



Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

Ministry of Public Works and Transport

Environmental and Social Management Framework

The Southeast Asia Regional Economic Corridor and Connectivity Project (P176088)

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LIST OF ACRONYMS

ADWLE	Association Development Women Legal Education
ACM	Asbestos Containing Materials
AF	Additional Financing
AIIB	Asian Infrastructure Investment Bank
AH	Affected Households
BCF	Border Control Facility
CEF	Community Engagement Framework
CERC	Contingency Emergency Response Component
CHSP	Community Health and Safety Plan
CIQ	Customs, Immigration and Quarantines
CMU	Component Management Unit
COI	Corridor of Impact
COVID19	Corona Virus 19
DAFO	District Agriculture and Forestry Office
DDIS	Detailed Design Implementation and Supervision (Consultants)
DNEP	Department of Natural Resources and Environment Policy
DOL	Department of Land
DPWT	Provincial Offices of Department of Public Works and Transport
DOR	Department of Road
DWR	Department of Water Resources
EDPD	Environmental Research and Disaster Prevention Division
EGEF	Ethnic Group Engagement Framework
EGEP	Ethnic Group Engagement Plan
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESIA	Environment and Social Impact Assessment
ESMF	Environment and Social Management Framework
ESMP	Environment and Social Management Plan
ESMWG	Environment and Social Monitoring Working Group
ESS	Environmental and Social Standards
FGD	Focused Group Discussion
FPIC	Free Prior and Informed Consent
GAP	Good Agricultural Practices
GBV	Gender Based Violence

GRM	Grievance Redress Mechanism
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immune Deficiency Syndrome
iBAT	Integrated Biodiversity Assessment Tool
IPV	Intimate Partner Violence
IUCN	International Union for Conservation of Nature
LECS	Lao Expenditure and Consumption Survey
LFND	Lao Front for National Development
LMP	Labour Management Procedures
LRSP2	Second Lao Road Sector Project
LSB	Lao Statistical Bureau
LWU	Lao Women's Union
MAF	Ministry of Agriculture and Forestry
MICT	Ministry of Information Culture and Tourism
MOF	Ministry of Finance
MOIC	Ministry of Industry and Commerce
MONRE	Ministry of Natural Resource and Environment
MoPS	Ministry of Public Security
MPWT	Ministry of Public Works and Transport
NCAW	National Commission for the Advancement of Women
NDF	Nordic Development Fund
NEIO	Natural Resources and Environment
NGO	Non Government Organization
NR2	National Road 2
NUOL	National University of Laos
OHS	Occupational Health and Safety
OPBC	Output and Performance-Based Contracts
PAFO	Provincial Agriculture and Forestry Offices
PMU	Project Management Unit
PO	Producer Organizations
PONRE	Provincial Offices of Natural Resource and Environment
PPE	Personal Protective Equipment
PRC	Provincial Resettlement Committee
Pre-ESIA	Preliminary Environmental and Social Impact Assessment
PTRI	Public Works and Transport Research Institute

RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SEA/SH	Sexual Exploitation and Abuse and Sexual Harassment
SEARECC	Southeast Asia Regional Economic Corridor and Connectivity Project
SEP	Stakeholder Engagement Plan
SPS	Sanitary and Phytosanitary
UXO	Unexploded Ordnance
VAC	Violence Against Children
VD	Voluntary Donation
WCS	World Conservation Society
WeCARE	Western Economic Corridor and Regional Enhancement Program
WB	The World Bank

EXECUTIVE SUMMARY

Project Description

The proposed SEARECC project will support the Government of Lao PDR (GoL) to improve regional and domestic transport connectivity, the efficiency of logistics, and cross-border trade, and the capacity to manage multi-modal transport to benefit the people in selected economic corridors in Northern Lao PDR. It has five components briefly summarized here:

(a) Component 1: Lao PDR and Regional connectivity enhancement;

Sub-Component 1.1: NR2W climate resilient improvement and maintenance

This sub-component supports the improvement and maintenance of condition, safety, and climate resilience of selected sections of NR2W¹ to meet the Asian Highway Class III standards; including widening of the road from 6 meters to 8 meters (6 meters of the carriageway and 2 meters of shoulders-one meter each side).

Sub-Component 1.2: Local Road climate resilient improvement and maintenance

This sub-component supports the improvement and maintenance of climate resilience and safety of selected local roads in Phongsaly, Oudomxay, Luang Namtha, Xayabouly, and Luangprabang.

Sub-Component 1.3: Improvement of the border crossing facilities

This sub-component supports the improvement of the border crossing facilities road NR2 at (a) Pang Hok in Phongsaly bordering to Dien Bien Phu, Vietnam and (b) Muang Ngeun in Xayabouly bordering to Nan province, Thailand.

Sub-Component 1.4: Implementation support and supervision consultant

This sub-component will finance implementation support and supervision consulting services and will also support MPWT on the mechanism for local road maintenance planning and financing, including supporting the participation of women in road works supervision.

(b) Component 2: Logistics services development and border-crossing management;

Sub-component 2.1: Dry ports and logistics development

This sub-component supports MPWT to improve the efficiency and competitiveness of Logistics services in the economic corridor.

¹ The NR2E sections will be financed by EIB in parallel to this project.

Sub-component 2.2: Regional integration and cross-border transport agreements

This sub-component will support GoL to improve cross-border transport efficiency.

Sub-component 2.3: Strengthening capacity CIQ and Border Management

This will include technical assistance, capacity buildings and equipment.

- (c) Component 3: Strengthening institutional capacity and regulatory framework in agriculture, transport, and investments planning;

Sub-Component 3.1: Support on agricultural trade and SPS Management

Led by the Department of Agriculture (DOA) in the Ministry of Agriculture and Forestry (MAF), it includes (i) Capacity development to support agricultural trade to improve the enabling environment for agricultural trade activities, and (ii) Capacity Building for Sanitary and Phytosanitary (SPS) Management to build the capacity of MAF, Ministry of Health (MOH), Provincial and District Agriculture and Forestry Offices and border checkpoints for compliance of SPS requirements and reduce trade barriers in the targeted provinces and districts.

Sub-Component 3.2: Support on Multi-Modal Transport

This includes legislative and planning support, including on road safety and gender aspects.

- (d) Component 4: Project Management

This Component will provide technical and operational assistance for strengthening the environmental and social capacity of agencies, day-to-day management, monitoring and evaluation of the Project, and the carrying out of technical and financial audits, among other things.

- (e) Component 5: Contingency Emergency Response

- (f) This component will provide an immediate response to an eligible crisis or emergency, as needed. In the event of an eligible crisis or emergency, the World Bank can re-allocate project funds to support emergency response and recovery.

Purpose of the ESMF

This ESMF sets out the principles, rules, guidelines and procedures to assess and mitigate the environmental and social risks and impacts of the project. The ESMF contains measures and frameworks to reduce, mitigate and/or offset adverse risks and impacts, provisions for estimating and budgeting the costs of such measures, and information on the agency or agencies responsible for addressing project risks and impacts, in line the World Bank's Environment and Social Framework (ESF).

The ESMF sets out the following:

- Brief details on the project description;
- Government of Lao PDR (GOL) Legislative Framework guiding the project and the WB ESF, including a gap analysis;
- Potential Environment and Social Risks and Impacts, and Mitigation Measures;
- ESMF Procedures for Screening and Preparation of ESMPs, including institutional arrangements;
- Capacity assessment to implement the ESMF and other instruments;
- Grievance Redress Mechanism;
- Monitoring and Reporting;
- Indicative Budget.

This ESMF includes as annex and templates for the ESMP, Chance-Find Procedures, Screening & Scoping Form, Labour Management Procedures, Codes of Conduct and Monitoring checklists, as well as several specific guidance and instruction sheets.

Potential Environmental and Social Impacts

The SEARECC covers 5 provinces, with 31 districts and 2,096 villages. These numbers are in these provinces, but not necessary under the SEARECC. The number of districts ranges from 5 districts in Luangnamtha to 12 districts in Luangprabang. The number of villages is also lowest in Luangnamtha (354 villages) and highest in Luangprabang (755 villages). Most villages in these provinces are in highland areas. In Phongsaly, this is almost 99%. Although the mountainous terrain of Phongsaly is a challenge for the province in terms of improving transport and agricultural land use, it is an advantage for the province to develop hydropower projects, particularly along the Nam Ou River.

NR2 has a total length of 295 km and is divided into two main sections, NR2 West (190 km) connecting the Thai border at Huai Kone via NR4A and NR2-East (150km) connecting with the Vietnamese border at Tay Trang, Dien Bien Phu province. NR2E will not be financed by the SEARECC.

NR2 West is in relatively flatland with agriculturally suitable areas alongside the road. Where the river turns west the steep side slopes are still maintained but some low terrace areas are now evident where side tributaries emerge and met the Mekong.

During the pre-ESIA, it was found that as of 2020 an estimated 256,000 people live in districts along NR2W; an estimated 19,000 people live in Meuang Ngeun district, where the Cross-border is located and an estimated 28,000 people living in Meuang Mai district, where the Cross-border is located. Most villages are accessible by roads and some villages are along the main road or ROW of the NR2W including some schools and temples. Along the road also are some rivers, agricultural lands and forest areas and bridges.

At least 43 ethnic groups reside along the NR2W corridor. The number of people of each ethnic group ranges, however, from 1 person to just under 50,000 people. Ethnic groups with more than a percent of the total population in a given district include Hmong, Hor, Khmou, Lao, Lue, Phounoy and Tai. The Khmou ethnic group account for the majority in almost all districts, except for Meuang Ngeun.

Road rehabilitation for NR2W will involve widening from 6 meters to 8 meters (6 meters of the carriageway and 2 meters of shoulders-one meter each side). However, at this stage of project preparation it is not clear how much of the 190km road will be rehabilitated. The ESMF has identified the preliminary potential risks/impacts of the NR2 Corridor and brief management, and mitigation measures has been developed in accordance with Lao PDR's legislation and relevant international standards. The Project has the potential to result in a variety of benefits for local communities and the national economy, however, there will be environmental and social impacts and risks that will need to be effectively mitigated to ensure that the Project is delivered and implemented successfully.

While some impacts on land, assets, water quality and biodiversity are expected due to the establishment and expansion of the Right of Way and associated construction activities, impacts can be minimized and potential benefits maximized through appropriate management and mitigation measures to be developed in detailed during the full ESIA phase. If mitigation and management measures identified in future Environment and Social Management Plans (ESMPs), Resettlement Action Plans (RAPs) and other relevant management plans – which shall be developed in line with this ESMF – are implemented diligently and successfully, the Project is expected to deliver a net socio-economic benefit to Lao PDR and the GMS countries region as a whole without significantly compromising the key environmental values of the surrounding environment. Ongoing consultation with the Government of Lao PDR's line agencies, regional communities and other stakeholders will be important to ensure stakeholder interests continue to be taken into account in the planning and development of the Project.

The requirements for the Project to be developed will be in accordance with the World Bank's Environment and Social Standards (ESS) that provides significant opportunities to develop the Project in line with industry best practice for environmental and social sustainability. If implemented successfully this project could set a benchmark for the environmental and social management of future major road developments in Lao PDR and other parts of ASEAN and GMS countries.

Potential environmental risks and impacts anticipated for this project are expected to be related to:

- Sediment and erosion;
- Water quality;
- Dust, noise, and vibration;
- Disposal of hazardous materials and wastes;

- Domestic solid wastes;
- Impacts (direct or cumulative) on flora and fauna;
- Impacts (direct or cumulative) on protected forests and biodiversity;
- UXO risks;
- Climate change

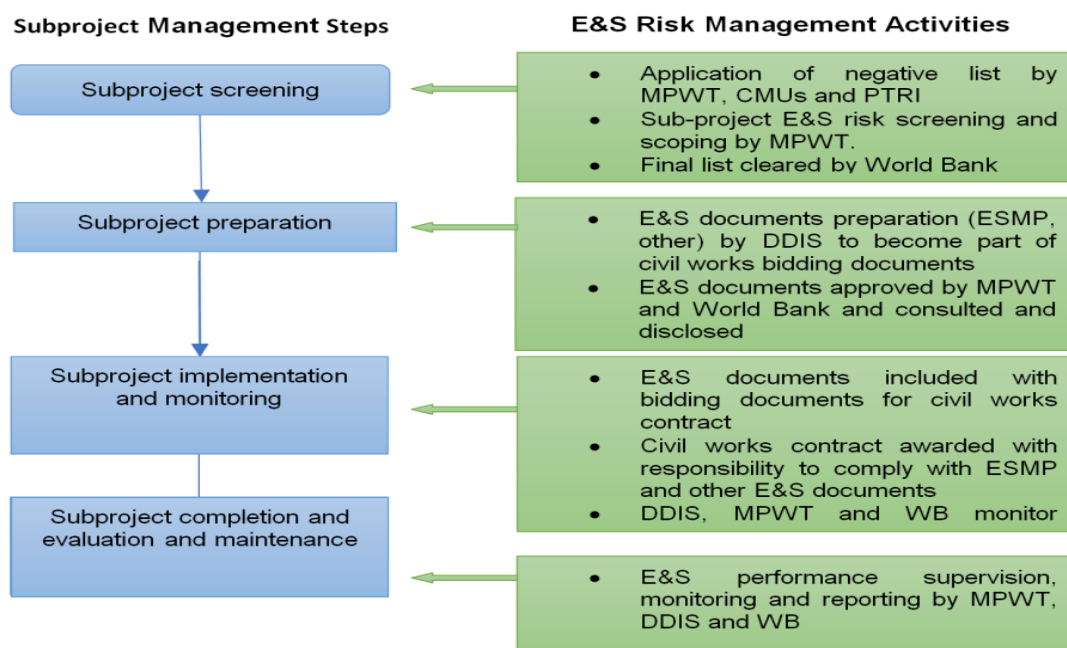
Potential social risks and impacts anticipated for this project are expected to be related to:

- Land acquisition, economic displacement and possible loss of access to properties;
- Risks to vulnerable groups if they are physically or economically displaced by the project;
- If not appropriately managed, impacts for workers as a result of construction works or other project activities;
- Road safety and increase of heavy traffic (especially international long haul trucks) during operations but also traffic related-accidents during construction;
- Temporary labour influx of workers, which might increase the risk of substance abuse;
- Increased risk of Sexual Exploitation and Abuse (SEA) and/or Sexual Harrassment (SH)² from workers and their proximity to vulnerable groups, as well as opening up of the corridor;
- Increased risk of human trafficking as a result of greater and faster connectivity between Lao PDR, Thailand and Vietnam;
- Likely impacts on ethnic groups, who are expected to be present in the Project area;
- Impacts to cultural and spiritual spaces as a result of construction and/or road expansion; and
- Risks of exclusion of ethnic or vulnerable farmers from the benefits of the agricultural programs.

² **SH** refers to unwelcome sexual advances, requests for sexual favors, and other unwanted verbal or physical conduct of a sexual nature. SH is specific to occurrences between personnel/staff working on the project. **SEA** refers to any actual or attempted abuse of a position of vulnerability, power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. SEA is specific to interactions between project staff and project beneficiaries or communities.

ESMF Procedures

The ESMF describes procedures for screening and scoping, as well as detailed steps to prepare ESMPs and other management plans, including the information required, responsibilities and capacity needs and training necessary for project staff in charge of ESMP monitoring. Institutional arrangements for the project at the MPWT and government-level, as well as for consultants and contractors, are also described in Section 5 of this report.



Grievance Redress

The grievance mechanism seeks to resolve concerns promptly, using an understandable process that is culturally appropriate and readily accessible at no cost. Grievances can be submitted if someone believes the Project is having a detrimental impact on the community, the environment, or on their quality of life. Stakeholders may also submit comments and suggestions. The GRM is described in full in the project's SEP, as well as in the ESMF. There are three (3) GRMs that will be established under the Project, one is a general GRM for Project Affected Persons (PAPs), one is a GRM specific to land acquisition issues (detailed in the Project's Resettlement Planning Framework), and the third one is a GRM specific to labourers/workers in the project.

Monitoring and Reporting

Monitoring reports will need to be undertaken in order to:

- Assess the efficiency and quality of the environmental and social assessment processes;
- Establish evidence- and results-based assessment of the implementation of the Environmental and Social Management Plans (ESMPs); and

- Provide an opportunity to report the results of the implementation of mitigation measures in future ESMPs and other project related documents.

Implementation Arrangements

The Ministry of Public Works and Transport (MPWT) through the Department of Planning and Cooperation (DPC) will take the lead in implementation and work with government at national, provincial, district, and village level. Sectoral implementing agencies include: (a) Ministry of Agriculture and Forestry (MAF) responsible for institutional and operational capacity development in agricultural value chains; (b) Customs Department, of the Ministry of Finance (MOF), and the Department of Import and Export of the Ministry, of Industry and Commerce (MOIC), will be responsible for implementing Customs and trade facilitation activities through the National Trade Facilitation Committee (NTFC) and Provincial Trade Facilitation Committee (PTFC); (c) Ministry of Planning and Investment (MPI) will be responsible for Public Private Partnerships (PPP) and strengthening provincial capacity on management of private sector investments; and (d) Ministry of Public Security (MOPS) will oversee border facility management and security, immigration and border crossings, with relevant provincial authorities, working on the border facility management, management of private sector investment, and ensure consistency between national regulations and local practices of border facility operation.

The EDPD/PTRI will work in close coordination with and provide technical support to Component Management Units (CMUs) under MPWT and the provincial DPWTs who will be actually planning and implementing the project on the ground, including environmental and social framework (ESF). EDPD/PTRI will be tasked with overall supervision and monitoring of the implementation of environmental and social measures. EDPD/PTRI shall manage the GRM for CMUs under MPWT and other CMUs of other ministries shall manage their respective GRMs

MPWT with the technical support from EDPD/PTRI will be responsible for ensuring that E&S requirements are mainstreamed in maintenance planning, design and pre-construction works including tendering and contracting process. At subproject level, DPWTs are responsible for planning and implementation of E&S activities including including the implementation and management of the GRM. The DPWTs of the Project provinces will assign E&S focal persons to be responsible for compliance with environment and social standards of the project activities. The DPWTs and the Environment and Social Monitoring Working Groups (ESMWGs) will be responsible to carry out subproject E&S impact screening, the required E&S planning activities and develop the necessary E&S plans.

Budget

ESMF implementation cost will include the development of this ESMF, RPF, EGEF, ESCP and SEP, including staff costs, travel, consultation workshops, translation and trainings. The total indicative cost reviewed is estimated at USD2,252,800 (See Table 10-1) plus the costs of specific mitigation measures in the ESMPs, RAPs and EGEPs (if applicable). Funds will be sourced by a combination of IDA and counterpart financing, from the project management component. This budget is

indicative only and should be further refined during the preparation of site-specific ESMPs. Cost for conducting a detailed ESIA study, RAP, IEE and EGEP preparation and cost for compensation of affected households are not included in this budget. The cost for resettlement and compensation will be the responsibility of the Government of Laos (GOL). Also the cost for the implementation of E & S measures will be under contractor contracts. These will be estimated during the project appraisal after the number of affected households has been established in line with the provisions outlined in the RPF. See ANNEX 16: Details of Estimated ESMF Budget.

This ESMF was first disclosed on November 15, 2021 in the MPWT website and consulted on November 29-December 3 as detailed in this document and the project's Stakeholder Engagement Plan.

1 PROJECT DESCRIPTION

1.1 Project Components

1. The proposed SEARECC seeks to improve regional and domestic transport connectivity and the cross-border trade efficiency for beneficiaries in selected corridors in Northern Lao PDR, and to provide immediate and effective response in case of an Eligible Crisis or Emergency. The project consists of 5 Components:

- **Component 1: Lao PDR and Regional connectivity enhancement.** This Component will support MPWT to improve connectivity in the northern part of Lao PDR to provide safe, efficient, climate-resilient, and reliable infrastructure for both international transit routes and domestic connectivity through:
 - i. **Sub-Component 1.1: NR2W climate resilient improvement and maintenance.** This sub-component supports the improvement and maintenance of condition, safety, and climate resilience of selected sections of NR2W³ to meet the Asian Highway Class III standards, including widening of the road from 6 meters to 8 meters (6 meters of the carriageway and 2 meters of shoulders-one meter each side to accommodate pedestrian's safety) and rest areas. This subcomponent will implement the Output and Performance-Based Road Contracts (OPBRC), with 3 years for construction and 7 years for operations and maintenance. This subcomponent will ensure the equal opportunity of women and men from local communities in paid jobs under the road works contracts. The Department of Road (DOR), MPWT, will be the lead implementing agency for this sub-component. Local communities, with a particular focus increasing women's voice and agency in this male dominated sector, will participate in the monitoring of the OPBRC road improvement and maintenance contracts.
 - ii. **Sub-Component 1.2: Local Road climate resilient improvement and maintenance.** This sub-component supports the improvement and maintenance of climate resilience and safety of selected local roads in Phongsaly, Oudomxay, Luang Namtha, Xayabouly, and Luangprabang. The performance-based contract (PBC) approach will be used for maintenance. This subcomponent will ensure the equal opportunities of women and men from local communities in paid jobs under roads maintenance. The Department of Road (DOR) and the provincial Department of Public Works and Transport (DPWT) will be the lead implementing agency for this sub-component. Local communities, with a particular focus increasing women's voice and agency in this male dominated sector, will participate in the monitoring of the road improvement and PBC maintenance contracts.

³ The NR2E sections will be financed by EIB in parallel to this project.

