientiane with capacity to turn around 200-page documentation from Lao to English within 4 days.</p> <p>Proven expertise in and capacity in the translation of technical vocabulary from Lao and English and vice versa especially with respect to agriculture, irrigation and rural development</p>
E: Experience	<p>More than five staff or contracted staff available to meet the requirement to translate technical reports within a short time frame.</p> <p>At least three years translation service provision across both public and private sector clientele.</p> <p>Evidence of accuracy of translation and output that achieves high degree of accuracy</p>
F: Tasks	<p>Texts for translation are expected to include reports specifically safeguards reports for social and environmental documentation that are legally binding and therefore require accurate and concise translation mostly from Lao to English. This will include 18 sets of social safeguard reports with each set likely to involve up to 200 pages, and 18 sets of initial environmental examination (IEE) and supporting environmental management plans generally less than 120 pages.</p> <p>Additional documentation relating to procurement and contracting will also be necessary such that extensive knowledge of technical language will be an advantage. It can be expected that 20 civil works packages of up to 150 pages per package will require translation.</p> <p>Project progress and annual reporting including priority executive summaries along with examples of wider project management materials and promotional. In this category most documents for translation are up to 50 pages in length aimed at ADB staff readership.</p> <p>Specialist reports, which may require translation mostly from Lao to English but in specific cases from English to Lao and are usually no more than 100 pages.</p> <p>Translation will occur throughout the year</p> <p>Potential bidders can review similar publications and documents on ADB websites, to fully appreciate the nature and scope of our translation requirements.</p> <p>This will enable bidders to familiarize themselves with the type of technical language which must be reflected accurately in translations.</p>

Duties and Responsibilities	<p>High-quality, human-reviewed translation.</p> <p>Translation of text and replication of layout and format to ADB style guidelines based on the original (i.e. usually Lao) version;</p> <p>Ensure high quality of translation, accurately reflecting the meaning found in the original source language (most often Laos) and ensuring the retention of meaning in any translated work;</p> <p>Work directly with the PGT team in DoI in order to discuss the precise scope of work and any specific expectations for each document to be translated.</p> <p>Ensure quality checks to include: i. Assessment and review of document; ii. translation context and accuracy; iii. Overall quality review; iv. technical accuracy review, including confirmation of technical terms and check against usage in prior translations</p> <p>Revision and correction in consultation with PGT DoI staff or LIC consultants</p> <p>Final product provided in appropriate electronic format, including cloud based formats when requested.</p>
F: Reporting To	<p>DG/DDG PAFO</p> <p>Team Leader LIC</p>
H: Duration of inputs	<p>Over 72 person-months</p>

ANNEX 15: WATER RESOURCE MASTER PLAN - TERMS OF REFERENCE

A. Background and overview

1. The preparation of a water resources management plan with supporting investment plan is proposed. The proposal for this initiative includes a series of iterative steps some of which precede The SRIWSM implementation period.
2. The first step has been the irrigation subsector review that is being implemented by IWMI under contract to the NRI- AF project funded by ADB. This study is contracted to deliver in December 2018 however it is now extended through to late 2019 and suffers from substantial data gaps. During this period the MAF and DOI have formed working groups to start work on an irrigation sector strategy that was intended to use the IWMI output. The working groups have started to form a vision of an irrigation sector strategy but this remains a work in progress and risks being short of data and analytics regarding (i) effectiveness and efficiency within the irrigation sector, (ii) the role of irrigation in the ongoing and accelerating rural transformation that is gathering momentum in Lao PDR, (iii) the operational incentives for innovation and efficiency, (iv) risks to water supplies resulting from competing uses, climate change impacts and the indirect impacts of watershed land use conversion of downstream water availability.
3. During the preparation of SRIWSM the challenges to irrigation and the role of irrigation in future rural economic development were identified as substantial drivers with the wider problem and opportunities within the sector. Concurrently, the 2018 monsoon flood season highlighted the interactions between land uses, competing water use flood management systems and costs, drought risks and challenges in high cost low efficiency irrigated agriculture. A significant concern was the significant cost of reparation and emergency relief as a result of both the monsoonal flood pulse and the additional pulse created from hydro-storage release along with the realization that with increased storage coming on-stream that such risks are likely to increase along with the associated costs.
4. In response the Government of Lao PDR has indicated a need to adopt a wider multi-sector approach to water resource management than the proposed irrigation sector strategy or master plan that had been planned. SRIWSM is proposing to provide support to the development of an informed and evidence-based national water resources management plan and associated multi-sector investment plan to implement the management plan.
5. As a multisector initiative the endorsement of the wider programming is required from the National Assembly, and once obtained (planned for late 2019) the SRIWSM will resource the development of the master plan.

B. National Assembly Concept Paper Purpose

6. The preparation of a Concept Paper to the National Assembly on the need for improved water resource management for managing the cost of impacts from floods. The purpose of the concept paper is to present to the national assembly information on the scale and impact of flood and water resource management impacts. The purpose being to obtain a directive from the NA for the development of a multi-sector approach to water resource management that includes agricultural use, hydro-storage and power generation, industrial uses, urban demand and environmental flows.

7. The paper seeks to present an overview of the nature and scale of trade-offs involved in the prioritization of alternative uses and management of water resources. These trade-offs include the low level of water use efficiency within the predominant use of available water for current irrigation systems, the interaction of watershed land use and catchment discharge rates, the impact of incentives for maximizing hydro-generation versus management of downstream impacts arising from flood induced storage release including the need (i) disaster and emergency responses from the Government, the impact on social and economic infrastructure and the incremental impact and costs of flood release on resilient flood protection infrastructure.

8. The paper will present to the NA the (i) scope and (ii) impacts of floods within Lao, and (iii) show likely future scenarios that lead to the increased frequency, impact and costs of such flooding. The report seeks to obtain an NA mandate for the preparation of a multi-sector water resource management master plan that targets the contributing factors to increased flood impacts and costs and which will identify priority investment and management systems that reverse the trend of increasing costs of flooding.

9. This paper will be issue – impact report that provides insight to the scale of the issue, the nature of floods and the range of contributing factors along with impacts, and potential trade-offs in the way water resources are managed – from upper catchment, to within catchment storage management, downstream flood protection including increasing the ability to live with floods. At this stage data sets will only be partial but need to evidence, to the extent possible, the issue of flooding and the costs for the Public Investment Budget going forward.

The report to the National Assembly seeks:

“to state the flooding problem or issue, the range of impacts and costs of such events, the contributing factors for increasing impacts and options or scenarios to manage the level of impacts using evidence from recent past events.”

The report to the National Assembly should

“ not mirror or represent itself to be a preliminary WRM Master Plan as it serves a different role that is to obtain a mandate for developing a multisector WRM Master Plan.”

II. THE REPORT FOR THE NATIONAL ASSEMBLY (NA REPORT)

A. Objective

10. The thesis is that the cost of flooding to the economy of Lao PDR to both private sector and the public investment budget is excessively high due in part to the manner in which contributing factors are managed. Understanding the options for improved multi-sector management of water across a landscape that includes both upstream and downstream catchments will provide the basis for defining the trade-offs that can then inform options for reduced dependence on emergency and disaster response spending.

11. The NA report will indicate the future direction of impacts due to changes in the contributing factors and forces behind flooding events including: catchment deforestation, reservoir management (for both irrigation and hydro objectives) during monsoon and high

intensity rain events, the impact of expected climate change, and the nature of downstream development i.e., the trend toward increased density of urban living and the manner in which economic and social infrastructure is developed in areas of high risk. It also needs to present the institutional incentives that current contribute to increased flooding from across all sectors.

12. It is proposed that the report will draw on data and information that is accessible to the preparation team. Some of this needs to be country wide, region specific but there will be significant gaps. To provide a strong evidence base it is suggested to use the 2018 flood event from Nam Ngum and take components of the impacts to build a more detailed understanding of the multisector roles within the event.

B. NA Report Outline

13. The report to the National Assembly is proposed to be presented along the following structure that will be confirmed and refined at start up:

- (i) Part One : Issue and Problem Description
 - For the last decade a summary of number, type and cost of floods within Lao
 - Type of flood, by region, river or catchment system, contributing factors to flood – if known
 - Nature of flood hydrographs and the impact zones
 - Flood impacts to include – Direct and Indirect and should disaggregate public and private impacts including livelihoods, social and economic infrastructure losses, lost investment and loss off live
 - Strategic or priority river and catchment systems
- (ii) Part Two: Flood Responses
 - Institutional mandates and jurisdictions
 - Disaster relief
 - Infrastructure replacement
 - Costs
 - Recovery periods
 - Gaps in knowledge
- (iii) Part Three: Casual factors
 - Monsoonal floods
 - Flash flooding
 - Upper catchment water release and land use
 - Loss of wetlands
 - Operation and management of within catchment storage including hydroelectric and irrigation water storage and releases
- (iv) Part Four: Future scenarios
 - Risks from increasing in stream storage
 - Risks from upper catchment land use change

- Risks from impact of climate change
- Risk to socio-economic development – urban density, urban and residential development along rivers and roads increased use of low lands
- (v) Part Five: Potential future scenarios
 - Why managing flood water matters
- (vi) Part Six: Institutional context
 - Lao public sector mandates
 - Competing private sector interests – the case of reservoir water
 - Regional and international experience in managing flood waters
- (vii) Part Seven: Management options – understanding tradeoffs between public – private sectors
 - Sector trade - offs managing flood pulses
 - Public sector liability -
 - Disaster relief
 - Flood protection – Infrastructure investment
 - Living with Floods – building resilience
 - Using water – irrigation
- (viii) Part Eight: Proposed WRM Master plan
 - Plan preparation – led by MAF/Dol
 - Planning timeline

C. Draft Terms of Reference for the Preparation of a Water Resource Master Plan

1. Data Collection

14. Data collection and collation seeks to prepare the baseline data sets for each of sector and subsector. The Program will (i) identify existing data sources, (ii) conduct filed surveys to (iii) complete sector data bases and to ground truth remote sensing data systems, (iv) define the sector level responsibilities for data management and maintenance of data bases and reporting of data, (vi) identify strategic information systems that support a multisector approach to data recording, reporting and analysis especially with respect to priority management units where the impact of WRM involves substantial trade-offs or impacts – it is expected that there will be options for improved risk management through more real time and integrated hydromet, flood warning and protection information systems that work across sectors.