- iii. **Sub-Component 1.3: Improvement of the border crossing facilities.** This sub-component supports the improvement of the border crossing facilities road NR2 at (a) Pang Hok in Phongsaly bordering to Dien Bien Phu, Vietnam and (b) Muang Ngeun in Xayabouly bordering to Nan province, Thailand, through the upgrade of the existing facility and provision of goods and equipment for digitization of cross-border business processes. This subcomponent will ensure the equal opportunities of women and men from local communities in paid jobs under the cross-border facilities improvement contracts. This will also be led by the DOR with support from the Department of Urban Planning (DUP), MPWT.
 - iv. **Sub-Component 1.4: Implementation support and supervision consultant.** This sub-component will finance (a) implementation support and supervision consulting services for the design and supervision of the NR2, local roads, and cross-border facilities improvement, and (b). The sub-component will also support MPWT and DPWT working on the mechanism for local road maintenance planning and financing. This sub-component will ensure the equal opportunity of women and men in road work supervision.
- **Component 2: Logistics services development and border-crossing management.** This Component will support the operations of cross-border trade and logistic development through:
- (i) **Sub-Component 2.1: Dry ports and logistics development.** This sub-component supports MPWT to improve the efficiency and competitiveness of Logistics services in the economic corridor through: (i) formulation of policies to improve enabling environment for competitive logistics services; (ii) FS for dry-ports and consolidation locations, including the development of the Standard Operation Procedures (SOPs) for the development of dry-ports and consolidation locations; (iii) provide public utilities to the dry-ports and consolidation locations, to be developed as Public-Private Partnerships. This sub-component will be led by the DOT and involved agencies concerned at the provincial level.
 - (ii) **Sub-component 2.2: Regional integration and cross-border transport agreements.** This sub-component will support GoL to improve cross-border transport efficiency. The proposed activities include technical assistance to (i) establish a platform for collaboration among Lao PDR, Thailand, and Vietnam; (ii) strengthen the capacity to implement cross-border transport agreements and address cross-border transport issues, such as harmonization of heavy vehicle dimensions and standards; permitted axle loads; driver licensing; climate change; road safety; communicable disease control; and, (iii) improve legislative frameworks to support implementation of cross-border transport agreements.
 - (iii) **Sub-component 2.3: Strengthening capacity CIQ and Border Management.** This sub-component covers: (i) financing technical assistance to review and improve secondary legislation in border management; (ii)

providing training to strengthen institutional and operational capacity of CIQ, including communicable diseases and human trafficking; (iii) provide equipment and software customization to optimize border clearance; and (iv) promoting cross-border cooperation for improved CIQ management including information sharing. This sub-component will place a particular focus to ensure equal access to information related to CIQ for women and men. The Trade Facilitation Secretariat (TFS), MOIC, will be the lead coordinating agency for this sub-component.

➤ **Component 3: Strengthening institutional capacity and regulatory framework in agriculture, transport, and investments planning.** This component will support strengthening institutional and operational capacity in agricultural development, transport sector, and investment management at national and provincial levels.

(i) **Sub-Component 3.1: Support on agricultural trade and SPS Management.** The scope of this sub-component, which will be led by the Department of Agriculture (DOA), Ministry of Agriculture and Forestry (MAF), is mainly grouped into two parts:

a) Capacity development to support agricultural trade will focus on improving the enabling environment for agricultural trade activities. The key activities include: (i) financing technical assistance to review and improve business process for cross border trade for agriculture products through streamlining of export and import permits, raising awareness of traders' compliance with SPS requirements, and simplifying the registration of farm inputs; (ii) providing training to strengthen operational capacity for the MAF, Provincial Agriculture and Forestry Offices (PAFOs), and DAFOs in agricultural trade promotion; and (iii) capacity development to address key gender gaps in agricultural trade including unequal access to information for women, barriers registering businesses, accessing financial credit, technology and market

b) Capacity Building for SPS Management will focus on capacity building of MAF, Ministry of Health (MOH), PAFOs, District Agriculture and Forestry Offices (DAFOs), and border checkpoints for compliance of SPS requirements and reduce trade barriers in the targeted provinces and districts. Mainly, the activities cover (i) financing technical assistance to review and improve legislations relevant for SPS; (ii) providing training to strengthen institutional and operational capacity in SPS management; and (iii) financing technical assistance to carry out a laboratory assessment for upgrade and testing services.

(ii) **Sub-Component 3.2: Support on Multi-Modal Transport.** This sub-component, led by DPC, MPWT, includes (a) review and development of the legal framework, regulations, tools, and guidelines to support the implementation of multi-modal transport law, logistics development strategy and transport sector strategy, (b) development of multi-modal transport network management framework and system, including investment planning

for logistics sector development, (c) strengthening capacity for planning and implementation of the multi-modal transport network management framework and logistics development management at both national and provincial levels, (d) implementation of road safety action plan, (e) integrate disaster risk and climate change considerations into transportation and logistics investment decision-making processes, and (f) capacity development to address the gender gaps in the transport sector, including integrating gender and social inclusion (GESI) considerations in developing regulations and guidelines to support the implementation of the law and strategy. The sub-component will also develop and roll out annual advocacy and social and behavior change communication (SBCC) campaigns to support necessary changes for raising women's agency and voice, to change social norms to increase women's mobility and access to transport.

- **Component 4: Project Management.** This Component will provide technical and operational assistance for strengthening the environmental and social capacity of agencies concerned at national and local levels, the day-to-day management, monitoring and evaluation of the Project, and the carrying out of technical and financial audits. In addition, this component will provide support for compliance monitoring for environmental and social aspects. The sub-component will also strengthen the resilience of communities living along the project roads against human trafficking, communicable disease, road safety, sexual exploitation abuse and harassment through campaigns, training, dissemination of information. The following documents, which will also be prepared as part of the project requirement, include Project Procurement Strategy for Development (PPSD), including procurement plan, and Project Operational Manual (POM) - containing detailed information on the project implementation arrangements and processes, including coordination mechanism, project management, Monitoring and Evaluation (M&E) /reporting arrangement, procurement, financial management, disbursements, and environment and social.
- **Component 5: Contingency Emergency Response.** This component will provide an immediate response to an eligible crisis or emergency, as needed. In the event of an eligible crisis or emergency, the World Bank can re-allocate project funds to support emergency response and recovery.

1.2 Proposed Project and Sub-Projects

2. The World Bank has rated the overall environmental and social risk classification as Substantial. Project activities have the potential to generate social risks and impacts including (a) pre-construction phase impacts from land acquisition including the disruption of livelihoods and the relocation of households, along with the potential loss of culturally significant or spiritual spaces (b) construction phase risks such as restricted access to roadside properties, risks related labor and working conditions for construction workers, along with the risk of increased substance abuse and sexual exploitation and abuse/harassment and transmission of communicable diseases associated with labor influx (c) operational phase risks to

community health and safety due to the increases in heavy traffic. Environmental risks and impacts expected are related to construction works on border crossing facilities and road improvement including widening and rehabilitation of the existing road network, the potential for downstream impacts from Technical Assistance activities in the agricultural component (still to be defined), and limited experience in the country with implementing the ESF. While some of these risks and impacts may be significant, they are for the most part predictable and possible to mitigate during the lifetime of the project.

Detailed description of the proposed project and sub-projects are as follows.

1.2.1 NR2 West

3. Total length is 190km but at this stage it is not clear how much will be rehabilitated (improving condition + some widening of shoulder) with WB funds. The improvement of the existing NR2 West will primarily occur along the existing alignment except for the proposed detour road to bypass Muang Xay. The NR2 West runs through Muang Xay, Beng, Houn, Pakbeng of Oudomxay, and Ngeun district of Xayaboury province. The segment between Beng and Houn districts passes through lowland agricultural areas such as rice paddies, banana, cassava, rubber and banana plantation. Many local build up were observed in proximity to the roadside. However, preliminary site investigation indicated that local residents are aware of the road buffers of about 25 m which is officially secured for improvement.

4. Potential environmental and social risks and impacts during construction and operation of the NR2 West will vary significantly, depending upon the type, scope of the activities, and its location as well as construction methods. It is expected that the proposed construction activities and related works will be performed along the existing alignment, and thus potential adverse impacts will be moderate, localized, and most of them will be temporary and can be mitigated through effective management of construction and contractor. Most of the potential impacts may be considered as typical impacts due to civil works which can be mitigated through the application of good construction practices and housekeeping and close monitoring of contractor performance. However, there may be some specific sites (such as urban areas, schools, hospitals, temples, old cultural sites, temples, etc.) that require special attention on the mitigation measures and close monitoring. However, at this stage of Project preparation, it is not clear what extent of NR2W will be rehabilitated by the World Bank project, and thus a Preliminary ESIA and ESMF have been prepared at this stage (and not a full ESIA/ESMP). The full ESIA and FS will be carried out in 2022, and that will be the basis to define the scope of the project being financed by the WB as well the detailed assessment of impacts. The Pre-ESIA aims to paint an early picture and describe the general E&S baseline in the area as well as the potential impacts expected.

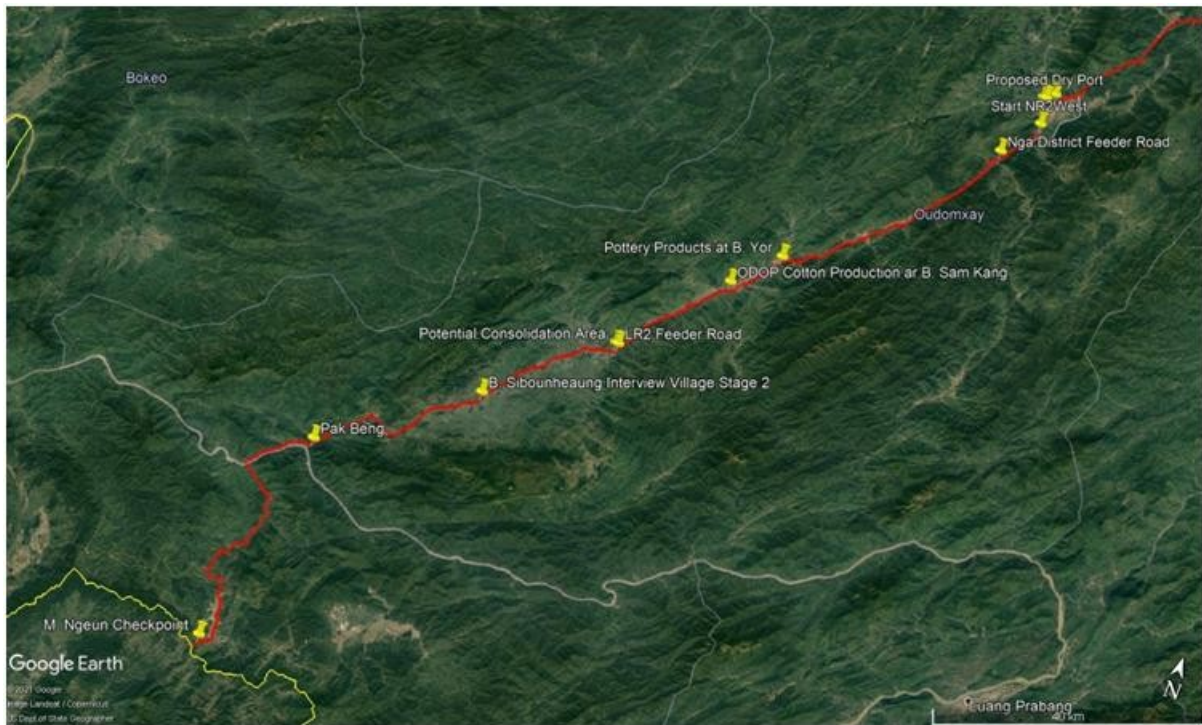


Figure 1-1 Key points of interests along the NR2 West

1.2.2 Feeder Roads

5. These are roads that don't necessarily connect straight with NR2W but that feed into the corridor, in particular from an agricultural perspective. It is all part of increasing connectivity, also taking the China-Laos Railway into account. Feeder roads will be chosen from 5 provinces: Phongsaly, Xayaburi, Luangnamtha, Luangprabang and Oudomxay. At this stage there is no information as to which feeder roads will be funded by the project, therefore the ESMF is being prepared to outline how screening of risk and preparation of management plans will be done once these sections are identified. The ESMF, in the baseline section, includes some high-level (secondary data) information on these 5 provinces.

6. The China-Laos Railway is an electrified passenger and freight railway, which runs 1,035 km, including 422 km in Laos, from the city of Kunming, southwest China's Yunnan Province, to the Lao capital Vientiane. Construction of the Laos section started in December 2016, and the line was officially opened on 3 December 2021. As a docking project between the Belt and Road Initiative and Laos' strategy to convert itself from a landlocked country to a land-linked hub, it will slash the travel time between the two cities to about 10 hours (down from a couple of days). The section connecting Vientiane and Boten (at the northern border with China) could provide Laos with a land link to global and regional supply chains, which could make the country more attractive to investors, create new jobs, and accelerate economic growth. The railway could potentially increase aggregate income in Laos by up to 21 percent over the long term, the World Bank said in a report last year⁴.

⁴ World Bank (2020) "From Landlocked to Land-Linked: Unlocking the Potential of Lao-China Rail Connectivity".

7. The upgrade of NR2 West will intersect with a number of feeder roads. Feeder roads were preliminary identified and proposed during a site visit in September 2021, including the feeder roads connecting the railway corridor and other identified areas of economic development such as tourism, special economic zones, dry port, health centres, towns/main community areas (also refer to economic corridors). Preliminary identification of feeder roads includes existing access road to Nga and Houn districts. However, final selection of feeder roads has not been made by DPWT in consultation with DOR/MPWT and relevant provincial departments. It is expected that the feeder roads selected will be existing roads to be rehabilitated or upgraded, and therefore the alignment shall follow the existing road as much as possible. Further studies should be conducted to confirm these feeder roads. The design and construction of feeder roads will meet climate resilient requirements but be lower-category roads (provincial, mainly district roads). The pavement design shall be therefore adjusted to the road category and the current condition. The selection of feeder roads will be made taking into consideration E&S aspects. Please refer to ANNEX 2: Environment & Social Screening and Scoping.



1.2.3 Border Crossing Facilities (BCF)

8. The Component 2 of the SEARECC Project is the upgrade of two existing border crossing facilities: (a) Muang Ngeun in Xayaboury, and (b) Pang Hok in Phongsaly. The NR2 upgrade will also include a provision of goods and equipment for digitization of cross border business processes. Cross border agreements between Lao PDR, Thailand and Vietnam are expected to be discussed especially information sharing, standardizing technical aspects on road infrastructure and road safety, joint responsibility for maintenance of roads serving transit, insurance arrangements, driving licenses, vehicle licensing and inspection, transit and road user fees, and enforcement regimes for transit consignments.

9. The border management including customs, immigration and quarantines (CIQ) will be strengthened through the development and/or effective implementation of regulatory framework, institutional and operational capacity building, and ICT capacity development.

10. Current facilities at Lao – Thai border crossing facilities include Customs, Agriculture Police Offices, and staff accommodation facilities. The Lao – Thai BCF

covers approximately 84 ha of state land. However, some local communities are using some unused land areas for various farming activities such as corn, banana, and teak plantation.

11. Notwithstanding the aggregate benefits expected from the development of cross-border infrastructure, the potential impacts and benefits of such investments are unlikely to accrue equitably cross involved countries. In particular, the economic sizes and level of economic development of GMS countries including Lao PDR, Thailand, China and Vietnam are greatly disparate. Problems in the incidence of benefits and costs of trade liberalization and trade integration across large and small economies are complex (Manabu & Christopher, 2006).

12. The upgrading of NR2 as well as border crossing facilities are expected to bring greater economic benefits to Lao PDR through enhanced trade with neighbouring countries. Despite these potential benefits, many of the environmental and social externalities are associated with the road construction and operation. For example, greater difficulty of travel during construction, encroachment on fragile forests and indigenous communities, risks of vehicle collisions to local people and animals residing along the road, and increased transmission of disease associated with anticipated increase in transit visitors.

13. The extent of work is not clear and that is why the ESMF is being prepared (instead of ESMP). The facility in Vietnam already exists and works are likely to focus on refurbishment and other small works. Potentially, land will need to be acquired for a parking lot but the feasibility of this will be assessed in the FS/ESIA. The Thai facility has no structure so the WB would likely finance the construction of a facility but it is not clear yet the size, etc. Land would likely be needed. Full assessment will be done in ESIA. For the Pre-ESIA, the baseline should cover both these BCF, in particular on their surrounding environmental conditions and land use.

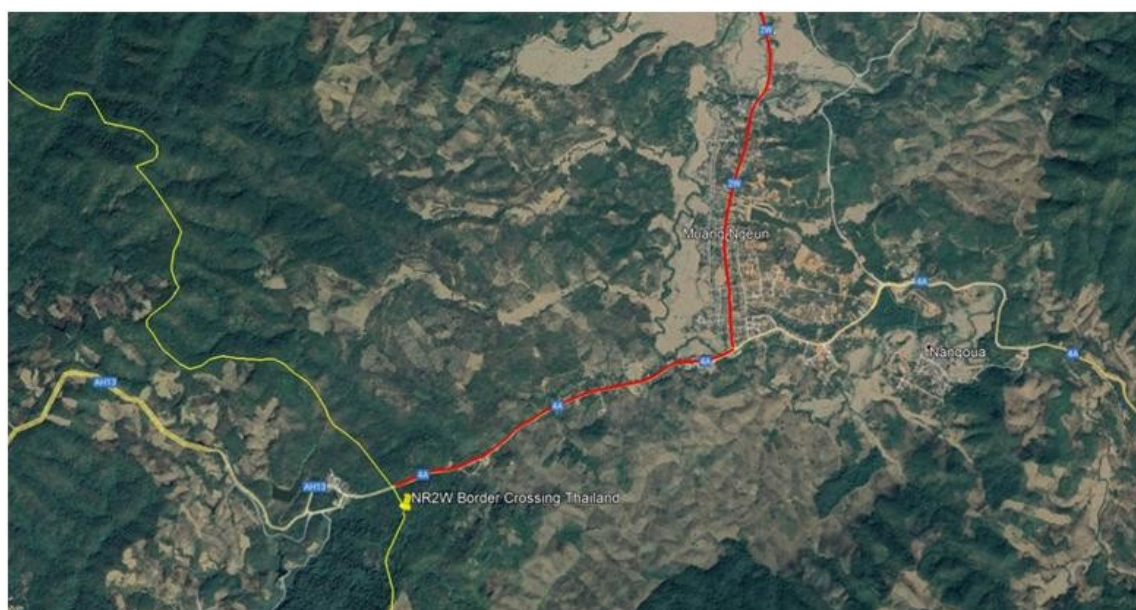


Figure 1-2 National Road 2 at Lao – Thai Border



Figure 1-3 National Road 2 at Lao – Vietnam Border

1.2.4 Consolidation Facilities

14. Consolidation Facilities are planned to be developed as part of the NR2 Project. They will provide easily accessible serviced land for logistics in connection to the railway transport network.

15. Two potential consolidation facilities / dry ports were identified and proposed by the DPWT during the site visit in September 2021. The first site is located adjacent to Oudomxay railway station which also links to other major road networks such as NR13 North. Another proposed consolidation facility is located along the NR2 West in Houn district, Oudomxay province. The proposed consolidation will link with the proposed NR2 West upgrade which will accommodate logistics with the railway and other main road networks. Current land use in this area is mainly rice paddy.

16. The consolidation location will involve essentially widening to one side of the road, where large trucks will come and unload goods and/or where farmers will bring their goods to load. This will cut on the need of large trucks going down small roads to get goods directly from farms. Some land acquisition will be needed and there may be construction of toilets and small covered area but this is yet to be defined. Role of ESMF is to set criteria for how locations will be chosen and outline the process of screening for impacts and preparation of plans (ESMPs, RAPs, etc.)

17. Figure 1-4 Location of proposed Dry Port and Consolidation Center in Muang Xay shows preliminary location of proposed dry port in Muang Xay which is situated in proximity to existing Oudomxay Railway Station.



Figure 1-4 Location of proposed Dry Port and Consolidation Center in Muang Xay

1.2.5 Technical Assistance and Project Management

18. The SEARECC project will also support institutional and operational capacity in agricultural development, transport sector, and investment management at national and provincial levels which will be led by the Department of Agriculture (DOA), Ministry of Agriculture and Forestry (MAF). The scope of this sub-component is mainly grouping into two parts: a) Support on agricultural trade and SPS Management and b) Support on Multi-Model Transport that will strengthen the capacity of MAF, Ministry of Health (MOH), Provincial Agriculture and Forestry Offices (PAFOs), District Agriculture and Forestry Forestry Offices (DAFOs), and border checkpoints for compliance of SPS requirements and reduce trade barriers in the targeted provinces and districts. In addition, the Department of Planning and Cooperation of MPWT will take lead in project management that will provide technical and operational assistance for strengthening E&S capacity, the day-to-day management, monitoring and evaluation of the Project, and the carrying out of technical and financial audits which includes technical support for compliance monitoring for environmental and social aspects from EDPD/PTRI.

19. Lastly, the Contingency Emergency Response (CER) that will provide an immediate response to an eligible crisis or emergency, as needed. In the event of an eligible crisis or emergency, the World Bank would re-allocate project funds to support emergency response and recovery.

2 INSTITUTIONAL AND LEGAL FRAMEWORK

2.1 Environmental Laws, Regulations, Guidelines, and Standards

20. The Lao PDR has many laws and regulations that govern environmental and social impacts and risks assessment and management applicable for all development projects financed by both public and private sectors. The following highlights key regulations and policies relevant to environment and social management of the SEARECC project :

- The EIA decree issued in early 2019 (Decree 21/GoL).** Approval of a new decree on EIA in early 2019 provided a strong legal basis for development projects to conduct social assessment and plan/implement mitigation measures as needed. The new EIA decree describes the EIA/IEE processes and requirements regarding the preparation and submission of an ESIA and IEE reports including the Environment and Social Management Plan (ESMP). This includes the principles, regulations and measures for managing, monitoring, restoring, and protecting the environment to ensure environmental quality including the pollution control and the impact assessment processes. A number of technical guidelines including the Public Involvement Guideline (PI) were launched in 2012 and being applied, however, consideration is being made if it is necessary to update this guideline. The objectives of these Guidelines are to (i) ensure the correct implementation of the public involvement and reflect regulation, principles, transparency and full coverage particularly the involvement of the project affected people in the above involvement process; and (ii) ensure that the project affected people have fairly received reasonable solutions of impacts resulting from investment project. The Department of Environment (DOE) of Ministry of Natural Resources and Environment (MONRE) is responsible for review of the ESIA report and make recommendation for the issuance of an Environmental Compliance Certificate (ECC)^[11] while The Department of Pollution Control and Monitoring (DPCM) is responsible for undertaking compliance monitoring. The Provincial Department of Natural Resources and Environment (PoNRE) is responsible for review, issuance of ECC, and monitoring of project that requires an IEE. A regulation on the list of projects requiring EIA or IEE (see Box 2-1) is being reviewed and updated.

Box 2-1 GoL ESIA and IEE regulations related to road investment	
Group 1: IEE	Group 2: ESIA
4.1 Land filling of ponds, canals, drainages that may cause public damage	4.11 Construction of new road (all size and types)
4.12 Upgrading or rehabilitation of roads (all types)	

- Pollution Control:** Decree on Promulgation of National Environmental Standards (2017) was first developed in 2009 to minimize impacts to human

health, animal life, and the environment from development activities in the country. Revised and updated in 2017, the National Environmental Standards apply to any relevant person, enterprise or organization and provide a common platform for both ambient environmental standards and common pollution control standards. The Standards determine parameters, indicators and levels of pollutant concentrations as scientific reference, in the monitoring of environmental quality and control of pollution emitted to air, or discharges to soil and water including disturbance that may have impact on human and animal life, health and environment. The project developments will be required to obtain the pollution control permit as described in the ministerial regulations which will be established by MoNRE. Article 10 determines the National Surface Water Quality Standards for 5 different classes of waterways. Article 11 determines the groundwater quality standards and Article 14 determines the effluent limit values for different activities. The Department of Pollution Control and Monitoring (DPCM) of MoNRE and the respective unit at the provincial and district levels will be responsible for overseeing the implementation and monitoring of the decree/regulations. PCD is also responsible for management of the ozone depleting substance (per the Montreal Protocol) and be the focal point for the Great Mekong Sub-region program (funded by ADB). This agreement applies to persons, entities and organizations in the implementation of pollution control in the environment in Lao PDR. The main articles applicable to the project are as follows:

- Article 5 General Air Quality Standards
- Article 6 Air Pollution Emission Control Standards
- Article 7 Air Pollution Emission Control Standards for Vehicle
- Article 8 Soil Quality Standards
- Article 9 General Water Quality Standards
- Article 10 Surface Water Quality Standards
- Article 11 Underground Water Quality Standards
- Article 12 Drinking Water Quality Standards
- Article 13 Drinking Water Quality Standards in covered container
- Article 14 Water Pollution Control Standards
- Article 15 General Noise Standards
- Article 16 Vibration Control Standards
- ***The Forestry Law (revised 2019)*** defines forests as an invaluable national resource with a unique ecology, comprising biodiversity, water resource, and land with various tree species growing naturally or planted in an area of at least 0.5 hectare and a crown cover of at least 20%. Forest in Lao PDR are classified into three categories for the purpose of management, protection, development and utilization as follows: protection forests, conservation

forests, and production forests. Each forest category consists of areas of dense forest, dry dipterocarp forest, regeneration forest and degraded forest as prescribed in the Forest Management Plan. Protection forests are forest classified for the function of maintaining water resources, river banks and road sides, for preventing soil erosion and improving soil quality, for protecting strategic areas for national defense and security, safeguarding against natural disasters and providing environmental protection and other functions. Conservation forests (Protected forests) are forests classified for the purposes of conserving nature, preserving and propagating plant species, aquatic animals and wildlife species, protecting forest ecosystems and sites of natural, historical, cultural, touristic, environmental and educational value and for scientific research experiments. Production forests area forests including natural forests and planted forests designated for the supply of wood and NTFPs as commodities to satisfy the requirements of national socio-economic development and people's livelihoods. The Ministry of Agriculture and Forestry is authorized to develop forestland through coordination with other concerned sectors, local administration authorities and all sectors of society, including Lao citizens, to contribute to forestland development by developing polices, guidelines and measures related to the protection, conservation and rehabilitation of forestland to improve its condition and increase its value in a balanced manner with the forest ecosystem. Forestry Law has defined the scope of protection and development forest and forestland area by the central, provincial, district and village levels.

- ***The Law on Aquatic and Wildlife (24 December 2007)***. This law determines principles, regulations and measures on wildlife and aquatic life in nature to promote the sustainable regeneration and utilization of wildlife and aquatic life, without any harmful impact on natural resources or habitats and to restrict anthropogenic pressure on decreasing species and the extinction of wildlife and aquatic life. The law outlines guidelines for managing, monitoring, conserving, protecting, developing and utilizing wildlife and aquatic life in a sustainable manner; to guarantee richness of ecological natural equilibrium systems, and to contribute to upgrading livelihoods for multi-ethnic people, which has the potential to develop and realize national social-economic goals.
- ***Law on Water and Water Resources (Amended), No. 23/NA, 11 May 2017***: This Law determines the principles, regulations and measures regarding the management, administration, protection, development and use of water and water resources; prevention from the water harmful effects, and restoration and rehabilitation of adversely affected areas with the aims to meet the needs of the people for their livelihoods, agricultural and industrial production and services, to ensure the protection of environment, society and nature, green directive development, sustainability and national security, regional and international integration and contribution into the socio-economic protection and development. This Law applies to both domestic and foreign individuals, legal entities and organizations earning their livings and carrying

out their activities in Lao PDR. Article 4 defines rights, obligations, and procedures to gain approval for use of water resources. Article stipulates that medium and large scale uses require feasibility studies, EIAs, and mitigation plans, before permission is granted for use of the resource. Article 22 stipulates that water resource development must be consistent with national and sector plans, must ensure preservation of the natural beauty of the resources, and must protect against harmful effects of water.

- **Other related policy, regulations, and international agreements:** Lao PDR is a member of many international and regional conventions and/or agreement and has been playing an active role. Box 2-2 provides list of key Lao PDR environmental legislations applicable to the project. Box 2-3 Summaries international agreements and/or conventions related to natural resources and environmental management.

Box 2-2 Key Lao PDR environmental and social legislations applicable to the project	
Subjects	Related national policies, strategies, laws, regulations
Road	<ul style="list-style-type: none"> • Law on Road Traffic, No. 021/NA, dated 08/11/2016 • Law on Public Road, No. 03/NA, dated 08/11/2016 • Law on Land Transport, No. 23/NA, dated, 12/12/2012 • Law on Multi-Transports, No. 28/NA, dated 18/12/2012 • Law on Construction, No. 05/NA, dated 26/11/2009
Natural Environment	<ul style="list-style-type: none"> • Constitution of the Lao PDR People’s Democratic Republic (1991, amended • No. 63/NA, 08/12/2015 • Law on Environment Protection, No. 29/NA, dated 18/12/2012 • Law on Forestry, No. 08/NA, dated 13/06/2019 • Law on Disaster Management, No. 15/NA, dated 24/06/2019 • Law on Water and Water Resources, No. 23/NA, dated 11/05/2017 • The Law on Aquatic and Wildlife Animals No. 07/NA (2007) • Decree on Environmental Impact Assessment, No. 21/GoL, dated 31/01/2019 • Decree on Protected Forest Management (No.134/Gov, dated 13 May 2015) • Decree on the Promulgation and Enforcement of National Environmental Standards, No. 81/PMO, dated 21 February 2017
Social	<ul style="list-style-type: none"> • The Law on the Development and Protection of Women and Children (2004) g • The revised Land Law (No. 70 /NA), endorsed by the National Assembly on 21 June 2019, • Law on Hygiene, Prevention and Health Promotion (Amended 2011) • Law on Preventing and Combating Violence Against Women and Children (VAWC) (2014) • Decree on Occupational Health and Safety, No. 22/GoL, dated 05/02/2019

Box 2-2 Key Lao PDR environmental and social legislations applicable to the project

Subjects	Related national policies, strategies, laws, regulations
	<ul style="list-style-type: none">• Law on Land, No. 70/NA, dated 21/06/2019• Law on National Heritage, No. 44/NA, dated, 24/12/2013• The Lao Labour Law (2013)

Box 2-3 International conventions

- **ASEAN Agreement on the Conservation of Nature and Natural Resources (1985).** Lao PDR as Party to this agreement has agreed on development planning, the sustainable use of species, conservation of genetic diversity, endangered species, forest resources, soil, water, air and address environmental degradation and pollution.
- **United Nations Convention on Biodiversity (CBD 1996).** Under this convention, Lao PDR has agreed to conduct an Environmental Assessment of proposed development projects to minimize harmful effects.
- **Convention on International Trade in the Endangered Species of Fauna and Flora (CITES 2004).** Provides an international umbrella for management and control of trade in endangered fauna and flora. Tiger is listed as CITES Appendix 1 species for which all international trade is prohibited.
- **United Nations Framework Convention on Climate Change (UNFCCC 1995).** The Government of Lao PDR joined the global community to combat climate change by ratifying this Convention. As a developing country, there is no requirement for Lao PDR to reduce its greenhouse gas emissions. The country also ratified the Kyoto Protocol in 2003 and thus may be eligible for involvement in carbon trading through a compliance market of the Clean Development Mechanism as well as the international voluntary greenhouse gas emission trading.
- Ramsar Convention (1982). The GoL officially joined the Convention in 2010. Two wetlands of international importance have been designed as Ramsar sites as part of the accession process which are the Xe Champhone Wetlands in Savannakhet Province, and the BeungKiatNgong Wetlands in Champasak Province.
- 1995 Mekong Agreement. The GOL signed an “Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin”. This agreement among member countries, namely: Lao PDR, Thailand, Cambodia and Vietnam recognizes the intention to further develop the Mekong River Basin and also recognises that development of the basin may have transboundary impacts and should therefore be subject to agreed objectives, principles, and procedures.

- **Road Law (2016):** Road Law describes type of road works comprising construction of new road, road upgrading, road improvement, road rehabilitation, road maintenance, and emergency road works (see Box 2-4) and assign the responsibility for development and management of road networks to DoR and other agencies within MPWT including the provincial

Department of Public Works and Transport (DPWT). The law is being revised taken into account the Government policy and the current institutional arrangement. The Road Law states that Ministry of Public works and Transport manages and uses the land for the road activity in conformity with the determination in the land law. Road width shall have the area consisting of the carriageway, shoulders, pathways, drainages, slope of road and Right of Way (Article 21,22,23,24). Within the Right of Way, it shall be banned all constructions and other activities. Article 30, 31 and 32 (new) states that conducting feasibility study of road construction, maintenance and rehabilitation shall perform environmental impact assessment. Reasonable compensation must be paid to individuals whose land is expropriated for roads, relocation of replacement structures, and loss of trees and crops (Article 38 and 39); and it states that it is prohibited to construct within the road reserve (Article 38).

Box 2-4 Road types (2016)

- **Construction of new roads:** entirely new projects proposing the building/construction of a road on a new alignment (including major realignments of existing roads and bypasses). This type of project necessitates major land acquisition (for the corridor and associated work sites) and can also involve the removal of wide tracts of vegetation and habitats, and create a range of impacts on rivers and streams within the project area.
- **Road upgrading:** changing an existing road to either upgrade its classification (under the Road Law) or to improve its alignment and traffic ability, e.g., changing a seasonal road to an all-weather road. This type of project can include alteration of the surface (from gravel to paved), widening the road (e.g., from two lanes to four lanes), widening intersections, minor realignments to improve general alignment or remove hazards (e.g., sharp corners or to improve sight distance). As most of the work or activities will likely take place outside of the existing right-of-way or road platform, land acquisition will be likely and environmental and social impacts will be associated with a narrower corridor of impact than for new roads.
- **Road improvement:** this type of project generally involves improving road specifications with most of the work being done within the existing platform or right- of-way. Works include widening shoulders, adding passing lanes in steep areas, improving curves, and strengthening bridges. Additional land may be required, necessitating some land acquisition, and environmental and social impacts are likely to be limited.
- **Road rehabilitation:** this type of project aims to bring existing but deteriorated roads up to a better standard or to their previous condition. Works include improving drainage, slopes, embankments and/or other structures; strengthening pavements; or resurfacing. As all or most of the work can be done on the existing platform, no additional land will be required

(making land acquisition unlikely), and environmental and social impacts are likely to be limited.

- **Road maintenance:** this type of project includes routine or periodic works and emergency road works aiming to maintain a road in working condition and includes patching potholes; clearing drains; and periodic works such as resurfacing, line marking, and bridge maintenance. All of the work is done on the existing road platform. Road maintenance divide the responsibility into two different level such as DOR responsible for national road network and DPWT of all provinces district road and rural road.
- **Emergency road works:** this type of project is carried out after an emergency such as landslide or flooding has cut off the road and posed danger to traffic and aiming to restore the possibility and safety of the emergency affected road. The emergency works usually involve removing the landslide, removing the sizable fallen rocks, opening temporary bypass, filling collapsed embankment, removing large fallen trees (with diameter over 30 centimetres), and repairing culverts. The DPWTs or NRMP are responsible for the environmental management of emergency works. In case that emergency works cause negative environmental impacts, the DPWTs or NRMP will be responsible for actions after the emergency to mitigate the impacts, by following the practices specified in the Regulations on Environmental Impact Assessment of Road Projects, either through force account or contracting to private contractors.

2.2 Laws, Regulations and Standards on Social, Land and Ethnic Matters

21. Land acquisition and involuntary resettlement: Directly applicable to the land acquisition and involuntary resettlement is the Decree on Compensation and Resettlement of People Affected by Development Projects (No. 84/GOL, 5 April 2016). This revised Compensation and Resettlement (C&R) Decree describes the principles, regulations, and standards for mitigating adverse social impacts and compensating for damages resulting from unintentional acquisition or repossession of land and fixed or removal assets, including changes in land use. The decree aims to ensure that the people affected by the project (PAP) are compensated for and assisted in improving or, at least, maintaining their pre-project income and standard of living, and are not made worse off than they would without the project. The decree describes the strict principles of compensation, particularly for those PAPs which do not have legal land title, land use certificate or other acceptable documentation indicating their right to land use. Unlike ESS5, this government Decree does not provide neither any provision related to restriction of access to land and natural resources affecting community livelihood and income nor customary lands. In comparison with the previous Decree (No. 192, 2005), which granted this community of PAP the right to seek compensation not only for their lost assets but also for their lost rights and/or privileges of land use, the revised decree (No 84, 2016) only grants the right to claim for their lost properties, such as homes, trees and/or crops, if found

to be located in state lands, and if the land users considered to illegal occupiers. There are also other laws and regulations pertaining to this issue, summarized in Box 2-5.

Box 2-5 Legislation on land acquisition and involuntary resettlement

- The Law on Environment Protection, No. 29/NA, dated 18/12/2012
- The Law on Land, No. 70/NA, dated 21/06/2019
- The Law on National Heritage, No. 44/NA, dated, 24/12/2013
- The Law on Forestry, No. 08/NA, dated 13/06/2019
- The Law on Resettlement and Occupation, No. 086/NA, dated 15/06/2018
- The Law on Compensation and Resettlement of People Affected by Development Projects, No. 84/GoL, dated 05/04/2016
- The Decree on Environmental Impact Assessment, No. 21/GoL, dated 31/01/2019
- The Decree on Public Road, No. 03/NA, dated 08/11/2016
- The Public Involvement Guidelines in ESIA Process, No. 707/MONRE, dated 05/02/2013

22. **The new Law on Resettlement and Occupation (No. 086/NA, dated 16 June 2018):** This law was developed based on the compensation and resettlement Decree 84 (2016). The law, which applies for both government and private sector development projects, aims to define, regulate, manage and monitor resettlement and livelihood for Lao population of all ethnic groups to ensure that those who are in areas identified for resettlement and provided with stabilized residential and production land and occupation with ultimate goals to address illegal relocation, eliminate poverty, improve livelihood, security and social order, develop small villages into rural small towns contributing to national socio-economic development and national security.

23. **Law on Cultural, Historical and Natural Heritage (amended 2013):** addresses a number of environmental protection issues. It states that socio-economic development shall proceed side by side with protection and conservation of the national heritage. It defines cultural, historical and natural heritage, noting that natural heritage may have scenic or ecological value. The Law also sets out zoning and measures for protection of heritage sites. Areas of national natural heritage shall be registered, especially those containing heritage of high value, such as biodiversity areas, conservation forests, wetlands, caves, and so on . Although it states that sources of biodiversity which have national natural heritage, e.g. wetlands, ponds and marshes, shall be administered by inspection and registration, as proposed by the concerned sectors. It also sets out regulations for protection of national heritage, such as the need to obtain prior approval for development in any national natural heritage area from the Ministry of Information and Culture (MIC) and other concerned sectors.

24. **Law on Hygiene, Prevention and Health Promotion (Amended 2011):** focuses on controlling the elements of the environment which are dangerous or may be dangerous to the body, to mental health and social status of human (Article 2);

promoting the investment in hygiene, prevention and health promotion (Article 5); community hygiene to be in place (Article 11); to ensure the building access to hygiene principles (Article 14); the care of working conditions for workers (Article 18); to ensure the cleanness of goods exposed, be far away from dirty sources, cemetery and rearing animal places (Article 22). All facilities to be in place particularly wastewater management, solid waste management systems and anti-fire management system.

25. **The Law on the Development and Protection of Women and Children (2004)** guarantees and promotes the roles of women, to define fundamental measures for developing and protecting the legitimate rights and interests of women, and to define the responsibilities of the State, society, and family toward women. It includes various aspects, such as gender equality; eliminating all forms of discrimination against women; and preventing and combating trafficking in women and children, and domestic VAWC. It encompasses domestic and public violence, including in educational institutions, workplaces, and alternative care settings.

26. **The Law on Preventing and Combating VAWC (2014)** defines the principles, rules, and measures for preventing and combating VAWC by prevention, protection, provision of assistance to victims of violence, and handling of such violence to protect the rights and legitimate interests of women and children; aims to eliminate all forms of VAWC, uphold the roles and dignity of women and children, achieve gender equality. It specifically addresses VAWC that results in or is likely to result in danger, harm, or physical, psychological, sexual, property, or economic suffering by women and children.

27. **Ethnic Groups:** The guiding policy document to address ethnic group people's issues in the Lao PDR is the Constitution of the Lao PDR, revised in 2015. Its article 8, states that "The States implements policy on solidarity and equity between ethnic groups. All ethnic groups have the right to protect and promote traditions and culture of their own and the nation. All actions of discrimination are prohibited". The 1992 Part policy on ethnic groups focuses on realizing equality between ethnic groups and gradually improving the lives of ethnic groups while promoting their ethnic identity and cultural heritage. Lao PDR is a culturally diverse country, comprising of 50 ethnic groups, under 4 ethno-linguistic facilities, namely: the Lao-Tai (62.4 percent), Mon-Khmer (23.7 percent), Hmong-lu Mien (9.7 percent), and Chine-Tibetan (2.9 percent)⁵, which are officially divided into 50 ethnic groups⁶. In 2012, the Lao Front for National Development (LFND) released a National Guideline on Ethnic Group Consultation in line with the 2012 National Guideline on Public Involvement. It aims to ensure that all ethnic groups which benefit from a development project or are adversely affected by it, regardless of the source of funding, are fully involved in a meaningful consultation process at all

⁵ Lao Statistics Bureau. 2016. Results of Population and Housing Census 2015.

⁶ Douangtavanh Kongphaly. 2018. List of all ethnicities in Laos on <http://web.archive.org/web/20190322092204/https://kongphaly.la/2015/10/26/list-of-all-ethnicities-in-laos/> (Accessed May 2020)

stages from preparation to implementation. The guideline also aims to ensure that the potentially affected ethnic groups are fully informed of project objectives, as well as their potential positive and adverse impacts on their livelihood and their environment and provided with opportunities to articulate their concerns. The guidelines provide principles and processes to carry out meaningful consultations with, and obtain free, prior, and informed consent of, all ethnic groups affected by developments projects in a culturally sensitive manner. The guidelines consist of: a) objectives and scope of the guidelines, b) consultation processes with ethnic groups at respective stages of development projects, c) consultation approaches and methods for different ethnic groups in a cultural sensitive manner, d) expected outcomes of consultation at each stage, and e) implementation arrangement and responsibility. Key principles and procedures for consultation with ethnic groups in this guideline will be adopted into the ESF instruments of the project, including the ESMF and Ethnic Group Engagement Framework (EGEF). Box 2-6 summarizes legislation applicable to issues of ethnic groups.

Box 2-6 Legislation on ethnic groups, including engagement

- The Constitution of the Lao PDR People’s Democratic Republic (1991, amended, No. 63/NA, 08/12/2015;
- The Ethnic Minority Policy (1992);
- The Law on Lao Front for National Development, No. 49, dated 20/8/2018;
- The Law on Media No. 01/NA, dated 4/11/2016;
- The Law on National Heritage, No. 44/NA, dated, 24/12/2013;
- The Law on Land, No. 70/NA, dated 21/06/2019;
- The Law on National Heritage, No. 44/NA, dated, 24/12/2013;
- The Law on Forestry, No. 08/NA, dated 13/06/2019;
- The Law on Resettlement and Occupation, No. 086/NA, dated 15/06/2018;
- The Law on Compensation and Resettlement of People Affected by Development Projects, No. 84/GoL, dated 05/04/2016;
- The 8th National Socioeconomic Development Plan (NSED);
- The National Assembly of The Lao PDR –2009 and National Assembly Meeting No. VIII, 28/12/2018 for Ethnic Groups in Lao PDR.
- The National Guideline on Consultation with Ethnic Groups, 2013;
- The Guidelines for the Implementation of the State Decree on the Management and Protection of Religious Activities in the Lao PDR, no 16/Mol, 09/11/2016;
- The Public Involvement Guidelines in ESIA Process, No. 707/MONRE, dated 05/02/2013;

- Other applicable laws and regulations.