15. The sectors are expected to include:

- (i) Watershed and catchment land use water yield for all major or at risk catchments
- (ii) Irrigated agriculture areas for Northern, Central plains and southern regional schemes and for both public and private sector irrigation
- (iii) Rural transformation scenarios in terms of water and labor constraints related to irrigated agriculture
- (iv) In stream storage systems for hydro and hydro /irrigation/ water supply systems
- (v) Flood protection zones based on flood risk priorities

- (vi) Climate, Meteorological, hydro-metrological and flood management information systems infrastructure
- (vii) Urban water supply schemes / urban water demand

16. The output is expected to be

- (i) An updated data baseline for planning and analytic purposes available to the WMR planning team to be formed by the National Assembly.
- (ii) An online data access point to the data bases
- (iii) Data gaps and shortfalls identified and strategies to fill these
- (iv) Responsibilities stated and agreed for filling gaps, data management and data reporting

2. Water Resource Issues and Success factors

17. There are a number of critical issues that need to be understood and accounted for the future of a multisector water resource master plan. These include the development of scenario that address the risks, and opportunities relating to the following themes:

- (i) Establishing potential case study water resource management units
- (ii) Available water resources by management unit, and region. What is known and what is not
- (iii) Water quality data about what is know and what is not
- (iv) Pollution and pollution risks and the effects of these risks
- (v) Climate change and the effect of all projected climate variable including temperature seasonal rainfall etc.

3. Institutional arrangement study

18. The output will be a clear road map of current institutional arrangements (both de jure and de facto) relating to water users, disaster management and infrastructure and spatial planning. The study will conduct an institutional study for all the sectors and downs stream impacts linked to the Water Resource Management plan. This will cover: laws, regulations and then planning and institutional mandate, jurisdiction, authority, roles and responsibilities through to the end users of water.

4. Sector Performance and Impact Assessments

19. A key aspect is to understand the relative value of water and water resource infrastructure between sectors. This will require development on appropriate models through which resource demand projections can be derived. The models should be able to present evidence based financial and economic returns to water allocated to the different sector uses by specific region. It is envisaged that this would include a series of water user surveys, that may be form credible reports, or from additional case study or surveys that are implemented to fill data gaps. Sector models for land use will need to be aggregated to the scale of priority or agreed management units and for land users this will need to reflect the returns to land labor and capital at a range of scales from household to irrigation scheme, upper watersheds, and to wider impact catchment. Other users will need to be able to report the marginal value of output per unit of water. The models will need to be able to accommodate externalities and linkage between sectors including those that are interdependent, and those that create offsite impacts to social economic goals or infrastructure capital and maintenance costs.

20. The models should be developed for indicative or representative management units as discussed above. In addition, multi-sector economic impact models can be used to assess the impacts at the level of local provincial and national economy in terms of overall output, income and employment effects. It is expected that the representative models will include coverage of different regional perspectives for irrigation (North, Central, and Southern), large medium and small in-stream storage for hydro, and also for mixed storage areas that integrate irrigation and water supply and tourism. The representative models should also include areas linked to high risk flood zones and to areas with limited flooding histories.

21. The modelling will need to develop integrated flood and environmental flow modelling within an overall multi-sector water balance models that should include additional options that include climate change scenarios for both mid and late century based on the RCP 8.5 projections.

22. Expected output include:

- (i) Multiscale models for the use of land and water
- (ii) Modelling of the marginal value of water for non-agricultural use including hydro, tourism and urban/industrial use
- (iii) Representative management units with supporting economic and water balance modelling that indicate the marginal value of water with and without downs stream or cross sector impacts.

5. Sector Options by Management Unit and Inter-sector Trade-offs

23. For a range of representative management units that will provide the breadth of information and understanding that will enable a Water Resource Master plan to be defined will be constructed based on Section 2 and 3 above. For each of these management until the water balance and interactions, economic and financial value of water and how these link to direct users, indirect impacts and the wider economic value of water resources. Within each type of management unit a series of multisector scenarios will be developed and then modelled at both the sector and overall management unit.

24. As a direct of result of these scenarios trade-offs matrices that identify positive and negative interactions between sectors, between upper catchment and water users, and between storage and down-stream infrastructure and land uses will be defined. The scenarios will include trade-offs between the sectors and provide a series of preferred strategies plus the likely distribution of costs and benefits.

25. For each of the trade-off strategies addition investment or management options will be assessed in terms of economic productivity but also in term of cost-effectiveness, and fiscal impacts and social cost benefit assessment.

6. WRM Vision - Priority Actions and Targets actions and Investment

26. Based on the above the WRM program will develop provincial level consultations and from these consultations identify preferred priorities, targets and required actions, these will be consolidated into management units with different groups of stakeholders, and with sector representatives. The range of preferences will be supported with an assessment of the trade-offs, extent of impacts and least cost options for reducing off site impacts, whilst maximizing the value of water resources.

27. It is expected that priority actions will be identified for agreed themes such as:

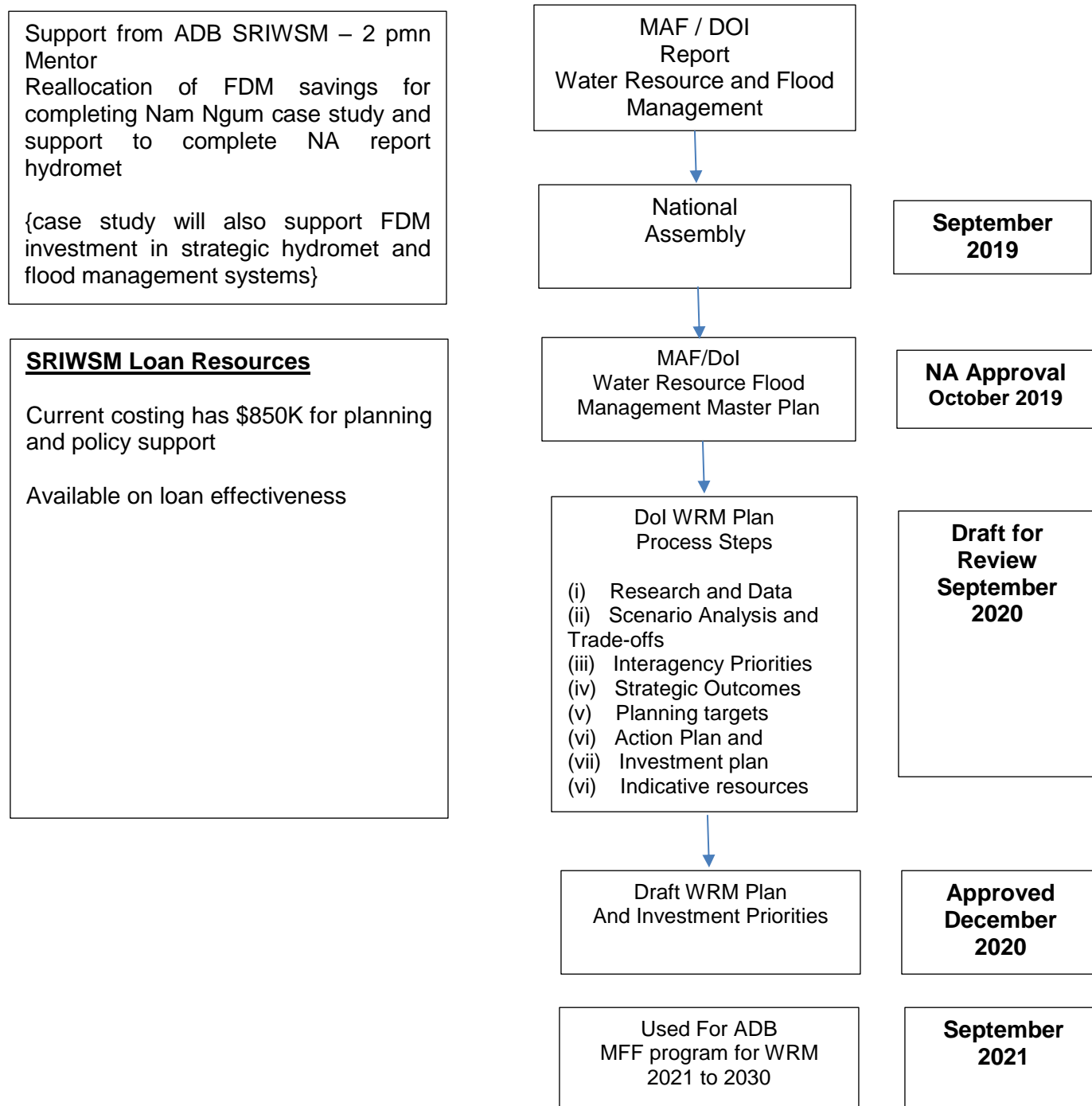
- (i) Integrated flood management information systems
- (ii) Revised institutional arrangements
- (iii) Catchment management strategies and targets
- (iv) Regional irrigation development and modernization
- (v) Instream storage management and support strategies
- (vi) Downstream flood protection – infrastructure and flood containment zones
- (vii) Potential use of payment for ecological service models to support diffuse support for upstream water users to maintain forest or permanent vegetation cover

28. The priority actions and targets will be used to prepare a consolidated WRM strategy and management plan with supporting actions plans for management units and water uses within these units these will be sequenced for 20 year window with supporting implementation responsibilities.

7. WRM Investment Plans

29. Each mandated agency will develop a 5 and 10 year investment plan based on the priority actions including detailed action plans, implementation responsibilities and budget requirements.