28. **Law on Natural Heritage (amended 2014):** This law addresses several environmental protection issues. It states that socio-economic development shall proceed side by side with protection and conservation of the national heritage. It defines cultural, historical and natural heritage, noting that natural heritage may have scenic or ecological value. The Law also sets out zoning and measures for protection of heritage sites. Areas of national natural heritage shall be registered, especially those containing heritage of high value, such as biodiversity areas, conservation forests, wetlands, caves, and so on. Although it states that sources of biodiversity which have national natural heritage, e.g., wetlands, ponds and marshes, shall be administered by inspection and registration, as proposed by the concerned sectors. It also sets out regulations for protection of national heritage, such as the need to obtain prior approval for development in any national natural heritage area from the Ministry of Information and Culture (MIC) and other concerned sectors.

29. **The Lao Labour Law (2013)** defines the principles, regulations, and measures on administration and monitoring of labour skills development, recruitment, and labour protection. Article 5 requires that working conditions are safe. Article 59 stipulates prohibits unauthorized forced labour in any form. Article 119 requires employers to maintain a safe workplace and ensure good work conditions for the health of the employees. The employer shall supply information, training, and protection for employees so that they may undertake their work safely; and supply individual safety gear to employees according to international standards. Article 122 requires that the employer must inspect and assess risks to safety and health of the workplace regularly and report the results to the Labour Inspection Agency. Article 125 specifies how to deal with workplace accident or occupational disease that causes major injury or death. This law is detailed by the Decree on Occupational Health and Safety (2019) that requires employers to provide annual health check-ups for its employees, and re-enforces that work accidents and occupational diseases need to be recorded and reported to the Labour Management Authorities. An employer or the social security organization is responsible for covering the cost of treatment, allowances, and compensation to victims of work accidents or occupational diseases.

Box 2-7 Laws and Decrees relevant to Labour and Labour Grievances a Codes

- The Law on Labour Protection, No. 43/NA, dated 24/12/2013;
- The Law on Grievance Redress, No. 023/NA, dated 09/11/2016;
- The Law on Hygiene, Prevention and Health Promotion, No. 73/NA, dated 22/11/2019;
- The Law on Prevention of HIV Disease, dated 01/NA, dated 29/6/2010;
- The Law on Entry-Exit and Management of Foreigners, No. 59/NA, dated 26 December 2014;
- The Law on Lao Union, No. 3-/NA, dated 15/11/2017;

- The Law on Anti-Human Trafficking, No. 73/NA, dated 17 December 2015;
- The Law on the Protection of Children Rights and Benefits, No. 05/NA, dated 27/12/2006;
- The Law on Road Traffic, No. 021/NA, dated 08/11/2016;
- The Decision on Occupational Health and Safety at Construction Sites, No. 3006/MLSW, dated 21/08/2013; and
- The Decree on Occupational Health and Safety, No. 22/GoL, dated 05/02/2019

30. **National Policy and Plan on Gender:** The activities indicated in the 9th National Socioeconomic Development Plan for 2021-2025 (NSEDP) are focused on the three transformative results aiming to; end maternal mortality, end unmet need for family planning, including among adolescent girls and end Gender-Based Violence (GBV) and harmful practices such as early marriage; ensure youth receive age-appropriate comprehensive sexuality education through school curriculums nationwide and innovative adolescent youth friendly services; implement policies and Gender Equality Law; establish a referral pathway and make dignity kits available in humanitarian emergencies, increase investments for adolescents, especially young women through the “Noi Framework” of 2030. The 2030 Noi Framework provides a platform to address challenges Lao girls (10-19 years old) face in education, sexual and reproductive health, nutrition, employment and gender equality, as well as their opportunities to participate in decisions that matter to them.

31. **Law on Lao Women Union (No. 31/NA, 2013):** the government of Lao PDR promotes the development, protection and advancement of women and support their participation, decision-making and equitable benefit-sharing in all development activities according to the Article 4.

32. **GOL Policy and Procedure to combat COVID-19:** Since March 2020, considering the outbreak of COVID-19 pandemic in neighbouring countries such as China, Thailand, Vietnam, and others, the GOL took strict actions to prevent infection within Lao PDR. Three policy and guideline were issued on 13 March 2020 to control COVID-19 transmission and infection i.e. (a) guideline on prevention of the transmission and infection of COVID-19 at international airport, land border, and transportation stations; (b) guideline on prevention of the transmission and infection of COVID-19 at suspected to be infected area or temporary quarantine center; and (c) guideline on prevention of the transmission and infection of COVID-19 at public place (hotel, guesthouse, offices, schools, and others). On 29 March 2020, the Prime Minister issue an Order on Reinforcement Measures on Containment, prevention and full response to the COVID-19 pandemic (No. 06/PM, Vientiane Capital). This policy orders the restriction of people travelling and allows GOL officers to work from home during 1-19 April 2020.

33. Legislation on Gender-Based Violence (GBV), including domestic violence, Sexual Harassment (SH)/Sexual Exploitation and Abuse (SEA), human trafficking. Several laws apply to gender-based violence, including domestic violence, sexual harassment/exploitation and human trafficking. This is summarized in Box 2-8.

Box 2-8 Laws and regulations on Gender-Based Violence (GBV)

- The Law on Preventing and Combating Violence against Women and Children, Law No. 56/NA, 23/12/2014;
- The Law on Anti-Human Trafficking, No. 022/NA, dated 17 December 2015;
- The Law on the Development and Protection of Women, No.08/NA, dated 22/10/2004;
- The Law on Prevention of HIV Disease, dated 01/NA, dated 29/6/2010;
- The Family Law, No. 05/NA, dated 26/9/2008;
- The Law on the Protection of Children Rights and Benefits, No. 05/NA, dated 27/12/2006;
- Second National Plan of Action on Preventing and Elimination of Violence against Women and Violence against Children (2021-2025) and the Fourth National Plan of Action on Gender Equity (2021-2025)

2.3 Institutional Responsibilities on Legislation

34. From an institutional aspect, the Ministry of Natural Resources and Environment (MONRE) is the lead ministry responsible for implementation of the EPL and its regulations and/or guidelines. MONRE is also responsible for management of water, land, and environmental management while the Ministry of Agriculture and Forest (MAF) is responsible for management of protected area (PA) and protection forest area (PFA)⁷. DOE is now responsible for review of the Environment and Social Impact Assessment (ESIA) report and Environmental and Social Management and Monitoring Plan (ESMMP) including issuance of Environmental Compliance Certificate (ECC) while the Department of Pollution Control and Monitoring is responsible for compliance monitoring and inspection of implementation of the ESMMP.

35. According to the Decree on Environmental Impact Assessment (2019), MONRE is key agency on ESIA process in coordination with concerned ministries, government agencies, local authorities and project affected communities. Main duties and responsibilities of MONRE, line agencies and local authorities relevant to ESIA process include:

Main duties of MONRE in ESIA process

- Reviewing and approving the scope of assessment and works for ESIA;
- Conducting field inspection and organizing consultation meetings during review of ESIA, ESMP and development plans;
- Engaging national or international specialist and/or establishing a panel of expert for the review of ESIA, ESMP and management plans for complex projects where necessary;

⁷ In mid2016 the department of Forest Resources Management (DFRM) was moved from MONRE to MAF.

- Approving ESIA, ESMP and management plans;
- Issuing, suspending or withdrawing environmental compliance certificate;
- Monitoring the implementation of ESMP and management plans;
- Gathering grievance and complaints from project's affected people and related stakeholders with proposed resolutions;
- Conducting emergency and non-compliance issues in coordination with concerned ministries and local authorities; and
- Regularly summarizing and reporting the results of the management of ESMP and management plans to the GoL.

Main duties of Provincial Office of Natural Resource and Environment (PONRE) in ESIA process:

- Collaborating and facilitating project developers on the conduct of ESIA process;
- Conducting field inspection and organizing consultation meetings during the review of ESIA documents;
- Appointing a panel of expert at provincial level to review ESIA reports;
- Providing recommendation to MONRE to suspend or withdrawal ECC where necessary;
- Requesting provincial governor to establish ad hoc committee to monitor environmental issues of investment projects and activities in case of emergency and where necessary;
- Gathering comments, feedback and complaints/grievances from project's affected people, and proposed resolutions; and
- Regularly summarizing and reporting the implementation of ESMP, and management plans of projects and activities to MONRE.

Main duties of District Office of Natural Resource and Environment (DONRE) in ESIA Process

- Participating in ESIA process and monitoring the ESMP implementation if investment projects and activities;
- Providing comments on ESIA, ESMP and management plans;
- Gathering comments, requests or complaints from people affected by development projects and activities and related stakeholders, and proposed solutions for any dispute;
- Coordinating with other stakeholders in ESIA process; and
- Regularly summarizing and reporting the implementation of environmental management activities to PONRE and local authorities.

Rights in duties of sectoral agencies and local authorities in ESIA Process

- Coordinating with the natural resources and environment sectors and related agencies in preparation of plans, budgets for environmental monitoring and inspection of projects and activities;
- Overseeing the implementation of environmental and social management and mitigation measures of projects and activities; and
- Encouraging development projects to apply environmental-friendly approaches and technologies in construction and operations of projects.

Governance of Road Sector in Lao PDR

36. Ministry of Public Works and Transport is key agency responsible for management of public works, urban development, and land and water transport including management of domestic water supply and sanitation in urban areas. It is relatively large and stable ministry and key agencies including the Department of Road (DoR), the Department of Waterways Transport, the Department of Urban Development, and the Public Works and Transport Research Institute (PTRI). The DoR will be responsible for ensuring that relevant ESF requirements are included in the planning, design and bidding/contract documents and that the contractors are aware of environmental and social obligations and agreed that it is part of the subproject cost.

37. In addition to the central agencies, provincial departments of MoNRE (PoNRE), MAF (PAFO), and MPWT (DPWT) exist in each of the provinces. According to the GoL policy on decentralization as instructed by the National Assembly, the provincial and district authorities have begun to play a key role in planning, decision making, and monitoring of investment activities.

38. The further planning and implementation of the Project will be undertaken through consultation with, and advice from, provincial and district government agencies, through the Provincial Resettlement Committee (PRC). The main function of the RC is to represent the interest of the APs and stakeholders in dealing with project impacts and mitigation measures. The details of the roles and responsibilities of the PRC are provided in Decree 84 (2016), Articles 19.

39. The PRC will appoint a management and an operational unit to be responsible for the overall process of resettlement and compensation. The PRC will meet regularly, and will have an inaugural meeting at least one month before the start of the Project and will operate during the construction of the subprojects and for up to two years after completion of construction activities (to monitor impacts and take action where necessary). The minutes of meetings and activities of PRC will be incorporated into overall Project internal and external monitoring. The responsibilities of PRC will be as follow:

- Coordination of relevant government organizations with ESMU to ensure that RAP is properly implemented;
- Review and provide comments on valuation of land and assets (crops, production, market values, etc.) for compensation for APs;

- Organization of provincial and district level meetings and consultations as required;
- Monitoring and auditing funds that are earmarked for RAP implementation; and
- Participation in resolution of, and follow through, of claims or complaints lodged via the established grievance redress procedures.

40. Lao Women's Union (LWU) is the leading agency in promoting women empowerment and gender equality. LWU is a mass organization, initially formed in 1955 to mobilize women's participation in the Lao People's Revolution Party. LWU was officially established under the Constitution of Lao PDR in 1991 and given mandates to represent women of all ethnic groups, respond to women's development needs and promote the status and role of women nationwide. Since its establishment, LWU has extended its membership and networking. So far, LWU has more than one million members across government institutions at the village, district, province, ministry levels. LWU has implemented its functions by providing preventative measures to violence against women and children, protecting and supporting victims by offering healthcare, counseling, free legal support, temporary shelters, vocational training, and witnessing during the prosecution. At the village level, LWU takes part in the Village Mediation Unit, which typically consists of five to six community members, to solve village disputes, including cases associated with gender-based violence (GBV).

41. Advancing women and promoting gender equality are important development agendas in Lao PDR. In 2003, the Government established the Lao National Commission for the Advance of Women (NCAW). NCAW is an inter-agency that supports the government in formulating the national policies and strategies as well as mainstreaming gender in all sectors. Sub-CAW at provincial and districts also were established throughout the country to promote women equality. In addition, the NCAW worked collaboratively with LWU to implement and support the enforcement of laws and international treaties. In 2019 the Commission of Mother and Child was merged with NCAW, subsequently became the Lao National Commission for the Advancement of Women, Mother and Child (LNCAWMC).

42. MONRE has specific legislation in place to monitor investments in infrastructure and development projects that may have environmental and social impacts. MONRE, with support from development partners, has gained significant experience in the last fifteen years on the assessment and mitigation of project impacts and implementation of its EIA legislation. Meanwhile MPWT has broad experience on other World Bank projects, particularly on roads, and therefore has experience in implementing GoL's environment legislation as well as aspects relating to compensation and resettlement. Nevertheless, MPWT recognizes the knowledge gaps, in particular regarding the WB's ESF which is still fairly new in Lao PDR. However, the active involvement of the Environment Research and Disaster Prevention Division (EDPD) of the Public and Transport Research Institute (PTRI) of MPWT, will be critical for ensuring guidance to MPWT to comply with the existing

laws and legislations and the WB ESF (also see Section 6.6 on Capacity Needs and Table 2-2 on Gap Analysis of GoL legislation and the WB ESF).

43. Enforcement of each legislation can be the responsibilities of multiple institutions, not just one. Leading institutions responsible for each relevant legislation discussed above, however, are summarized in Box 2-9.

Box 2-9 Enforcement responsibilities	
Institution	Enforcement responsibilities
MONRE	<ul style="list-style-type: none"> • Law on Environmental Protection (2012) • Law on Water and Water Resources (2017) • National Environmental Standard (2017) • Land Law (2019) • Ministerial Instruction on Public Involvement in Project Environmental Impact Assessment Process (2013). • Law on Grievance Redress (2014) • Decree on Compensation and Resettlement of People Affected by Development Projects (2016). • Decree on Environmental Impact Assessment (2016). • The public involvement guidelines in ESIA Process (2013).
MAF	<ul style="list-style-type: none"> • Forestry Law (2019) • Wildlife and Aquatic Law (2007) • Law on Resettlement and Occupation (2018) • Decree on Protected Forest Management (2015) • Decree on Protection Forests Management (2010) • Decree on Production Forest Management (2002)
MPWT	Road Law (2016)
LFND	<ul style="list-style-type: none"> • Ethnic Minority Policy (1992) • National Guideline on Consultation with Ethnic Groups (2013). • Law on Lao Front for National Development (2018)
Ministry of Information, Culture and Tourism	Law on Natural Heritage (2014)
Ministry of Labour and Social Welfare	Labour Law (2013)
Ministry of Public Health	<ul style="list-style-type: none"> • Law on Hygiene, Prevention and Health Promotion (2019) • The Law on Prevention of HIV Disease (2010)
Ministry of Justice	Law on the Protection of Children Rights and Benefits (2006)
Ministry of Public Security	Law on Anti-Human Trafficking (2015).
Lao Womens Union and the Lao National Commission for the	<ul style="list-style-type: none"> • National Policy and Plan on Gender • Law on Lao Women Union (No. 31/NA, 2013)

Box 2-9 Enforcement responsibilities	
Institution	Enforcement responsibilities
Advancement of Women, Mother and Child (LNCAWMC)	<ul style="list-style-type: none"> • The Law on Preventing and Combating VAWC (2014) • The Law on the Development and Protection of Women and Children (2004)

2.4 Applicable World Bank Environment and Social Standards (ESS)

44. At this stage of project preparation, the key WB Environmental and Social Standards (ESS) that are deemed likely relevant to the project (and that may require specific instruments to be prepared) are:

- ESS1 – Assessment and Management of Environmental and Social Risks and Impacts;
- ESS2 – Labour and Working Conditions;
- ESS3 – Resource Efficiency and Pollution Prevention and Management;
- ESS4 – Community Health and Safety;
- ESS5 – Land Acquisition, Restrictions on Land Use and Involuntary Resettlement;
- ESS6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources;
- ESS7 – Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities;
- ESS8 – Cultural Heritage; and
- ESS10 – Stakeholder Engagement and Information Disclosure.

The following ESS is not relevant to the project:

- ESS9 – Financial Intermediaries.

45. As a result of this assessment, at this stage of project preparation MPWT is required to prepare the following instruments in accordance with the World Bank's Environmental and Social Framework (ESF):

- **Environment and Social Management Framework** (and future Environment and Social Management Plans), including a Pre-ESIA, capacity assessment, Labour Management Procedures (LMP), CERC Manual, Community Health and Safety Plan, Biodiversity Management Plan Template and Screening Procedures;
- **Resettlement Framework** (and future Resettlement Plans if necessary), including a Livelihood Restoration Framework;

- **Ethnic Groups Engagement Framework** (and Ethnic Groups Plan if necessary);
- **Stakeholder Engagement Plan (SEP)**;
- **Environmental and Social Commitment Plan (ESCP)**.

46. This ESMF is an integral part of compliance with the ESF. At this stage of project planning the World Bank has assessed the potential for environment and social risks and impacts as substantial for both environment and social.

2.5 Project Environment and Social Risks (referenced by WB ESS)

47. The ten E&S Standards and their relevance to the Project are summarized in Table 2-1. Additional detailed information can be found in the World Bank's Environment and Social Review Summary (ESRS) available in the WB project website.

Table 2-1 Key objectives and relevance of World Bank's E&S Standards to the NR2 Project

World Bank's E&S Standards	Key objectives	Relevance to the NR2 Project
ESS1: Assessment and Management of Environmental and Social Risks and Impacts	<ul style="list-style-type: none"> • Identify and assess social and environmental impacts, both adverse and beneficial, in the project's area of influence; • Avoid, or where avoidance is not possible, minimise, mitigate or compensate for adverse impacts on workers, Project Affected Communities (PACs) and the environment; • Adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project; • Utilise national environmental and social institutions, systems, laws, regulations and procedures in the assessment, development and implementation of projects, where applicable; • Promote improved social and environmental performance, in ways which recognise and enhance Borrower capacity. 	<p>The MPWT has developed ESMF that was disclosed on 15 November 2021 at the MPWT's website: https://www.mpwt.gov.la/ and consulted via virtual connection with the national level and other stakeholders on 29 November 2021; provincial level on 30 November 2021; and, districts and village levels on 01 and 03 December 2021 and re-disclosed on 06 December 2021. The following E&S instruments: (i) Preliminary Environmental and Social Impact Assessment (Pre-ESIA) for the NR2 West Corridor (190km), that the Bank will be financing; (ii) framework approach for the feeder roads/local roads in Phongsaly, Oudomxay, Luangnamtha, Xayaboury and Luangprabang Provinces to determine geographic location specific risks and impacts; (iii) framework approach for border facilities in Phongsaly and Xayboulou Provinces; (iv) E&S management procedure for other physical</p>

World Bank's E&S Standards	Key objectives	Relevance to the NR2 Project
		<p>facilities to which the Bank will provide financing for technical assistance (e.g. dry ports, market places, consolidation centers, etc.); (v) biodiversity management plan (BMP) template; and (vi) budget, staffing, and operational arrangements for project E&S risk management, including a training plan informed by the capacity needs assessment, all to be funded by the Borrower (MPWT) as part of the project.</p> <p>The Pre-ESIA (Section 3 of this document) can be defined as a high level, concept stage ESIA that: (i) scopes out and assesses the E&S issues for the whole project area of NR2 West corridor, and (ii) assess characteristics for each section of NR2 West, including screening on sensitive receptors. Based on the findings of the Pre-ESIA, this ESMF further identifies key potential risks and impacts, and suggests initial mitigation measures which will be further expanded on in management plans prepared following the development of the full ESIA. Labour Management Procedure (LMP), including a Worker Grievance Procedure; Community Health and Safety Plan (CHSP) and Biodiversity Management Plan (BMP) template are also included as part of the ESMF. In addition, a Resettlement Policy Framework (RPF), an Ethnic Group Engagement Framework (EGEF), a Stakeholder Engagement Plan and an Environment and Social Commitment Plan have been prepared.</p> <p>The MPWT will conduct the full ESIA during the implementation of the proposed Project.</p>
ESS2: Labour	<ul style="list-style-type: none"> Promote safety and health at 	The main risks relating to labour and

World Bank's E&S Standards	Key objectives	Relevance to the NR2 Project
and Working Conditions	<p>work;</p> <ul style="list-style-type: none"> • Promote the fair treatment, non-discrimination and equal opportunity of project workers; • Promote project workers, including vulnerable workers such as women, person with disabilities, children (of working age, in accordance with WB's ESS) and migrant workers, contracted workers, community workers and primary supply workers, as appropriate; • Prevent the use of all forms of forced labour and child labour; • Support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law; and • Provide project workers with accessible means to raise workplace concerns. 	<p>working conditions in the project are:</p> <p>i) unequal payment for the same job for female and male workers; ii) discrimination of women and/or vulnerable groups; iii) payment for unskilled workers below the minimum wage⁸ of KIP 1,100,000 as per GOL mandated minimum wage ; iv) inadequate working facilities for workers including housing for government staff at the border posts, in particular lack of sanitation facilities for women; v) risks of child labor or indentured labour, especially in the supply chain. (vi) labour related disputes, (iv) SEA/SH and VAC, and (vii) occupational health and safety or OHS related issues such as inadequate personal protective equipment (PPE) and unsafe handling and disposal of asbestos containing material (ACM) at building renovation/demolition sites, as well as risks of Covid-19 transmission.</p> <p>The ESMF includes a Labour Management Procedure (see ANNEX 7) to address any gaps between the national Labour Law with the ESS2. The LMP should be an integral part of the bidding documents and construction contracts. In addition, the ESMF has annexes on Occupational Health and Safety (OHS) (ANNEX 8), Codes of Conduct (ANNEX 9, ANNEX 10) and guidelines for Worker's Camps (ANNEX 11). The LMP includes the latest COVID-safe guidelines mandated by the government and/or best practice in the country, in order to maintain a</p>

⁸ The minimum wage in Lao PDR is a single rate applicable to all employees, and does not differ based on region, skill level, or employer characteristics.