D. Overall WRM Planning Process and Timelines



ANNEX 15: WATER RESOURCE MASTER PLAN - TERMS OF REFERENCE

A. Background and overview

1. The preparation of a water resources management plan with supporting investment plan is proposed. The proposal for this initiative includes a series of iterative steps some of which precede The SRIWSM implementation period.
2. The first step has been the irrigation subsector review that is being implemented by IWMI under contract to the NRI- AF project funded by ADB. This study is contracted to deliver in December 2018 however it is now extended through to late 2019 and suffers from substantial data gaps. During this period the MAF and DOI have formed working groups to start work on an irrigation sector strategy that was intended to use the IWMI output. The working groups have started to form a vision of an irrigation sector strategy but this remains a work in progress and risks being short of data and analytics regarding (i) effectiveness and efficiency within the irrigation sector, (ii) the role of irrigation in the ongoing and accelerating rural transformation that is gathering momentum in Lao PDR, (iii) the operational incentives for innovation and efficiency, (iv) risks to water supplies resulting from competing uses, climate change impacts and the indirect impacts of watershed land use conversion of downstream water availability.
3. During the preparation of SRIWSM the challenges to irrigation and the role of irrigation in future rural economic development were identified as substantial drivers with the wider problem and opportunities within the sector. Concurrently, the 2018 monsoon flood season highlighted the interactions between land uses, competing water use flood management systems and costs, drought risks and challenges in high cost low efficiency irrigated agriculture. A significant concern was the significant cost of reparation and emergency relief as a result of both the monsoonal flood pulse and the additional pulse created from hydro-storage release along with the realization that with increased storage coming on-stream that such risks are likely to increase along with the associated costs.
4. In response the Government of Lao PDR has indicated a need to adopt a wider multi-sector approach to water resource management than the proposed irrigation sector strategy or master plan that had been planned. SRIWSM is proposing to provide support to the development of an informed and evidence-based national water resources management plan and associated multi-sector investment plan to implement the management plan.
5. As a multisector initiative the endorsement of the wider programming is required from the National Assembly, and once obtained (planned for late 2019) the SRIWSM will resource the development of the master plan.

B. National Assembly Concept Paper Purpose

6. The preparation of a Concept Paper to the National Assembly on the need for improved water resource management for managing the cost of impacts from floods. The purpose of the concept paper is to present to the national assembly information on the scale and impact of flood and water resource management impacts. The purpose being to obtain a directive from the NA for the development of a multi-sector approach to water resource management that includes agricultural use, hydro-storage and power generation, industrial uses, urban demand and environmental flows.

7. The paper seeks to present an overview of the nature and scale of trade-offs involved in the prioritization of alternative uses and management of water resources. These trade-offs include the low level of water use efficiency within the predominant use of available water for current irrigation systems, the interaction of watershed land use and catchment discharge rates, the impact of incentives for maximizing hydro-generation versus management of downstream impacts arising from flood induced storage release including the need (i) disaster and emergency responses from the Government, the impact on social and economic infrastructure and the incremental impact and costs of flood release on resilient flood protection infrastructure.

8. The paper will present to the NA the (i) scope and (ii) impacts of floods within Lao, and (iii) show likely future scenarios that lead to the increased frequency, impact and costs of such flooding. The report seeks to obtain an NA mandate for the preparation of a multi-sector water resource management master plan that targets the contributing factors to increased flood impacts and costs and which will identify priority investment and management systems that reverse the trend of increasing costs of flooding.

9. This paper will be issue – impact report that provides insight to the scale of the issue, the nature of floods and the range of contributing factors along with impacts, and potential trade-offs in the way water resources are managed – from upper catchment, to within catchment storage management, downstream flood protection including increasing the ability to live with floods. At this stage data sets will only be partial but need to evidence, to the extent possible, the issue of flooding and the costs for the Public Investment Budget going forward.

The report to the National Assembly seeks:

“to state the flooding problem or issue, the range of impacts and costs of such events, the contributing factors for increasing impacts and options or scenarios to manage the level of impacts using evidence from recent past events.”

The report to the National Assembly should

“ not mirror or represent itself to be a preliminary WRM Master Plan as it serves a different role that is to obtain a mandate for developing a multisector WRM Master Plan.”

II. THE REPORT FOR THE NATIONAL ASSEMBLY (NA REPORT)

A. Objective

10. The thesis is that the cost of flooding to the economy of Lao PDR to both private sector and the public investment budget is excessively high due in part to the manner in which contributing factors are managed. Understanding the options for improved multi-sector management of water across a landscape that includes both upstream and downstream catchments will provide the basis for defining the trade-offs that can then inform options for reduced dependence on emergency and disaster response spending.

11. The NA report will indicate the future direction of impacts due to changes in the contributing factors and forces behind flooding events including: catchment deforestation, reservoir management (for both irrigation and hydro objectives) during monsoon and high

intensity rain events, the impact of expected climate change, and the nature of downstream development i.e., the trend toward increased density of urban living and the manner in which economic and social infrastructure is developed in areas of high risk. It also needs to present the institutional incentives that current contribute to increased flooding from across all sectors.

12. It is proposed that the report will draw on data and information that is accessible to the preparation team. Some of this needs to be country wide, region specific but there will be significant gaps. To provide a strong evidence base it is suggested to use the 2018 flood event from Nam Ngum and take components of the impacts to build a more detailed understanding of the multisector roles within the event.