World Bank's E&S Standards	Key objectives	Relevance to the NR2 Project
		<p>safe working environment for workers and for the community and minimize the risk of COVID transmission. The LMP also includes safe hygiene practices, use of PPE and provisions for ensuring sick workers can self-isolate and access pay. The LMP also directs contractors to establish a Grievance Mechanism for workers, to collect and address potential grievances..</p>
<p>ESS3: Resource Efficiency and Pollution Prevention and Management</p>	<ul style="list-style-type: none"> • Promote the sustainable use of resources, including energy, water and raw materials; • Avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities; • Avoid or minimize project-related emissions of short and long-term climate pollutants; • Avoid or minimize generation of hazardous and non-hazardous waste; and • Minimize and manage the risks and impacts associated with pesticide use. 	<p>All works for road widening from 6 meters to 8 meters at NR2 West, feeder roads, and border crossing facilities will be carried out within the existing boundaries of road sections and existing footprint of building facilities. Project works may thus cause, among others, dust, pollution and waste management issues.</p> <p>The proposed SEARECC project will comply with national environmental laws related to pollution, wastes, hazardous materials, and resource use and greenhouse gas (GHG) emissions. In addition the project will also consider the performance levels and measures in relevant technical guidance in the World Bank Group's EHS Guidelines.</p>
<p>ESS4: Community Health and Safety</p>	<ul style="list-style-type: none"> • Anticipate and avoid adverse impacts on the health and safety of project-related communities during the project life cycle from both routine and nonroutine circumstances; • Promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure; • Avoid or minimize community exposure to project-related traffic road safety risks, diseases and 	<p>The main risks under this standard relate to construction-related accidents, traffic accidents, risks of Covid-19 transmission, risk of SEA/SH in particular during construction but also a cumulative impact from the project, as well as potential cumulative impact for human trafficking. A Community Health and Safety Plan (CHSP) is prepared as a part of this ESMF, which assesses community health and safety risks and impacts, and will include mitigation measures that</p>

World Bank's E&S Standards	Key objectives	Relevance to the NR2 Project
	<p>hazardous materials;</p> <ul style="list-style-type: none"> • Provide effective measures to address emergency events; and • Ensure the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities. 	<p>can be incorporated in the site-specific management plans, where relevant. Please see ANNEX 13: Community Health and Safety Plan for the CHSP. Those measures shall be in line with the WB Environmental Health and Safety Guidelines (EHSG) and Good International Industrial Practices (GIIP). Contractor management and preparation of contractor requirements particularly for the community health and safety aspects through the operations manual and more specifically through qualifications, bidding criteria and contracts will be considered given that the project will likely involve several contractors over a large area.</p> <p>To address the risk of SEA/SH, the project's CHSP will include provisions to prevent and manage SEA/SH; violence against children (VAC) and incidence of HIV/AIDS. Among others, it will include provisions to promote local recruitment of the workforce, plus mitigation measures such as a worker codes of conduct (including requirements for both worker-community and worker-worker interactions), mapping of third-party service providers, plus specific actions (training, public awareness, etc.) to avoid sexual harassment, sexual assault, and exploitation and human trafficking.</p> <p>The Project also has a potential risk of spreading COVID19 to communities and the CHSP will also need to take into account the latest COVID-safe guidelines mandated by the government and/or best practice</p>

World Bank's E&S Standards	Key objectives	Relevance to the NR2 Project
		in the country.
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	<ul style="list-style-type: none"> • Avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives; • Avoid forced eviction; and • Mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use by: (a) providing timely compensation for loss of assets at replacement cost, and (b) assisting displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or to levels prevailing prior to beginning of project implementation, whichever is higher; • Improve living conditions of poor or vulnerable persons who are physically displaced; • Conceive and execute resettlement activities as suitable development programs, providing sufficient investment resources to enable displaced persons to benefit directly from the project; and • Ensure that resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected. 	<p>Upgrading and widening of the roads in NR2W from 6 meters to 8 meters (1 meter each side). Land acquisition could include parts of housing, commercial, agricultural land, and potentially cultural, spiritual spaces, and some alignments. Land acquisition, though minimal, could also potentially lead to temporary and permanent economic displacement if people are living/operating near the road alignment. The full ESIA will in detail assess these risks and seeks way to avoid or minimize them. Detailed construction designs are required to determine the exact impacts once the selected road sections have been identified. Because detailed technical designs will not be known until implementation the precise location of works that may require land acquisition, a Resettlement Policy Framework (RPF), including provisions for livelihoods restoration, has been prepared. The RPF also states that voluntary land donations will not be considered in the SEARECC project. Following the identification of specific sites for all project components during implementation, Resettlement Action Plans (RAP) can be prepared. While it is unlikely that there are legacy issues resulting from past land acquisition for the border crossing posts or roads, this will need to be assessed as part of the ESIA. Voluntary land donations will not be considered in the SEARECC project.</p>
ESS6: Biodiversity	<ul style="list-style-type: none"> • Protect and conserve biodiversity 	The project will ensure that the potential risks and impacts to

World Bank's E&S Standards	Key objectives	Relevance to the NR2 Project
<p>Conservation and Sustainable Management of Living Natural Resources</p>	<p>and habitats;</p> <ul style="list-style-type: none"> • Apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity; • Promote the sustainable management of living natural resources; and • Support livelihoods of local communities, including Indigenous Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities. 	<p>biodiversity, ecosystem services and sustainable management of living natural resources are evaluated and that the necessary appropriate measures are established as part of an appropriate mitigation hierarchy.</p> <p>While project works are expected in the current alignment, this does not imply that there are no adverse potential risks to biodiversity or habitats. For example, areas along the road's ROW might be going through important biodiversity area or natural habitats, and noise and more frequent movement (during construction and operational stages) might affect the habitats. This standard is also relevant to the areas adjacent to the border crossing facilities and construction facilities (workers accommodation and laydown area) that may need land clearing within and/or close to environmentally sensitive areas.</p> <p>The full ESIA will further screen environmental sensitive receptors (i.e. direct observations, iBAT, the BirdLife International Data Zone tool, and the World Database of Key Biodiversity Areas). The ESIA shall also consider cumulative, transboundary and indirect risks (e.g. induced illegal wildlife and timber trade) particularly considering that this road provides a critical link in improving cross border connectivity and trade and logistics between Thailand, Lao PDR and Viet Nam. The magnitude of these indirect impacts from improved road access facilitating exploitation of natural resources, and of incremental impact on environmental characteristics will be assessed during the impact assessment. It will</p>

World Bank's E&S Standards	Key objectives	Relevance to the NR2 Project
		<p>also assess ways to engage with local stakeholders on post-construction wildlife protection.</p> <p>At the implementation stage and once sections to be funded within NR2 West, BCF and feeder roads are identified, a site specific management plan will be prepared to manage identified impacts which requires specific biodiversity management plan (BMP). An indicative content or template of the BMP is included in the ESMF to guide the plan preparation. Please Annex 14 for the BMP Template.</p>
<p>ESS7: Indigenous People/Sub-Saharan African Historically Underserved Traditional Local Community</p>	<ul style="list-style-type: none"> • Avoid adverse impacts of projects on communities of Indigenous Peoples, or when avoidance is not feasible, to minimise, mitigate, or compensate for such impacts, and to provide opportunities for development benefits, in a culturally appropriate manner; • Foster good faith negotiation with and informed participation of Indigenous Peoples when projects are to be located on traditional or customary lands under use by the Indigenous Peoples; and • Respect and preserve the culture, knowledge and practices of Indigenous Peoples; • Promote sustainable development benefits and opportunities for Indigenous People in a manner that is accessible, culturally appropriate and inclusive; • Improve project design and promote local support by establishing and maintaining an ongoing relationship based on 	<p>Northern Lao has high numbers of ethnic groups and as such this standard has been applied. It is likely that if there are ethnic groups in the project area they could be more adversely impacted due to their attachment to land, different cultural practices, low literacy levels, lack of Lao language (especially among women) and other vulnerabilities. An EGEF has been prepared consistent with ESS7, to screen the presence of ethnic groups with collective attachment to the project area following the four criteria included in WB's ESS7, as well as procedures to conduct a Social Assessment and Ethnic Groups Engagement Plans (EGEPs) if needed. In addition, both the project's EGEF and SEP include provisions to ensure meaningful and culturally appropriate consultations with EGs.</p> <p>The ESIA process will ensure affected ethnic groups are adequately consulted and able access project benefits and provided with special assistance / protection</p>

World Bank's E&S Standards	Key objectives	Relevance to the NR2 Project
	<p>meaningful consultation with the Indigenous People throughout the project's life's cycle;</p> <ul style="list-style-type: none"> • Obtain FPIC of affected Indigenous People; and • Recognize, respect and preserve the culture, knowledge, and practices of Indigenous People, and to provide them with an opportunities to adapt to changing conditions in a manner and in a timeframe acceptable to them. 	<p>against negative impacts from the project where applicable.</p> <p>The grievance mechanism for the project has been prepared and communicated taking into consideration the needs of the ethnic groups, and accessibility for ethnic groups to submit feedback or grievances. Whenever feasible, locally appropriate GRMs have been built upon. Also, whenever feasible, the GRM includes traditional grievance or conflict resolution systems. If EGEPs are prepared, the GRM may need to be adjusted in consultation with relevant ethnic groups.</p>
ESS8: Cultural Heritage	<ul style="list-style-type: none"> • Protect cultural heritage from the adverse impacts of project activities and support its preservation; • Address cultural heritage as an integral aspect of sustainable development; • Promote meaningful consultation with stakeholders regarding cultural heritage; and • Promote the equitable sharing of benefits from the use of cultural heritage. 	<p>ESS8 on cultural heritage may be relevant depending on existing sensitive receptors along the Right of Way (ROW) of the NR2 corridor, and nearby border crossing buildings and feeder roads. Cultural heritage takes many forms in Laos. Some of it may be visible, and many others may not be identifiable without consultation. The ESIA will assess site specific to determine the baseline condition of proposed project locations and further assess any potential risks and impacts on and restriction of access to cultural heritage (tangible and intangible). The ESIA will be informed through engagement with communities, including women and girls, to identify cultural and spiritual places of value and significance to them.</p> <p>Construction of border crossing buildings and road upgrades may include excavation works. In this context, there is the potential of discovering unknown cultural heritage during the excavation activities. A</p>

World Bank's E&S Standards	Key objectives	Relevance to the NR2 Project
		guidance for chance finds procedure was developed. Please find Chance Finds Procedures in ANNEX 3.
ESS10: Stakeholder Engagement and Information Disclosure	<ul style="list-style-type: none"> • Establish a systematic approach to stakeholder engagement that will help borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties; • Assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken in to account in project design and environmental and social performance; • Promote and provide means for effective and inclusive engagement with project-affected parties through the project life cycle on issues that could potentially affect them; and • Ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format. 	<p>A Stakeholders Engagement Plan (SEP), including a GRM, has been prepared incorporating the findings from, the pre-ESIA. The SEP will be implemented, updated, and disclosed throughout the different phases of the project life cycle. This was developed early in the project preparation process to inform engagement to address key risks and develop communication and engagement strategies and materials to effectively reach out to affected and interested stakeholders to ensure accessibility and cultural appropriateness. The Draft SEP was disclosed at MPWT website on 15 November. Due to Covid restrictions, virtual consultations with stakeholders at national and local levels were undertaken from 29 November to 3 December 2021. Stakeholder identification, analysis and engagement will inform assessment of both the social assessment and processes and practices prescribed in the ESMF. The approach to engagement activities will take into account the needs of ethnic groups, vulnerability, language, literacy as well as consent, and child protection measures, both as part of engagement and also assessment process. The engagement will ensure not only risks are managed but benefits are accessible to all.</p>

2.6 Gap Analysis: WB ESF and Lao Legislation

48. This Section builds upon the information on relevant legislations of the GOL and requirements of WBs recent ESF. It summarizes significant gaps that are

identified by comparing the requirements of WBs ESF and relevant national legislations. Generally, the GOL has established a comprehensive regulatory framework including various laws, decrees, and instruction/regulation to govern the environment, and utilizing and conserving natural resources with explicit and implicit relevance for the ESMF and ESSs application. Many of them have been revised, updated, and amended more recently. For all ESS relevant to the SEARECC, national legislation exists, and no significant gaps have been identified. However, there are minor deviations that the ESMF and its E&S instruments address. Table 2-2 summarizes the key requirements defined in the legislative and regulatory framework of Lao PDR and each relevant WB ESS.

Table 2-2 Gap Analysis of Legislative and Regulatory Framework of Lao PDR vs. Relevant WB’s ESS

Requirement	The World Bank Standard Requirements	Government of Lao PDR’s requirements	Key Different between WB Standard Requirements and Lao’s PDR relevant to SEARECC	Measures included in the ESMF and SEARECC Design
<p>ESS1: Assessment and Management of Environmental and Social Risks and Impacts</p>	<ul style="list-style-type: none"> • Conduct an environmental and social assessment of the proposed project, including stakeholder engagement. • Undertake stakeholder engagement and disclose appropriate information in accordance with ESS10. • Develop an ESCP, and implement all measures and actions set out in the legal agreement including the ESCP; and • Conduct monitoring and reporting on the environmental and social performance of the project against the ESSs. 	<ul style="list-style-type: none"> • A broad guidance for E&S assessment is articulated in the Environmental Protection Law (2012), Article 21 (for IEE), and Article 22 (for EIA). • Further guidance for the conduct of ESIA and ESMP is provided in the Decree on Environmental Impact Assessment (2019), and the Decision on EIA process (2013). • The Decision on the Endorsement and Promulgation on the List of Investment Projects and Activities (No. 8056/MONRE, 2013) indicates that improvement or 	<ul style="list-style-type: none"> • The Lao PDR’s regulation requires the conduct of IEE for national road improvement, not ESIA and less focus on social issues • No capacity of the project owner to implement and monitor the ESMP is required • There is no provision for the “no project” option. • No reference to institutional capacity development and training measures. • No separate ESCP, SEP and/or EGEF is required by the Lao laws. 	<ul style="list-style-type: none"> • A “negative list” will be applied for screening (Please see Annex 1). • ESIA, ESMP, RAP, EGEP, GAP, etc. are required for NR2 Project. The site-specific ESIA and C-ESMP will strengthen social risk management aspects. • Additional capacity development and training programs on safety and mitigation of social impacts during construction for MPWT, and DPWTs with the support from PTRI are included in SEARECC project design and ESMP mitigation measures. • Provide adequate budget supports to build MPWT E&S capacity and facilitate effective ESMP implementation with the support from EDPD/PTRI.

Requirement	The World Bank Standard Requirements	Government of Lao PDR's requirements	Key Different between WB Standard Requirements and Lao's PDR relevant to SEARECC	Measures included in the ESMF and SEARECC Design
		<p>rehabilitation of existing national or provincial roads required only the conduct of IEE. However, the final clause of this Decision asserts that any projects that cause involuntary resettlement shall require the conduct of ESIA.</p> <ul style="list-style-type: none"> • Environmental and Social Operations Manual for Road Sector (2009) also provides additional E&S requirements for road sector projects. 		
ESS2: Labour and Working Conditions	<p>ESS2 establishes minimum requirements in the following areas to be observed:</p> <ul style="list-style-type: none"> • Terms and Conditions of 	<ul style="list-style-type: none"> • The employee rights and working conditions are specified in the Labour Protection Law (2013) which has 	<ul style="list-style-type: none"> • In Lao PDR, the Trade Union is managed under the government system which are not a collective association of workers. However, the WB's ESS2 outlines that the project will not restrict project 	<ul style="list-style-type: none"> • The national Labour Law is highly consistent with ESS2. However, to address some of the gaps, the project's LMP includes:

Requirement	The World Bank Standard Requirements	Government of Lao PDR's requirements	Key Different between WB Standard Requirements and Lao's PDR relevant to SEARECC	Measures included in the ESMF and SEARECC Design
	<p>Employment</p> <ul style="list-style-type: none"> • Non-Discrimination and Equal Opportunity • Rights to Organize. • Prevention / restriction of child Labour • Prevention of forced Labour • Grievance Mechanism for Labourers • Identification of potential hazards • Provision of preventive and protective measures • Training of workers and maintenance of training records • Documentation and reporting of occupational accidents, disease, and incidents. • Emergency Preparedness; and • Remedies for adverse impacts on workers safety, including occupational 	<p>provisions that are consistent with the Bank's ESS2;</p> <ul style="list-style-type: none"> • In addition, the Prime Minister's Notification on the Minimum Wage of Labour in Lao PDR (2018) also sets out a minimum wage of LAK 1.1 million/month. • The Law on Grievance Redress (2016) also outlines conflict resolution procedures. 	<p>workers from developing alternative mechanisms to express their grievances and protect their legitimate rights regarding working conditions and terms of employment. The Borrower should not seek to influence or control discriminate to retaliate against project workers who participate, or seek to participate, in workers' organization and collective bargaining or alternative mechanisms.</p> <ul style="list-style-type: none"> • There is no specific national guidelines for labour conflict resolution. 	<ul style="list-style-type: none"> • Procedure to Prevent Child Labour and Forced Labour (PPCLFL). • Project Workers' Grievance Mechanism. • In addition, the LMP sets out requirements for additional measures to comply with ESS2, which will include: • Direct Project Workers' Occupational Health and Safety Strategy • Terms and Conditions of Employment for Direct Project Workers. • Environmental, Social, Health and Safety Specification (ESHSS) for contracts. • Community Labour Management Procedure. • Provisions in location and site - specific ESMP • Site-specific Occupational

Requirement	The World Bank Standard Requirements	Government of Lao PDR's requirements	Key Different between WB Standard Requirements and Lao's PDR relevant to SEARECC	Measures included in the ESMF and SEARECC Design
	health, and safety and SEA/SH.			<p>Health and Safety Plans (works)</p> <ul style="list-style-type: none"> The project will only allow employment of people 18 years old and above.
ESS3: Resource Efficiency and Pollution Prevention and Management	<p>Resource Efficiency and Pollution Prevention requires project to:</p> <ul style="list-style-type: none"> Promote more sustainable use of resources including energy and water and the reduction of project related GHG emissions; and Avoid or minimise pollution from project activities. 	<ul style="list-style-type: none"> Key legislation regarding resource efficiency and pollution prevention include the Decree on Lao PDR National Environmental Standards (2017); Ministerial Instructions on Hazardous Waste Management (2015); and the Law on Environmental Protection (2012); Decision on Pollution Control (2021), Decree on Energy Saving and Efficiency (2020), National Policy on Energy Efficiency (2016), Law 	<ul style="list-style-type: none"> There is a lack of national policy for enhancing the resource efficiency of infrastructure particularly the use of construction materials e.g. sand, gravel, 	<ul style="list-style-type: none"> ESS3 will be implemented to apply a precautionary approach that complements the national regulation that ensures the rational and sustainable resource uses, manage, and prevent the pollution. Standard Waste Management Plan; ECOP

Requirement	The World Bank Standard Requirements	Government of Lao PDR's requirements	Key Different between WB Standard Requirements and Lao's PDR relevant to SEARECC	Measures included in the ESMF and SEARECC Design
		on Water and Water Resources (2017).		
ESS4: Community Health and Safety	<p>The Bank's Standard requires for Community Health, Safety and Security and requires projects to:</p> <ul style="list-style-type: none"> • Avoid or minimise adverse impacts on the health and safety of project affected communities; and • Ensure safeguarding project property and personnel is carried out in accordance with relevant human rights principles and in a manner that avoids or minimises risks to project affected communities. 	<ul style="list-style-type: none"> • Key legislation for community health, safety, and security in Lao PDR include the Decree on Occupational Health and Safety (2019), Law on Road Traffic (2012), Lao PDR National UXO / Mine Action Standards (2012); and discharge / hazardous waste legislation. 	<ul style="list-style-type: none"> • Currently, there is no national law, regulation or guideline specific to community health and safety. 	<ul style="list-style-type: none"> • The Community Health and Safety Plan provides guidelines on how to address the identification and mitigation measures associated with these issues. • Specific guidelines have been provided in terms of Labour Management Procedures and Code of Conduct (COC). • SEA/SH Action Plan is provided in Annex 12.
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary	<ul style="list-style-type: none"> • Avoid or at least minimise involuntary resettlement wherever feasible by exploring alternative project designs and layouts; 	<ul style="list-style-type: none"> • Key national legislation related to land acquisition and involuntary resettlement includes the Law on Land 	<p>According to the Land Law (2019), Article 130: Acquisition of Customary Land Use Rights, rights can only be assigned to individuals that can demonstrate continual use of the land for more than 20 years.</p>	<ul style="list-style-type: none"> • The project's Resettlement Policy Framework (RPF) introduces some additions to the provisions established at the Degree 84:

Requirement	The World Bank Standard Requirements	Government of Lao PDR's requirements	Key Different between WB Standard Requirements and Lao's PDR relevant to SEARECC	Measures included in the ESMF and SEARECC Design
Resettlement	<ul style="list-style-type: none"> • Mitigate adverse social and economic impacts from land by: (i) Providing compensation for loss of assets at replacement cost; and (ii) Ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation and the informed participation of those affected; • Improve or at least restore the livelihoods and standards of living of displaced persons; and • Improve living conditions among displaced persons through provision of adequate housing with security of tenure at resettlement sites. 	(2019); Forestry Law (2019), Law on Resettlement and Vocation (2018); and the Decree on Compensation and Resettlement (2016).	However, the World Bank's ESS5 articulates that those who suffer negative social and economic impacts as a result of the acquisition of land for a project and / or restrictions on land use, may include those having legally recognized rights or claims to the land; those with customary claims to land; and those with no legally recognized claims.	<ul style="list-style-type: none"> • Avoidance of resettlement as the preferred option. • Rights of land users without formal title. • The project's RPF includes further requirements (beyond Decree 84) in relation to the restoration of livelihood activities and additional protection for vulnerable households plus on disclose, consultation and informed participation arrangements. • Provisions of the RPF, in line with ESS5, will apply in the project.