B. NA Report Outline

13. The report to the National Assembly is proposed to be presented along the following structure that will be confirmed and refined at start up:

- (i) Part One : Issue and Problem Description
 - For the last decade a summary of number, type and cost of floods within Lao
 - Type of flood, by region, river or catchment system, contributing factors to flood – if known
 - Nature of flood hydrographs and the impact zones
 - Flood impacts to include – Direct and Indirect and should disaggregate public and private impacts including livelihoods, social and economic infrastructure losses, lost investment and loss off live
 - Strategic or priority river and catchment systems
- (ii) Part Two: Flood Responses
 - Institutional mandates and jurisdictions
 - Disaster relief
 - Infrastructure replacement
 - Costs
 - Recovery periods
 - Gaps in knowledge
- (iii) Part Three: Casual factors
 - Monsoonal floods
 - Flash flooding
 - Upper catchment water release and land use
 - Loss of wetlands
 - Operation and management of within catchment storage including hydroelectric and irrigation water storage and releases
- (iv) Part Four: Future scenarios
 - Risks from increasing in stream storage
 - Risks from upper catchment land use change

- Risks from impact of climate change
- Risk to socio-economic development – urban density, urban and residential development along rivers and roads increased use of low lands
- (v) Part Five: Potential future scenarios
 - Why managing flood water matters
- (vi) Part Six: Institutional context
 - Lao public sector mandates
 - Competing private sector interests – the case of reservoir water
 - Regional and international experience in managing flood waters
- (vii) Part Seven: Management options – understanding tradeoffs between public – private sectors
 - Sector trade - offs managing flood pulses
 - Public sector liability -
 - Disaster relief
 - Flood protection – Infrastructure investment
 - Living with Floods – building resilience
 - Using water – irrigation
- (viii) Part Eight: Proposed WRM Master plan
 - Plan preparation – led by MAF/Dol
 - Planning timeline

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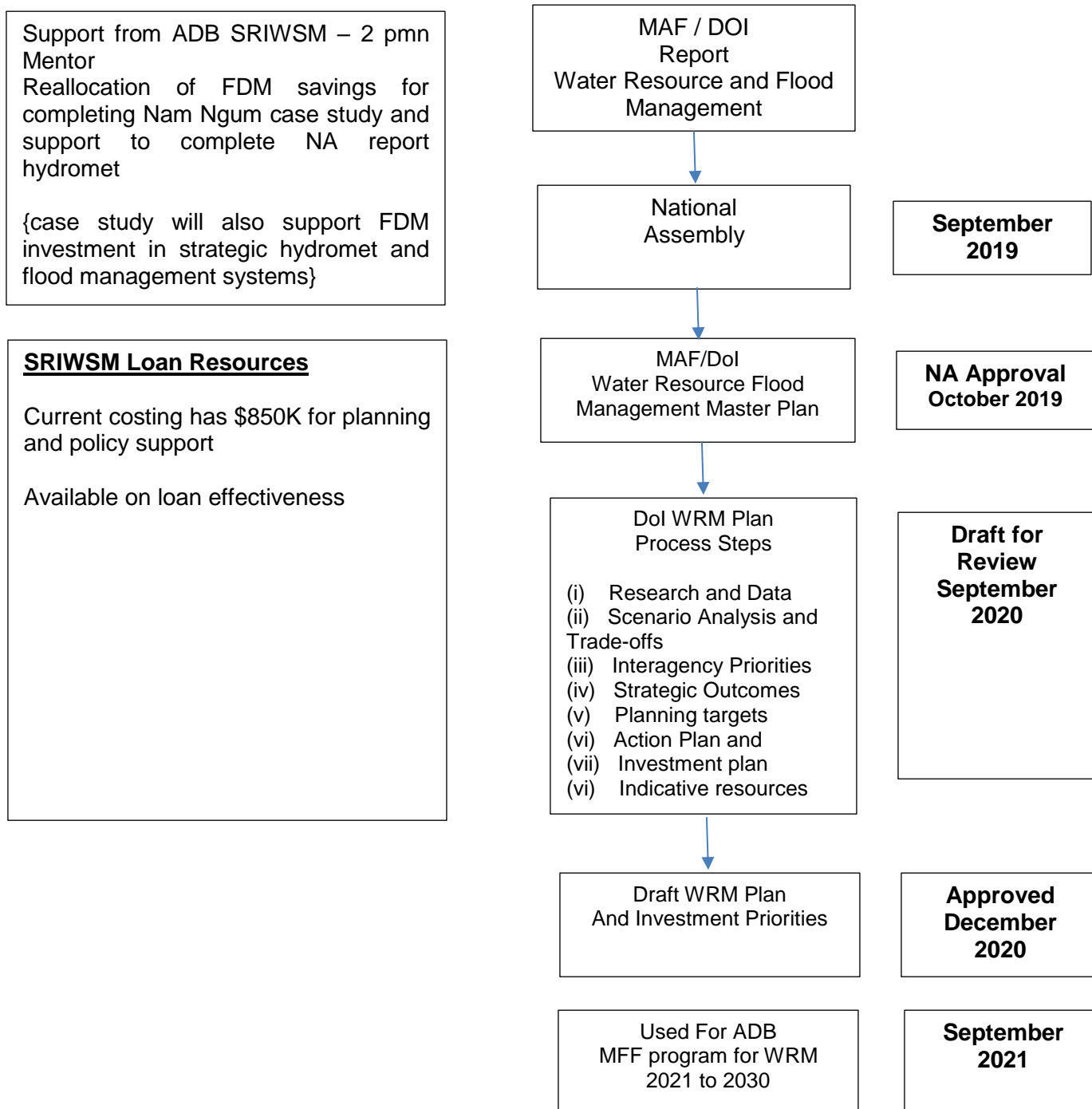
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7. WRM Investment Plans

29. Each mandated agency will develop a 5 and 10 year investment plan based on the priority actions including detailed action plans, implementation responsibilities and budget requirements.