Requirement	The World Bank Standard Requirements	Government of Lao PDR's requirements	Key Different between WB Standard Requirements and Lao's PDR relevant to SEARECC	Measures included in the ESMF and SEARECC Design
<p>ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources</p>	<ul style="list-style-type: none"> • The E&S assessment will consider direct, indirect and cumulative project-related impacts on habitats and the biodiversity they support. • The Borrower will avoid adverse impacts on biodiversity and habitats. • Where the project occurs within or has the potential to adversely affect an area that is legally protected, designated for protection, the Borrower will ensure that any activities undertaken are consistent with the area's legal protection status and management objectives. 	<p>EIA process provides for analysis of all potential alternatives. There is no explicit rule providing for use of land already converted and to avoid land located within protected area, water catchment and area containing high forest.</p> <p>However, since 2016 with WB supports (through the Environment Protection Fund), MoNRE and MAF capacity as well as the PONREs and PAFOs of Oudomxay province to protect and manage Phou Hinphee NPA and protection forest area including enforcement of wildlife trade has been strengthened.</p>	<p>Lack of clear reference to siting project on lands already converted.</p> <p>In the hypothesis that no feasible alternative exists as demonstrated by an ESIA, there is no legal obligation to provide for compensation for conversion of non-critical habitats.</p> <p>There is no mention of "critical natural habitats" or prohibition on investing in projects that would degrade or convert them.</p>	<p>The ESMF include activities that may cause "significant conversion or degradation of natural habitat or where the conservation and/or environmental gains do not clearly outweigh any potential losses" in the negative list.</p> <p>SEARECC activities will be confined almost exclusively to the existing alignment and Right of Way and will not include construction of new roads. Measures and process to avoid and/or mitigate impacts on natural habitats has been included in the ESMF.</p>

Requirement	The World Bank Standard Requirements	Government of Lao PDR's requirements	Key Different between WB Standard Requirements and Lao's PDR relevant to SEARECC	Measures included in the ESMF and SEARECC Design
ESS7: Indigenous People/Sub-Saharan African Historically Underserved Traditional Local Community	<ul style="list-style-type: none"> Requires the Borrower to avoid adverse impacts on communities of indigenous peoples and to engage with affected communities to ensure they have given their Free Prior and Informed Consent. 	<ul style="list-style-type: none"> The Decree on Ethnicity (2020) confirms that the GOL has special policies for ethnic, vulnerable and disadvantaged groups. The National Social Protection Strategy (2020) states that ethnic groups, women, children, vulnerable people and those living in remote areas are specially promoted to access education, health care and equal economic activities. 	<ul style="list-style-type: none"> The Land Law does not specifically mention customary to land used by ethnic and vulnerable groups who are often found to be present and have collective attachment to the forestlands in rural area in Laos. There is no sub-law registration with implementable procedures in place for registering communal and non-communal (individual) customary rights. This may negatively impact ethnic groups and other vulnerable communities, since excluding such communities from the benefits of land registration and overruling or replacing their actual customary land (e.g with smaller area or poorer quality of land) could increase inequality and their vulnerability. There are no specific 	<ul style="list-style-type: none"> An EGEF has been prepared as a stand-alone document to cover the existing gaps. The EGEF provides proactive and inclusive approach and measures to ensure the vulnerable and ethnic groups will not be negatively affected by the project activities. The ESMF includes requirements and process of engaging the ethnic groups in risks assessment, meaningful consultation, Free, Prior and Informed Consent (FPIC) to identify risk management and benefit engagement measures. In case of land-related impacts, the RPF will provide guidance in the development of RAPs aligned with the EGEF/EGEP
ESS8: Cultural Heritage	<ul style="list-style-type: none"> Aims to protect cultural heritage through consultation procedures, 	<ul style="list-style-type: none"> Key applicable national legislation includes the Law on 	No significant gap. Reference to "chance finds" is formally lacking in applicable laws and regulations.	<ul style="list-style-type: none"> This ESMF includes a Cultural Heritage Framework to be applied in case there is a risk of

Requirement	The World Bank Standard Requirements	Government of Lao PDR's requirements	Key Different between WB Standard Requirements and Lao's PDR relevant to SEARECC	Measures included in the ESMF and SEARECC Design
	<p>community access and removal of replicable cultural heritage. Provides specific requirements for chance finds, consultation, community access, removal of replicable and non-replicable cultural heritage, as well as critical cultural heritage.</p>	<p>National Heritage (2013), Agreement of the National Assembly on Ethnicity (2008) and the Decree of the President of Lao PDR on the Preservation of Cultural, Historical and Natural Heritage (1997).</p> <ul style="list-style-type: none"> • Mandatory reporting to authorities (Ministry of Culture and Information and MPWT). The project owner and contractor must interrupt all construction activities and measures must be adopted to preserve the vestiges uncovered by chance until the classification of those assets or until conclusion of the archaeological 		<p>impacts on heritage, whether tangible or intangible.</p>

Requirement	The World Bank Standard Requirements	Government of Lao PDR's requirements	Key Different between WB Standard Requirements and Lao's PDR relevant to SEARECC	Measures included in the ESMF and SEARECC Design
		<p>research shall be prescribed by the Ministry of Culture and Information. The area of archaeological patrimony accidentally revealed must be delimited, as suitable and protected under the responsibility of the project owner and contractor.</p>		
<p>ESS10: Stakeholder Engagement and Information Disclosure</p>	<ul style="list-style-type: none"> • Requires effective community engagement through disclosure of project-related information and consultation with local communities on matters that directly affect them. • Provides specific requirements for Stakeholder Analysis and Engagement Planning, Disclosure of Information, Consultation and 	<p>GOL's requirements are covered by various legislations, especially those on consultation and grievance including the Constitution, the Law on Government (amended 2016), the Law on Handling Petitions (amended 2016), as well a subordinate decrees such as the EIA Decree (2019) and the Compensation and</p>	<p>There is a lack of clarity about when engagement activities can be considered meaningful. Those affected by a project can file grievances using the existing system, not a project-based system. There are also unclear procedures on public disclosure of E&S documents, and on how to respond to concerns and grievances of project-affected parties</p> <p>The ethnic group consultation guideline (2013) is the sole document requiring consultation with ethnic groups. The EIA decree only requires dissemination of</p>	<ul style="list-style-type: none"> • This ESMF discusses the requirements of the SEP in terms of consultations and disclosure. A SEP consistent with ESS10 has been prepared for this project. • A SEP has been developed which details a GRM for the project covering all project aspects, including concerns about environmental and social impacts. The LMP in this ESMF also describes a specific GRM for workers that contractors must have in place.

Requirement	The World Bank Standard Requirements	Government of Lao PDR's requirements	Key Different between WB Standard Requirements and Lao's PDR relevant to SEARECC	Measures included in the ESMF and SEARECC Design
	Indigenous Peoples.	Resettlement Decree (2016), as well as the Public Involvement Guideline (2012) and the Ethnic Group Consultation Guideline (2013)	information to them.	<ul style="list-style-type: none"> • The GRM must be accessible to all stakeholders, in particular vulnerable, ethnic group people, and women and suitable receive and respond to SEA/SH

3 PRELIMINARY ENVIRONMENTAL AND SOCIAL BASELINE

49. The Pre-ESIA has been conducted to assess and determine the preliminary baseline condition of the proposed project and potential project-related impacts. However, given that at this stage of project preparation only the locations for the border crossing facilities (BCFs) and NR2W in general has been preliminarily identified – while there are no specific locations as of yet for feeder roads, dry ports and other technical assistance activities— this Pre-ESIA section essentially focuses on NR2 and the two BCFs. The full ESIA which will be conducted in 2022 shall provide detailed specifics for NR2W and the BCFs as well as for the rest of the project activities (feeder roads, consolidation facilities, etc.). The pre-ESIA is based on interviews and direct observations during the site visits and secondary data, including government and donor reports and academic literature. The Pre-ESIA has also gathered information from the Integrated Biodiversity Assessment Tool (iBAT), the BirdLife International Data Zone tool, and the World Database of Key Biodiversity Areas. Based on primary and secondary data, the Pre-ESIA confirms the presence of ethnic groups in the area of influence of the NR2 road corridor and the border posts, though this will need to be further specified during the ESIA stage once exact project locations are defined. The magnitude of incremental impacts on environmental characteristics along the NR2 West corridor including on biodiversity, critical habitats, river ecology and downstream river use of Nam Beng River including ways to engage with local stakeholders on post-construction wildlife protection and any legacy issues resulting from past land acquisition for the border crossing posts or road will be done during the full-ESIA.

50. The pre-ESIA used a mix of qualitative and quantitative methods to gather data and information in order to offer diverse perspective to the evaluation and to promote engagement of key stakeholders of the project at all levels. A drive-through along the NR2W was able to interview some villagers, village leaders and some businesses. However, due to Covid-19 lockdowns and restrictions to travel in other districts, some of the interviews were done by phone calls and virtual consultations using Whatsapp. In addition, the collected data for analysis made use of the techniques listed below:

- 1) **Desk review** of project documents, national policies and legislations and WB framework including previous study reports of the project or similar projects in the region.
- 2) **Secondary data:** As per the desk review and also including government data sources. The secondary data review covered the 5 project provinces, i.e. Oudomxay, Xayabouly, Phongsaly, Luang Namtha and Luang Prabang. The analysis were more in depth for the first two provinces, as they were along the NR2 West Corridor.

Key Informant Interviews: Semi-structured questionnaire was prepared to interview selected project key stakeholders at all levels (central, provincial, district and village levels). The same questionnaires were distributed to the DPWT staff that facilitated some interviews. Prior to the mobilization of the DPWT staff, an on-line training was conducted on the proper way of interview based on the questionnaires.

3.1 Environmental Baseline

3.1.1 Topography and Geomorphology

51. The proposed NR2 has a total length of 295 km and is divided into two main sections, the NR2 West (190 km) connecting the Thai border at Huai Kone via NR4A and NR2-East (150km) connecting with the Vietnamese border at Tay Trang, Dien Bien Phu province. The SEARECC project only focuses on NR2W which is 190km. The Pre-ESIA focuses on NR2W though various sections cover, from a high level perspective, the whole NR2 corridor in order to provide a more complete picture.

52. Overall, the topography of Xayaboury, Oudomxay and of Pongsaly province primarily form part of the Loei Fold Belt with elevations ranging from 300 m to 1,800 metres above sea level (masl). It was estimated that only 6% of the area has a slope below 20%, while 50% of the area has a slope exceeding 50% with a moist to dry-sub-tropical climate (JICA, 2013). Approximately sixty rivers flow through these provinces, some of which form tributaries to the Mekong River which flows through southern part of Oudomxay and through central Xayaboury provinces. The soils tend to be weak with generally low fertility because of heavy leaching and high acidic content. Soils have low water retention capacity and as a result are not well-suited to intensive cultivation practices.

53. The topography of NR2 is mainly described into two sections, NR2 West and NR2 East. NR2 West is contained in relatively flatland with agriculturally suitable areas alongside the road. Where the river turns west the steep side slopes are still maintained but some low terrace areas are now evident where side tributaries emerge and met the Mekong. The majority of NR2 East is characterised by steep terrain and follows the Nam Phak and Nam Ou Rivers.

3.1.2 Geology and Soils

3.1.2.1 Geology

54. The northern part of Lao PDR is characterised by complex geology, with sedimentary rocks of Palaeozoic age, comprising shale, siltstone and sandstone interwoven with volcanic rock, such as andesite, dacite and rhyolite. Limestone of Permian to Carboniferous age is also found in the area. The rocks are covered by quaternary soil deposits and alluvial soils. The bedrock is fractured and folded.

55. The geology along NR2 East is not well described in the literature but appears to be dominated by sediment rocks, including limestone, shale, sandstone and agglomerates, with smaller proportions of volcanic and granite (IRC, 1994).

56. The landforms across the foothills vary in association with geology, comprising igneous intrusions forming mountains and sedimentary and alluvial stratigraphy forming the plains. The less weathered and harder igneous intrusions result in steeper terrains, while the more readily weathered sedimentary sequences are characterised by more gentle relief.

57. Soils across the north-west Lao PDR remain largely unmapped, and detailed data is not available. However, general information on the soils in northern Lao PDR have been provided in a biodiversity study of the Luang Namtha area (WCS, 2003). The study concluded that in general lowland soils vary from hydromorphic types with medium clay content to lighter, loamy soils. The rich alluvial clays of wide river valleys are ideal for wetland rice paddies. Loamier, more porous soils tend to be found in the smaller watersheds. Upland soils are of two main kinds. The first is made up of reddish-brown laterite, more deeply weathered and only slightly acidic. Though not very fertile it is stable and capable of retaining water and permitting swidden agriculture. The second type is a medium to heavy textured, reddish-yellow podsol that is derived from acid parent rock. This soil has poor water retention, low fertility and little organic content. Soil depths vary depending on location, slope, and the extent to which they have been subjected to forces of erosion.

58. Due to its mountainous terrain on NR2 East and some sections of NR2 West, general soils along NR 2 are classified as shallow or undifferentiated soils (mainly sandy clays), while a relatively small proportion fall in to the categories of red yellow podzolic soils, low humic gley soils and poorly-drained alluvial soils (IRC, 1994). The section of NR2 East is characterized by steeper terrain, while NR2 West is more of an open lowland area.

59. The soils along NR2 is considered by the MRCs (2001) to have a critical risk of soil erosion, with 71% of the total area classified as Class 1 (“area with very steep and rugged landforms, commonly are upland and headwater areas”) and Class 2 (“area with steep slopes, usually at higher elevation”) without forest cover.

60. Soils along the NR2 region are susceptible to significant erosion due to various factors, in particular:

- Rainfall levels, for example there is an increased risk of erosion in the wet season;
- Soil type and character;
- Slope angle;
- Land use, e.g. shifting cultivation cycles; and
- Levels of vegetation cover.

- Although the terrain is generally flatter in NR2W, some sections at the end of Pakbeng District and towards Xayabouly Province are steeper. During the site drive through visit (September 2021), some roadside erosion were observed in these sections of road.

3.1.3 Rainfall and Climate Characteristics

61. Climate and rainfall in Lao PDR are strongly influenced by large scale atmospheric circulations, including the El Niño-Southern Oscillation and the Interdecadal Pacific Oscillation (IPO). The climate in the northern Lao PDR is sub-tropical to tropical with extremes of wet and dry seasons associated with the passage of the East Asian and Indian Monsoons. The dry season (November to April) has prevailing winds from the North-East Monsoon, associated with cool and dry air, with January and February being the driest months. The wet season (May to October) has prevailing winds from the South-West Monsoon from the Indian Ocean. On average 80% of the annual regional rainfall occurs during the wet season, with July – August typically the wettest period.

62. Long term daily rainfall and other climate variables are recorded at Oudomxai and Luang Namtha climate stations which are located within and proximal to NR2. Median annual rainfall volumes at these stations vary between 1,490 mm / year (Oudomxai rainfall station) and 1,458 mm / year (Luang Namtha rainfall station). Annual rainfall distribution in the project region is shown in Figure 3-1. Due to limited ground-based rainfall monitoring in the basin, the annual rainfall distribution is based on combined data from satellite rainfall estimates derived from the Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS) and Oudomxai and Luang Namtha rainfall station data.

63. Rainfall in the project area varies seasonally and July and August are the wettest months with a median rainfall between 281 and 341 mm / month. December, January and February are the driest months with a median rainfall of between 19 and 52 mm / month. February is the driest month with a median rainfall of 7 mm / month across the basin. A summary of median monthly rainfall across the basin is shown in Figure 3-1.

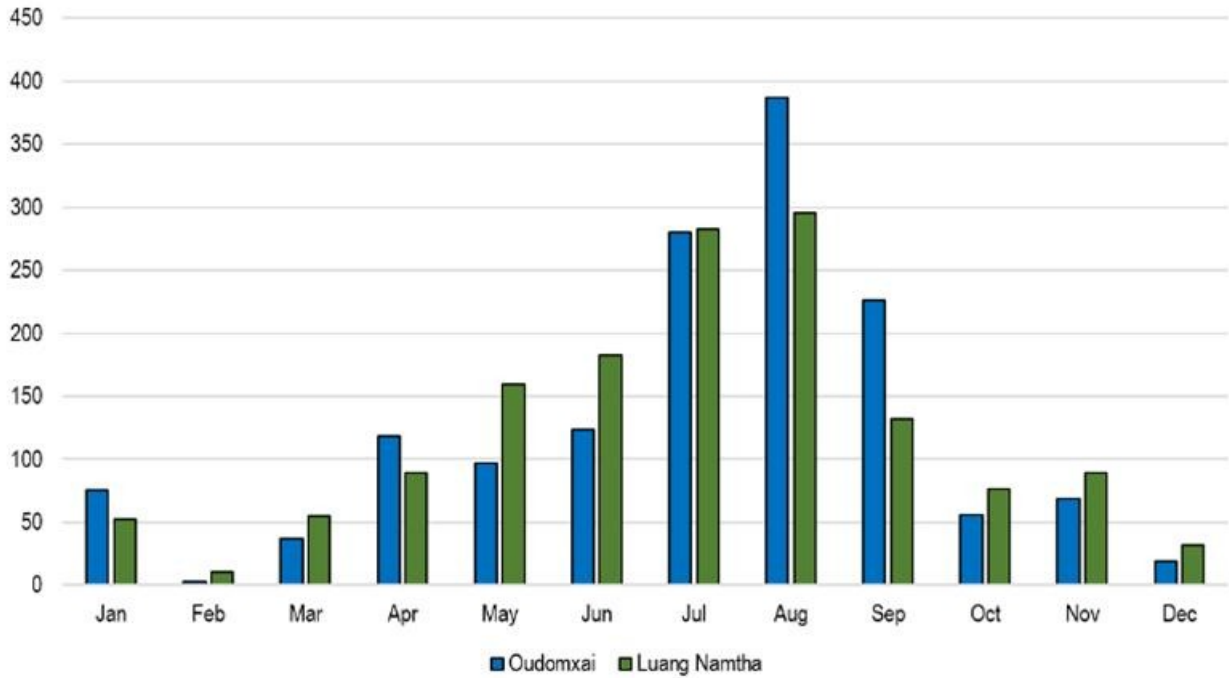


Figure 3-1: Median monthly rainfall in the project region

Data Source: Lao Department of Meteorology and Hydrology (2020)

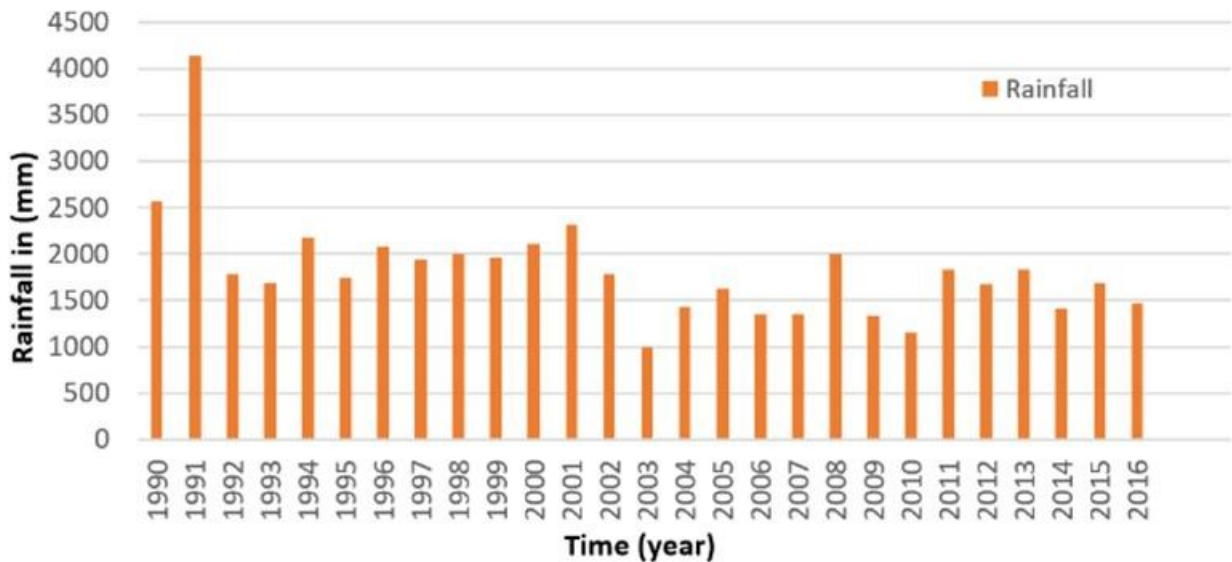


Figure 3-2: Annual rainfall at Muang Xay Station 1990 – 2016

Data source: Lao Department of Meteorology and Hydrology (2020)

64. Maximum temperatures throughout the project region are relatively constant during the year and range between 25 and 34 degrees Celsius with a decrease in minimum temperature during dry season (refer to Figure 3-3). Humidity follows a comparable seasonal pattern with a decline in minimum humidity during the dry season and a relatively constant maximum humidity throughout the year. Median daily sunlight duration at Luang Namtha is 5.9 hours per day throughout the year. Median or solar radiation peaks differs from average daily sunshine duration.