D. Overall WRM Planning Process and Timelines



ANNEX 16: CATCHMENT AND LAND USE BEHAVIOR CHANGE STUDIES

1. The catchments of Louangphabang and Xaignabouli province subprojects are both large and often involve a complex array of current land uses that are organized within equally complex land use arrangements and institutional settings that are both formal and informal. These complexities add significant challenges to achieving effective land use change and provide challenges far more complex than being addressed through community based land use planning principles within the PLUP process.
2. In Louangphabang and Xaignabouli provinces these catchment issues are increasingly widespread with current policy and regulatory frameworks seemingly unable to address inappropriate land use in an effective manner. The SRIWSM seeks to develop a deeper understanding of these issues with the purpose of informing future policy and investment decisions including the likely costs and trade-offs required to achieve more sustainable land use with sustainable ecological services.
3. Two such catchments – Nam Nan in Louangphabang and Nam Pouy in Xaignabouli will be part of land use research pilot studies. The project has budgeted for the two studies – to be either contracted collectively or individually with a total budget of \$360,000.
4. The purpose of these pilots will be to understand the requirements of achieving a land use behavior change outcome that supports the long term sustainability of land use in the two catchments including:
 - (i) Detailed assessment of current land use by season
 - (a) Detailing existing land use by site and season
 - (b) Assessing the appropriateness of land use and its compatibility with sites in the catchment
 - (c) Identifying sites within the catchment where current land use is identified as inappropriate
 - (d) Prioritizing land use change (LUC) in the catchment area
 - (e) Establishing a remote sensing monitoring basis for these sites.
 - (ii) Detailed assessment of current land users
 - (a) Identification of land owners – both state, community and private sector through the land registry
 - (b) Identification of local land use right holders
 - (c) Identification of land users – with both formal and informal rights and the natures of the contractual relationships
 - (d) A series of case studies of each land use type within the zones prioritized for LUC
 - (e) A spatial linkage map of land user use of catchment resources and the role of catchment land use in wider household or commercial activity i.e, the linkage of upland and low land systems
 - (f) A clear understanding of labor allocation and use within the catchment by land use type and season
 - (g) Development of commercial returns to land use in the form of gross margins by land use and site, gross margins to be prepared for the land use controller and will include returns to labor and land owners where these are separated by contractual arrangement both formal and informal

- (h) A typology of land use behavior change strategies ranging from (i) awareness, (ii) community programs including social and economic support programs, (iii) possible direct and indirect incentive systems, (iv) regulation and controls to support (i) to (iv) above.
- (iii) Institutional and Policy Context
 - (a) Consolidate the current institutional framework for land resources, forestry, water and other natural resources
 - (b) Identify relevant regulations and their current status
 - (c) Identify contradictions in current land use with the existing institutional structure
- (iv) Identification of land use change program requirements
 - (a) including combination of strategies,
 - (b) sequencing of activities and
 - (c) the identification of whose behavior, and which of their behavior is to be changed
 - i. note this will be by priority site,
 - ii. may include several disparate or overlapping groups within each priority site
- (v) Proposed Land Use Change Program and Investment Plan
 - (a) The conclusion of the pilot is to define what land use change is envisaged and considered viable. This will include:
 - (b) where change is prioritized, how change will be achieved, the risk of not achieving change, the investment required for change, the critical success factors ie the need for compliance and monitoring along with incentives etc.
 - (c) A detailed investment plan along with implementation schedules and monitoring baselines linked to remote sensing.

ANNEX 17: TERMS OF REFERENCE FOR INFORMATION TECHNOLOGY SUPPORT AND SERVICE PROVISION (Procurement Plan Package OP5-CS010)

Category	Description
A: Contract	IT Service Provider to SRIWSM
B: Position / Type	Firm
C: International or National	National
D: Qualifications	<p>An existing IT service provider that has operated for more than 5 years in the provision of services to both the public and private sector within Lao PDR.</p> <p>A proven ability and willingness to provide services both in Vientiane and Provincial capitals</p> <p>Clear knowledge and proven technical expertise in</p> <ul style="list-style-type: none"> (i) hardware systems – both stand alone and distributed systems (ii) internet technologies and internet/digital services including cloud based service solutions (iii) Internet of thing applications with special focus on project management, financial management and reporting through templates, distributed software and internet linked data services including dropbox (iv) general software support and maintenance
E: Experience	<p>More than 5 salaries or contracted staff including technicians with expertise in hardware, PC based software, cloud based solutions</p> <p>At least 10 clients that cover both public and private sectors</p>
F: Tasks	<p>To provide support to all IAs including 4 provincial PAFO/ PIT and DOI PGT for the following:</p> <ul style="list-style-type: none"> (i) hardware needs assessments (ii) software and systems needs and diagnostic ability (iii) application support (iv) technical problem solving
Duties and Responsibilities	<ul style="list-style-type: none"> • Effective and modern IT hardware and supporting software establish and maintained with all 5 IA of the SRIWSM • Assist with the specification of all IT equipment including hardware, software, licensing and technical support • Ensure Internet operational; efficiency • Ensure consistency in in hardware, software and integration between all five IAs with secure access windows provided to MAF, ADB and MPI • Awareness and capacity development support to identified PAFO and DOI staff
F: Reporting To	<p>DG/DDG PAFO</p> <p>Team Leader LIC</p>
H: Duration of inputs	Duration of SRIWSM on an annual contract renewal at the request of DoI PGT.