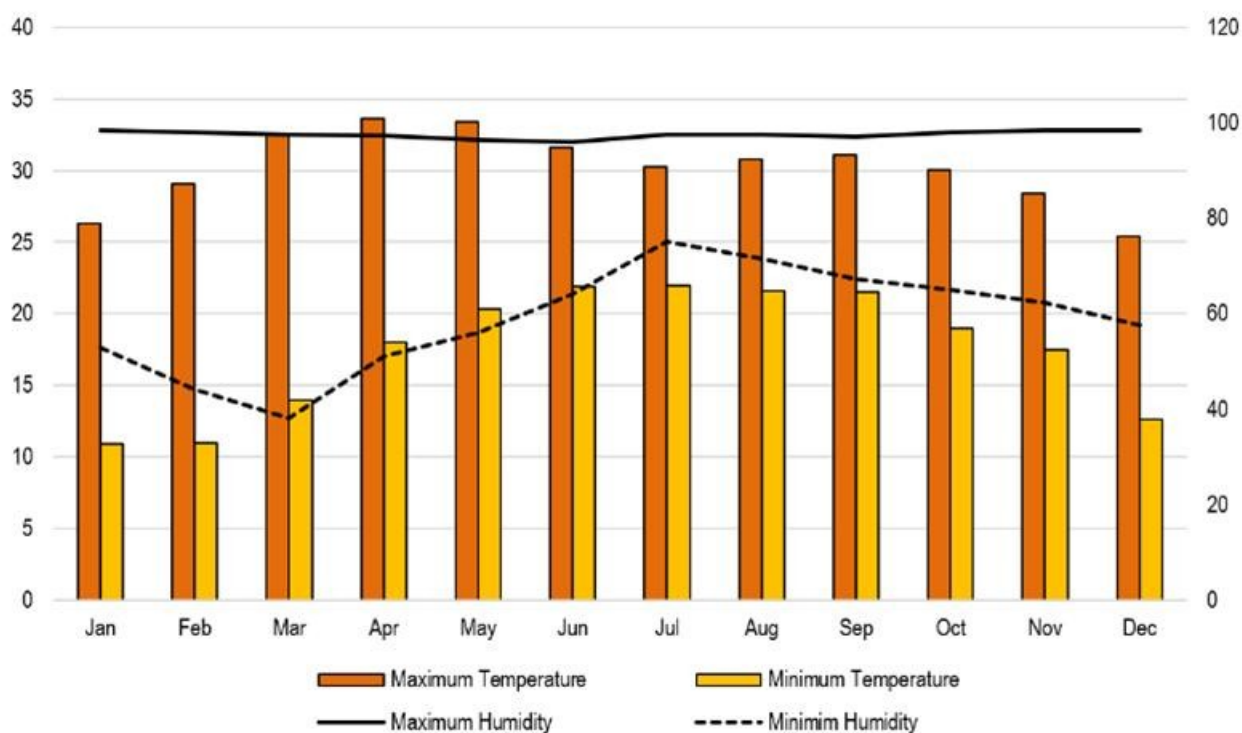


Figure 3-3: Median maximum and median minimum monthly temperature and humidity at across the project region

Data source: Lao Department of Meteorology and Hydrology (2020)

3.1.4 Land Use

65. NR2 West is approximately 190km and extends through Ngeun district in Xayaboury (36 km), and Pakbeng, Houn, Beng, and Xay districts in Oudomxay province (154 km). The main land use type along NR2 West consists of agricultural crops such as rice, maize and plantation (e.g. rubber plantation), while sections traverse areas covered with shrubs, grassland, and sparse trees. Lowland rice cultivation is the main activity, but other crops grown include cashew, pumpkin, corn, banana, rubber and pepper. Fruit and vegetable crops are also cultivated, although primarily for household consumption.

66. Some land use data of Xay district is available and indicates that primary land use types were defined into six main use categories comprising of forestland (including), unstock / fallow forest, agricultural land, grazing land, residential land, other land use types (e.g. rocky areas, roads, waterways, etc). Unstock and fallow forestland where local farmers use for shifting cultivation accounts for approximately 55%, followed by forestland (including plantation and bamboo) of around 37%. During the site visit in September (2021) it was observed that the land use in Beng District was mainly dominated by paddy rice fields and corn/maize plantations. While in Houn District, rice, corn sugar cane and banana plantations were dominant. In Nguen District general agricultural and grazing land was more prevalent. Detailed assessment and investigation on the landuse will be carried out during the full ESIA and FS stage.

Table 3-1: Land use types in Xay district, Oudomxay province

No.	Main Land Use Type	Area (Ha)	Area (%)
1	Forestland (primary and mixed deciduous forest, plantation, bamboo)	80,075	27.68
2	Unstock / fallow forest	117,214	55.16
3	Agricultural land (rice paddies, upland agriculture, fruit crops)	11,096	5.22
4	Grazing land	1,538	0.72
5	Residential land	1,255	0.59
6	Other land use types (rocky areas, roads, waterways)	1,329	0.63
Total		212,506	100

Source: Xay District, 2015



Plate 3-1 Water crossing along NR2 West



Plate 3-2 Current land use for agriculture along NR2 West

3.1.5 Conservation and Protection Forests

67. The northern Lao PDR has a great variety of tropical forests distributed over mountains, plateaus and plains. Forest in Lao PDR has been categorized into three main types which are owned by the State and under the Ministry of Agriculture and Forestry's (MAF) mandate. These are: Production Forest, Conservation/Protected Forest, and Protection Forest.

68. There are two major conservation reserves in the region of NR2. These are the Nam Ha National Protected Area (NPA) and Phou Hinphee NPAs. The following outlines information on these NPAs.

3.1.5.1 Nam Ha NPA

69. The Nam Ha NPA is located in Luang Namtha province, approximately 50 Km north-west from the NR2 West alignment (refer to Figure 3-4). Nam Ha NPA has the highest conservation status in Lao PDR. The Nam Ha NPA is one of the original 18 National Biodiversity Conservation Areas which were gazetted by the government of Lao PDR in 1993. This Nam Ha NPA covers 2230 km² and is continuous with the

Shiang Yong Protected Area in Xishuangpanna National Nature Reserve in China (ADB, 2002). These reserves form an important trans-boundary wildlife corridor for endangered species which require large territories, such as Asian elephants. The Nam Ha NPA is the 3rd-largest NPA in Lao PDR, and is the fourth-largest protected area in the eco-region. Threatened species in Nam Ha NPA include the Clouded leopard (*Pardofelis neulosa*), Guar (*Bos frontalis*) and the Black-cheeked crested gibbon (*Nomascus concolor*). The biodiversity management of Nam Ha NPA is mainly funded by ecotourism activities such as trekking, kayaking and tours. Funds are then invested back into programs that decrease the dependence of local communities on threatened species and preventing illegal hunting of wildlife, as well as raising awareness of alternative sources of income through ecotourism and other livelihood activities. The Ministry of Agriculture and Forestry is the leading GOL agency responsible for the protection and management of Nam Ha NPA in consultation with Provincial Authorities.

3.1.5.2 Phou Hinphee (Phou He Pii) NPA

70. Northern boundary of Phou Hinphee extends approximately 18 Km along NR2 East (refer to Figure 3-4). It covers approximately 87,350 ha, with large areas of mixed deciduous forest and consist of mountainous terrain ranging from 500 m to 15,00 m in elevation. The Phou Hinphee NPA was established in 2011. The management of this NPA is undertaken by the Provincial Department of Agriculture and Forestry (PAFO) and the Department of Natural Resources and Environment (PONRE) with financial support (2016 – 2020) from the National Environmental Protection Fund (EPF). It was reported that 80 boundary posts and eight protected area signboards have been installed around the Phou Hinphee NPA during EPF support. In addition, eight villages residing inside the NPA have been involved in conservation and livelihood development activities (PAFO, 2019).

71. The reserve is rich in biodiversity, with a range of birds, reptiles, insects, and mammals. In 2018, Chinese terrestrial ecologists discovered two new terrestrial species of Begonia L. (Begoniaceae), *B. laotica* and *B. hypoleuca* in northern Lao PDR including Phou Hinphee NPA (Hong-Bo Ding, et al (2020). Although Phou Hinphee provides potential significant habitats for high conservation species, currently little information is available regarding the biodiversity species.

72. Phou Hinphee also hosts an attractive ecotourism site, Namkat Yorla Pa, opened in 2016 along the Namkat river. The site is located 24 Km from Xay district centre, and approximately 11 Km from the 11 Km from NR2 East. This area is one of the most beautiful and desired ecotourism destinations in Lao PDR while ensuring its protection through the promotion of sustainable travel practices.

3.1.5.3 Nam Meuk Provincial Protected Area

73. The Lao-Viet Border Crossing Facility is located within the Nam Meuk Provincial Protected Area (PPA). The Nam Meuk PPA has a total area approximately 110 ha where the NR2 passed through it before entering the border checkpoint to Vietnam.

3.1.5.4 Protection Forest

74. The Oudomxay Integrated Spatial Plan (2015) indicated that the province currently has five National Protection Forests were identified in Oudomxay province with a total area of 633,697 ha. These areas are illustrated in Figure 3-4. In addition, there are three district protection forests including Namkeud, Longnamkor, and Tad Namhang watershed protection forests.

Table 3-2: Forests classification of Oudomxay province

No.	Classification	Name	Area (Ha)	District
Conservation Forest				
1	National Protected Forest	Phou Hinphee	87,350	Xay, La
District Conservation Forest				
1	District Conservation Forest	Phou Lekka	46,000	Xay
2	District Conservation Forest	Phou Chomteen	2,100	Xay
3	District Conservation Forest	Phou Sao	1,500	La
4	District Conservation Forest	Phou Ly	9,400	Nga
5	District Conservation Forest	Phou Xang	2,580	Nga
6	District Conservation Forest	Nam Beng	3,200	Beng
7	District Conservation Forest	Hin Namnor	1,370	Houn
8	District Conservation Forest	Phou Mokseun	5,900	Pakbeng
National Protection Forest				
1	National Protection Forest	Nam Beng Watershed Protection	212,498	5 districts
2	National Protection Forest	Nam Nga – Nam Ou Tai Watershed Protection	155,549	6 districts
3	National Protection Forest	Phou Sam Gnoth – Nam Phak Watershed Protection	54,855	3 districts
4	National Protection Forest	Namtha Watershed Protection	184,706	9 districts
5	National Protection Forest	Phou Luang - Mokwaen	26,089	4 districts
District Protection Forest				
1	District Protection Forest	Nam Keud Protection Forest	5,239	La
2	District Protection Forest	Long Namkor Protection Forest	1,885	-
3	District Protection Forest	Tad Namheng Protection Forest	4,360	Houn

Source: Oudomxay ISP, 2015

75. Forest is valuable, but deforestation rates are high and about 80% of the country's forests are degraded or highly degraded. Forest degradation results in the release of greenhouse gasses and the loss of economic, ecological and sociocultural functions, which negatively impacts rural livelihoods. Once degraded, forests become vulnerable to permanent conversion to agriculture given that national policy allows degraded forestland to be allocated for non-forest purposes.

76. Data from the National Forest Inventory (2018) found that between 2005 and 2015, forest cover in Production Forest Areas fell by 4.2%, in Protection Forest Areas by 3.3%, and Conservation Forest Areas by 1.8%. Overall, forest cover fell by 0.36% per year and from 60.9% in 2000 to 58% in 2015.

3.1.5.5 Production Forest

77. Production Forests are forest areas owned by the Government and are approved for villagers to use for their livelihoods. Activities such as small gardens, raising of livestock or upland rice fields are allowed as well as collection of NTFPs. However, large scale logging is restricted. The regulations for production forests vary depending on district and province. Available information from Oudomxay province indicated that three national production forest (NPF) areas occur in seven districts of Oudomxay province. These national production forest include Namphak, Nam Nga, and Nam Khong National Forests with a total area of 220,695 ha (refer to Table 3-3 and Figure 3-4).

Table 3-3: National Production Forest in Oudomxay Province

No.	District	Nam Phak NPF (Ha)	Nam Ng NPF (Ha)	Nam Khong NPF (Ha)	Total (Ha)
1	Xay	15,650	16,650	-	32,300
2	La	14,184	-	-	14,194
3	Namor	22,284	-	-	22,284
4	Nga	-	64,348	17,251	81,599
5	Beng	-	17,788	-	17,788
6	Houn	-	-	35,100	35,100
7	Pakbeng	-	-	17,440	17,440
Total					220,695

Source: Oudomxay PAFO, 2017

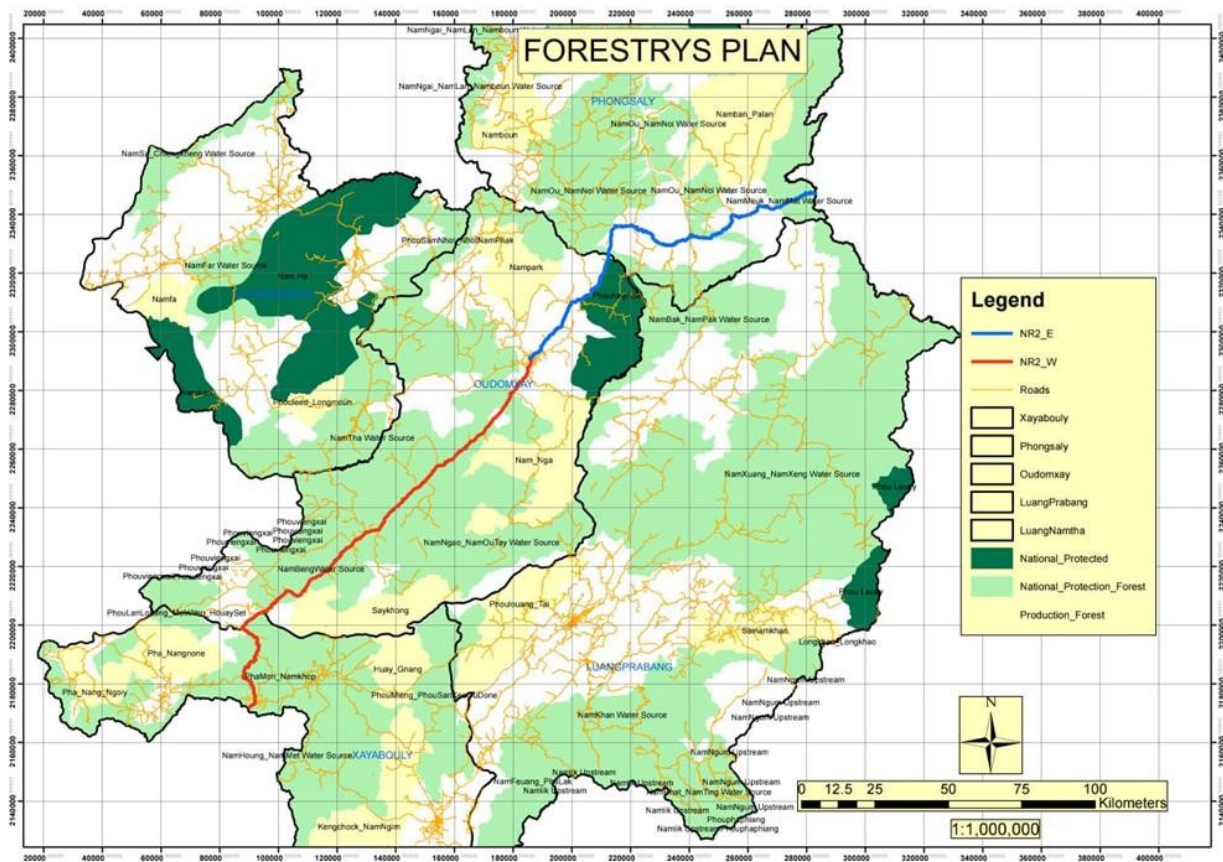


Figure 3-4: Protection and protected forest areas within the NR2 project region

3.1.5.6 Important Bird Areas (IBAs)

78. Important Bird Areas (IBAs) are sites of high global conservation significance for birds. A site is recognised as an IBA only if it meets certain criteria, based on the occurrence of key bird species that are vulnerable to global extinction or whose populations are otherwise irreplaceable. To be classed as an IBA, the site must do one (or more) of three things:

- Hold significant numbers of one or more globally threatened species;
- Are one of a set of sites that together hold a suite of restricted-range species or biome-restricted species;
- Have exceptionally large numbers of migratory or congregatory species.

79. There are currently 27 IBAs in Lao PDR (BirdLife International 2004). The only IBA located near to the NR2 alignment is the “Phou Dendin IBA” (No. LA008) located in Phongsaly province. This IBA covers approximately 126,880 ha and comprises the upper Nam Ou and its catchment, within Phou Den Din NPA. The biodiversity significance of this IBA is described by BirdLife International (2009) as follows:

- The IBA has only been the focus of a few brief surveys, which were constrained by time limitations and inclement weather. As a result, insufficient ornithological information is available to characterised the bird communities of the IBA (Thewlis et al. 1998). However, the

available data indicate that the Nam Ou and its tributaries are important for a number of riverine species, including Blyth's Kingfisher *Alcedo Hercules*, Crested Kingfisher *Megaceryle lugubris*, Lesser Fish Eagle *Ichthyophaga humilis* and Brown Dipper *Cinclus pallasii* (Duckworth et al. 1998). Although small numbers of River Lapwing *Vanellus duvaucelii* have been recorded at the IBA (Thewlis et al. 1998), given the lack of suitable habitat, it is unlikely that the IBA is of high importance for the conservation of sandbar-nesting birds (Duckworth et al. 1998). The available data from forest habitats indicate that the IBA supports Great Hornbill *Buceros bicornis*, Brown Hornbill *Anorrhinus tickelli* and Rufous-necked Hornbill *Aceros nipalensis* (Duckworth et al. 1998). However, given the high hunting pressure believed to be operating and the relative isolation of IBA from other significant areas of suitable habitat, it is not certain that the IBA can support populations, at least of the two larger species, that are viable in the long term.

3.1.5.7 International Protected Areas

80. No wetlands of international significance, such as Ramsar wetland sites are located in the vicinity of the NR2 alignment.

3.1.6 Natural Hazards

3.1.6.1 Floods

81. Oudomxay Province experienced flash floods with devastating effects on infrastructure and loss of life in the provincial capital, Muang Xay, in 1945, 1985, 2008, 2013 and 2017. According to previous assessments of the most recent flood event in Muang Xay on the 5th August 2017, one person died in Xay District and the value of property lost to the floods was approximately 3.9 billion kip (~400,000 USD) in Xay and La Districts. Public infrastructure damaged included 22 electricity poles and one bridge and one school building while private infrastructure affected included at least 16 houses and two petrol stations.

82. The recent flood event of August 2017 (refer to Plate 3-3 to Plate 3-5) was primarily caused by the extreme discharge of the Nam Mao River after severe rainfall in the Nam Mao sub catchment. Damage occurred mainly alongside the Nam Mao River. The city of Muang Xay experienced high-water levels, but limited damage occurred in the city centre downstream of the confluence of the Nam Mao with the Nam Kor River.

83. The flood event of 2017 underlines the importance of taking into account the spatial variation of the rainfall in the analysis of flood risk and in the construction of the synthetic hydrographs used for the flood analysis. As with the 2017 floods, most likely, also other flooding events were (primarily) caused by extreme flows in just one of the upstream rivers (Nam Kor, Nam Hin or Nam Mao).

84. The 2013 flash flood event occurred as a result of torrential rains on August 20-21 with maximum daily rainfall of 93.6 mm. Seven districts suffered damage to infrastructure, loss of life (17 persons), and loss of agricultural production up to a

value of 1,233 million kips (150,000 USD). Flood damage in the provincial capital of Muang Xay was largely caused by inundation from the Nam Kor River which passes through the provincial capital. In 2008, as a result of a diminishing tropical cyclone and heavy rainfall (maximum daily rainfall recorded was 152.7 mm), one fatality and extensive property damage was inflicted on Muang Xay town.



Plate 3-3 Floods in Muang Xay in August 2017

3.1.6.2 Natural disasters

85. Table 3-4 shows that highest percentage of villages in most of the 5 provinces, except for Luangnamtha, experienced impacts of drought in 2018. This is followed by floods in Oudomxay and Luangnamtha.

Table 3-4: Villages with experience in natural disasters in the target provinces

Natural disaster	Phongsaly		Luangnamtha		Oudomxay		Luangprabang		Xayaboury	
	%	Number	%	Number	%	Number	%	Number	%	Number
Drought	5.4	28	10.4	38	31.6	149	20.1	152	34.6	149
Flood	4.8	25	17.4	64	28.4	134	8.6	65	11.6	50
Landslide	4.4	23	12.8	47	19.7	93	6.9	52	1.2	5
Storm	2.5	13	4.9	18	14.8	70	7.5	57	6.7	29
Fire	1.3	7	3.3	12	3.6	17	3.7	28	3	13
Other natural disaster	24.1	125	18.8	69	27.1	128	19.7	149	24.4	105

Source: Phongsaly Statistics Center (2020), Luangnamtha Statistics Center (2020), Oudomxay Statistics Center (2020), Luangprabang Statistics Center (2020), Xayaboury Statistics Center (2020).

3.1.6.3 UXO

86. Unexploded ordnance (UXO) refers to explosive devices that have failed to detonate. Lao PDR is, per capita, the most heavily bombed country in the world and UXOs are still present in large parts of the country, with approximately 25% of Lao PDR's 10,000 plus villages being UXO contaminated (NRA, 2016). The Government of Lao PDR has identified UXO contamination as an ongoing barrier to economic development and improved rural livelihoods (UXO Lao, 2016). Much of the data on UXO in Lao PDR relates to US bombing campaigns. However, these data are not comprehensive, and bombing undertaken by the Thai and Lao governments has not been fully documented or mapped.