ANNEX 18: TERMS OF REFERENCE FOR GENDER SPECIALIST AND GENDER FOCAL POINT

A. Poverty and Gender Specialists (national, 16 person-months)

1. **Preferred Qualifications:** The international specialist will have tertiary qualifications from an internationally recognized institution or equivalent. The national specialist will have similar qualifications.
2. **Experience:** The international specialist will preferably have around 10 years' experience or more in the South East Asia environment, including experience on gender mainstreaming and capacity building strategy development. Preferably with around 3 years' experience in Lao PDR. The national specialist will preferably have around 10 years' experience or more in related fields on internationally funded projects.
3. **Duties:** The safeguard requirements of the ADB seek to improve the benefits of the project to the poor and the disadvantaged groups within the target area. This will require specialist expertise in identifying affected groups and in accommodating their interests wherever feasible. The poverty and gender specialists will be needed to support project initiatives in community development including gender activities. There will be capacity building in these areas that will also form part of the responsibilities of the specialists.
4. Specific tasks of the specialists will include the following:
 - (i) Prepare and undertake orientation sessions on poverty and gender issues, GAP and implementation responsibility with key EA/IA staff, provincial authorities.
 - (ii) Assist the NPMO and PPMOs in preparing GAP annual plan and implementing provincial GAP, ensuring achieving gender related targets set in DMF and project GAP.
 - (iii) Provide technical gender inputs to different project interventions, including delivering gender sensitization workshop, developing and guiding NPMO/PPMOs in applying sex-and ethnicity disaggregated M&E system to monitoring GAP and DMF target achievement, and providing gender inputs to stakeholders' capacity building strategy.
 - (iv) Working with Training coordinators and key training to integrate gender and poverty relevant contents in all AI related training program and ensure participatory training methodology build in to encourage women and ethnic group active participation.
 - (v) In coordination with the Resettlement and Ethnic Group's specialist, provide guidance to the local specialist in identifying interventions to achieve ethnic group participation in subprojects, particularly amongst the women
 - (vi) Monitor community involvement in subproject implementation, including O&M operation and bring issues or problems to the attention of the NPMO and relevant PPMOs;

- (vii) Document the results of the GAP implementation and make recommendations for changes in order to achieve GAP target, ensuring vulnerable groups, including women, ethnic group can benefit equally as other groups.;
- (viii) Working with Benefit M&E specialist to support and mentor NPMO/PPMOs in planning and M&E of GAP implementation as well as report to ADB on regular basis.

B. Gender representative/focal person in the NPCO and each PIO

5. **Objective.** The designation and appointment of gender representative/focal person in the NPCO and each PIO aims to ensure effective and equitable implementation of the GAP and project activities.

6. **Selection Criteria.** The selection of gender representative/focal person should be approved by the Project Implementing Office (PIO). The National Project Coordination Office (NPCO) will provide technical assistance through IAS Gender and Development Specialists. The gender representative/focal person:

- (i) Could be male or female who has understanding of gender and development;
- (ii) Have some working experience on community development a/o facilitator skill
- (iii) Willing and can provide time to perform the functions/responsibilities required of the Gender representative/focal person

7. **Functions/Responsibilities.** The gender representative/focal person will work under the help and support from the head of the project implementation office (PIO) to ensure that gender action plan will be implemented successfully.

Responsibilities:

- 1) Encourage and facilitate access of women to attend every consultation meeting (*pay attention on invitation method and channel; time is available for women; meeting place is suitable for women and her child (if any)*). Encourage them to speak out, give opinions at the meeting. The consultation meeting/event may include:
 - participants in consultation workshops/events related to the subprojects (including resettlement planning, subproject design and implementation, etc.)
 - public consultations for the development of safer village and commune plans
- 2) Facilitate and encourage female trainees in all training on disaster risk assessment and analysis; prioritization and implementation of locally appropriate risk management measures
- 3) Facilitate access of women and families to service providers (extension service, credit, water and sanitation)
- 4) Encourage women to be facilitator of the public consultation
- 5) implementers of the CBDRM measures
- 6) Encourage women to be Commune on CBDRM Coordination Committee (CCCC) members

- 7) Collaboration with M&E officer at PIO to monitor and report on the progress of GAP implementation within PIO area
8. To carry out their functions and responsibilities, the gender representative / focal person will be trained by the Project and will be provided with copies of the GAP and other required supporting documents in Lao language.
9. **Budget and Financing.** Transport and per diems will be provided for works outside the district supported by a formal request/instruction from the NPCO/PIO, such as meetings, trainings and study tours. The NPCO/PIO will decide if the Gender representative/focal person will work on a voluntary basis or receive remuneration/allowance.