87. A preliminary analysis of historical records of US Air Force aerial bombing activities over Indochina between 1965 and 1975 indicates there was relatively low

bombing activity in the NR2 region, with some occur in Pakbeng district (Oudomxay) and Mai district (Phongsaly).

88. Figure 3-5 shows the density of US aerial bombing over Xayaboury, Oudomxay, and Phongsaly provinces based on the US Air Force bombing database GIS points. The figure indicates that there is a low to moderate level of unexploded ordinance (UXO) risk along the existing NR2 alignment given that the road is already developed and residential and farmland established. If necessary, a new UXO survey should be carried out on land that has yet to be developed, such as future quarry or borrow areas., during the full feasibility/ESIA stage.

89. Figure 3-5 shows two cluster of bomb drops to the northern section (Khoua district, Phongsaly), and western chainage in Pak Beng district. It would be assumed that UXO would also be found within these areas. Low number of bombs were also dropped between the middle section along the NR2 between Pak Beng to La district of Oudomxay province.

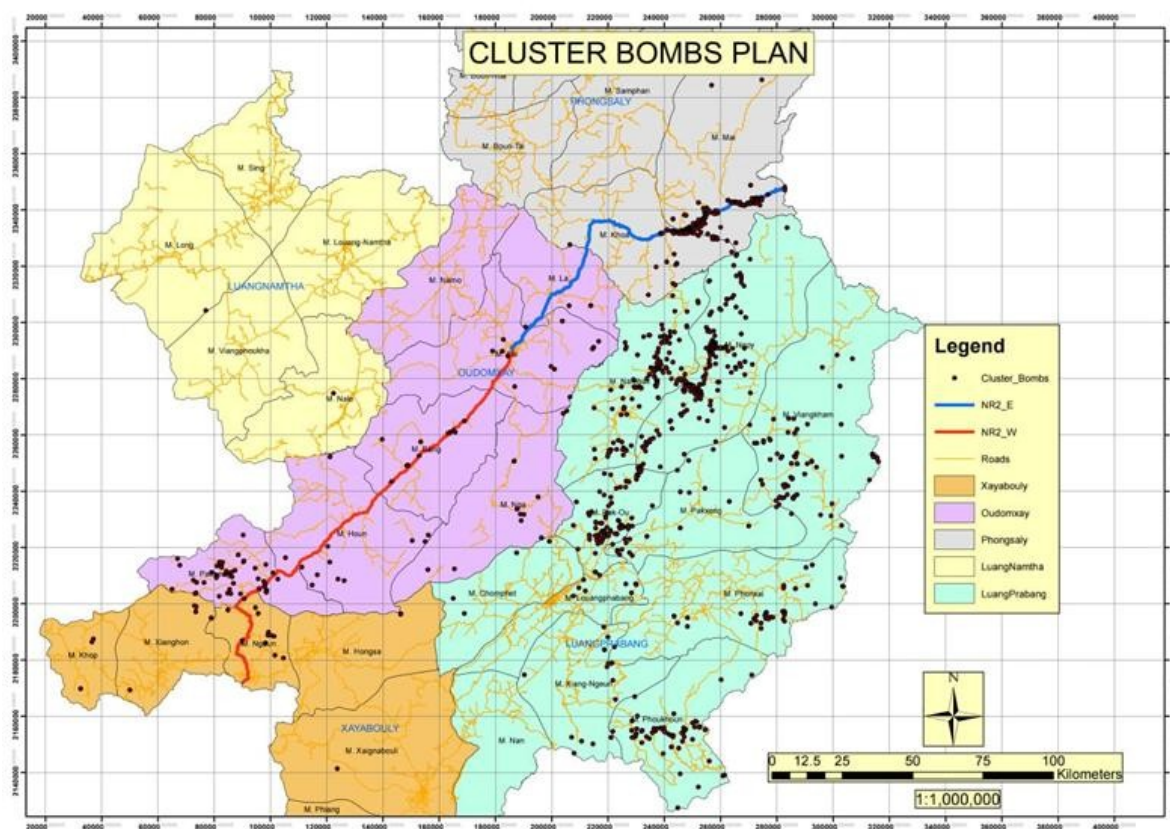


Figure 3-5: UXO Risk in the Project Area

3.1.7 Surface Hydrological Characteristics

90. Within NR2 West in Xayaboury and Oudomxay provinces, the main catchment for surface water is the Mekong River and several of its first order tributaries including Nam Beng and Nam Phak Rivers. Annual seasonal flows of the Mekong vary considerably due to upstream hydropower dam development. The mean annual discharge of the Mekong is approximately 475 cubic kilometres (km³). In addition to these and a few smaller rivers, the two provinces have many perennials, seasonal

and ephemeral streams, and wetlands. These rivers include Nam Phak, Nam Sae, Nam Beng, Nam Nga, and Nam Kor.

91. Oudomxay provincial capital, Muang Xay is situated in the Nam Kor River basin in the north-west part of the province and is ringed by prominent mountains. The Nam Kor River and its tributaries including the Nam Mao, Nam Hin and Nam Sin pass through the Town. Due to the location and the river system characteristics, Muang Xay City is prone to flooding (refer to Section 3.1.6.1).

92. There are seven hydropower dams along the Nam Ou cascade in the provinces of Phongsaly and Luang Prabang. Currently, construction of the seven dams has been completed and all seven dams commenced commercial operation. The Nam Ou Dam 2, 5 & 6 commenced operations in May 2016, and the Nam Ou Dam 1, 3, 4 & 7 have been recently completed in 2021. The generating capacity of all seven dams totals 1,272 MW with average annual generation capacity of 5,046 GWh.

93. The Nam Beng River, a main tributary of the Mekong, is 125 Km and runs through Beng, Houn and Pakbeng districts. This river supplies water to a number of irrigation schemes in Houn and Beng districts. No information is available on flow and discharge. The list of important flora and fauna in Nam Beng will need to be included in the ESIA.

94. The Nam Phak River is a primary tributary on the Nam Ou River Basin, and the basin is located in Oudomxay and Phongsaly provinces. The river is originated from the mountainous areas in Oudomxay province, flows across Muang La and discharges into the Nam Ou River at Muang Khoua District Town, Phongsaly province. The Nam Phak has a total length of approximately 163 km and runs through Oudomxay province 98 km. The perennial average discharge at the estuary in Muang La district is estimated 71.6m³/s and minimum flow is approximately 4 m³/s. Several hydropower dams have been planned on Nam Phak River Cascade, including Nam Phak 1, 2 & 3.

Table 3-5: Main rivers system in Oudomxay province and in vicinity to NR2 alignment

No.	Watershed/River	Length (Km)	Watershed area (Km ²)	District
1	Mekong	170	2,014	Pakbeng, Houn, Nga
2	Nam Beng	125	2,124	Beng, Houn, Pakbeng
3	Nam Phak	98	2,164	Namor, La

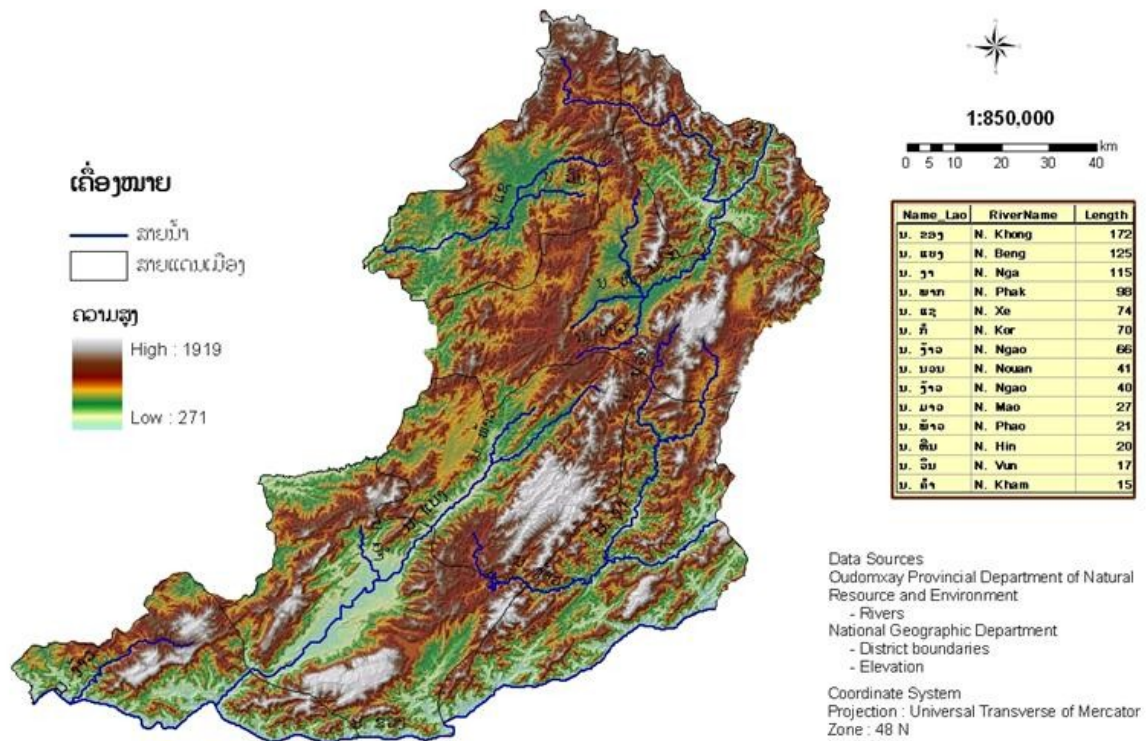


Figure 3-6: Main rivers system in Oudomxay province

Source: Oudomxay PONRE, 2018

95. Figure 3-7 identifies key bridges where river crossing along the NR2 West within Oudomxay province. The preliminary identification of the bridges was undertaken during site investigation and found to be concrete type with average maximum loading capacity of 40 tons. Further assessment of these bridges will be conducted during the full feasibility study and full ESIA stage.

96. Figure 3-8 to Figure 1-1 identifies community and local fishponds and/or small water storage facilities located near the NR2 West chainage. Most local water storage facilities are used for either irrigation supply (e.g. gardening), and aquatic farming activities. Many water resources have been identified in Beng and Houn districts whilst a smaller number were also found in Muang Xay and Ngeun districts. These water resources facilities are unlikely to be impacted by the NR2 West construction and operation activities. Further assessment however should be conducted during the full ESIA phase.

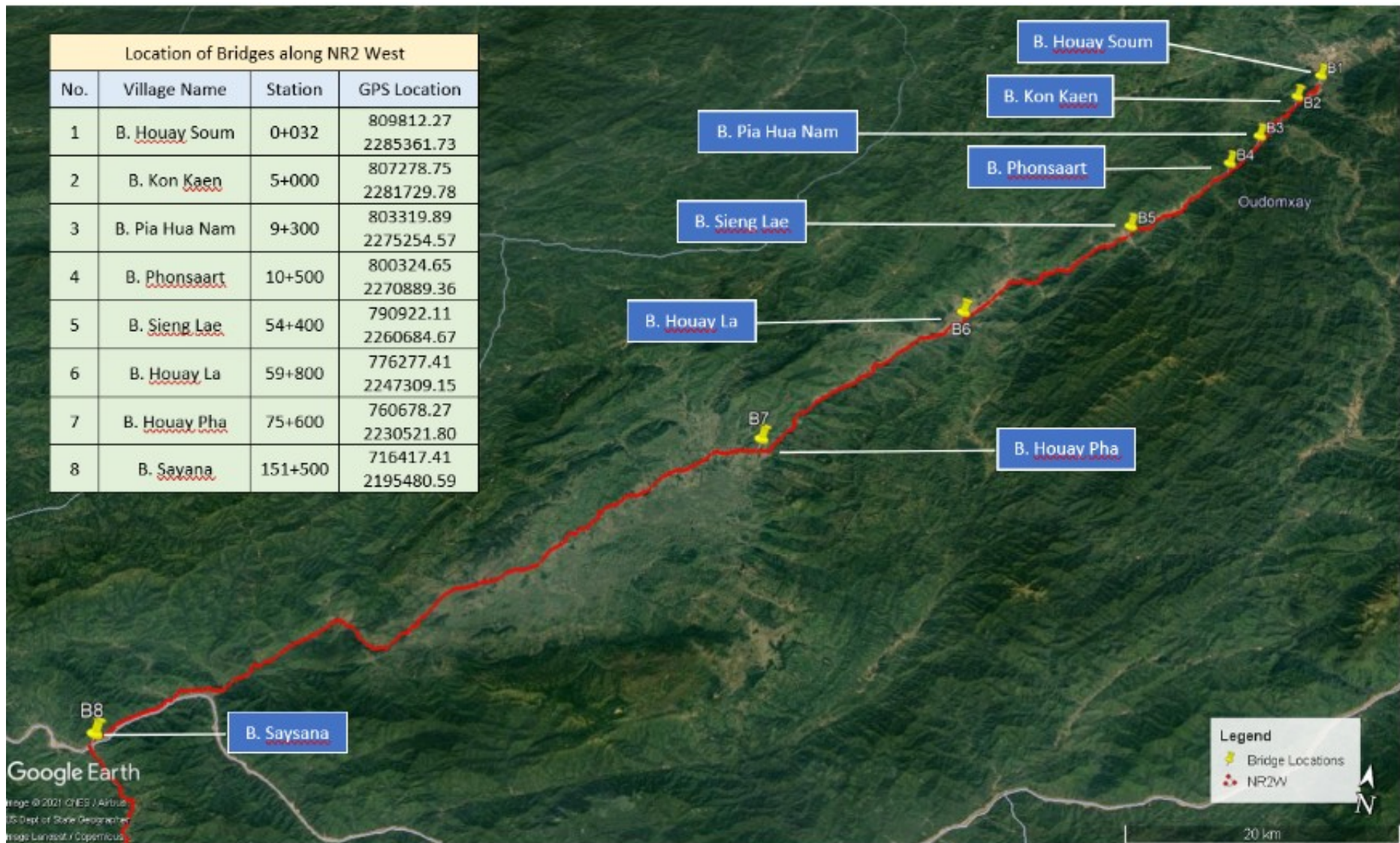


Figure 3-7 Location of Bridges along NR2W – Oudomxay Province

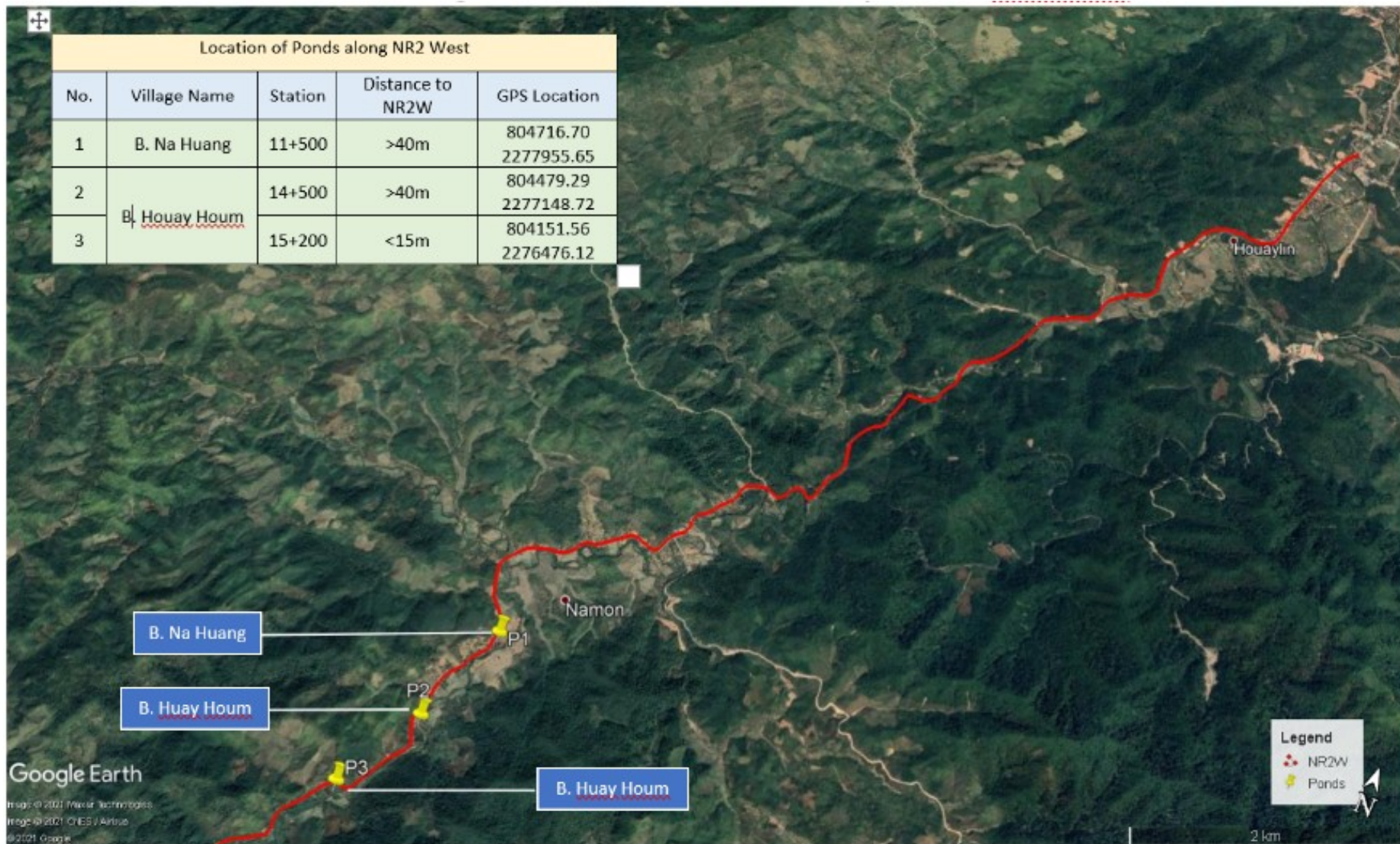


Figure 3-8 Location of Ponds along NR2W – Xay District, Oudomxay Province

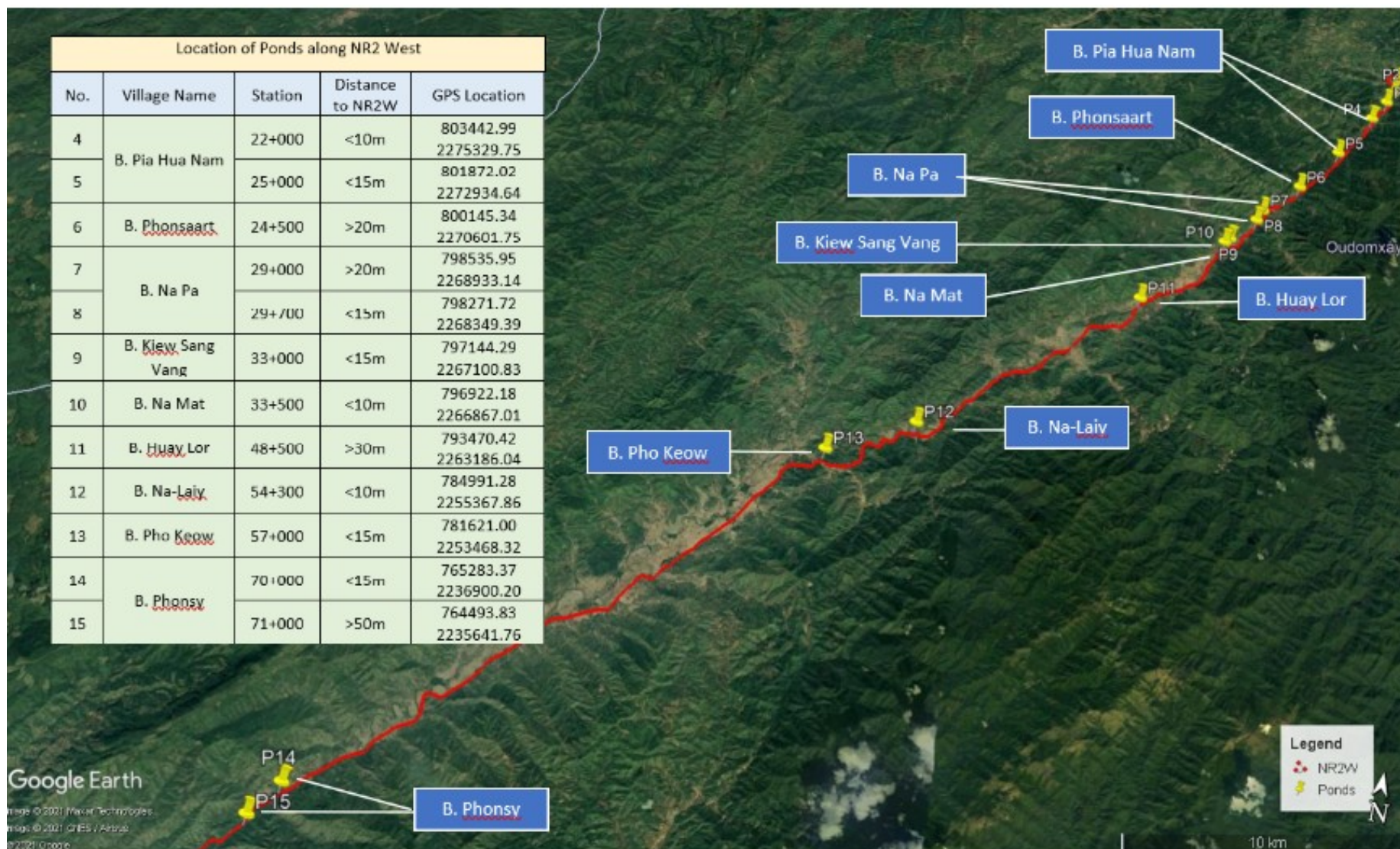


Figure 3-9 Location of Ponds along NR2W – Beng District, Oudomxay Province

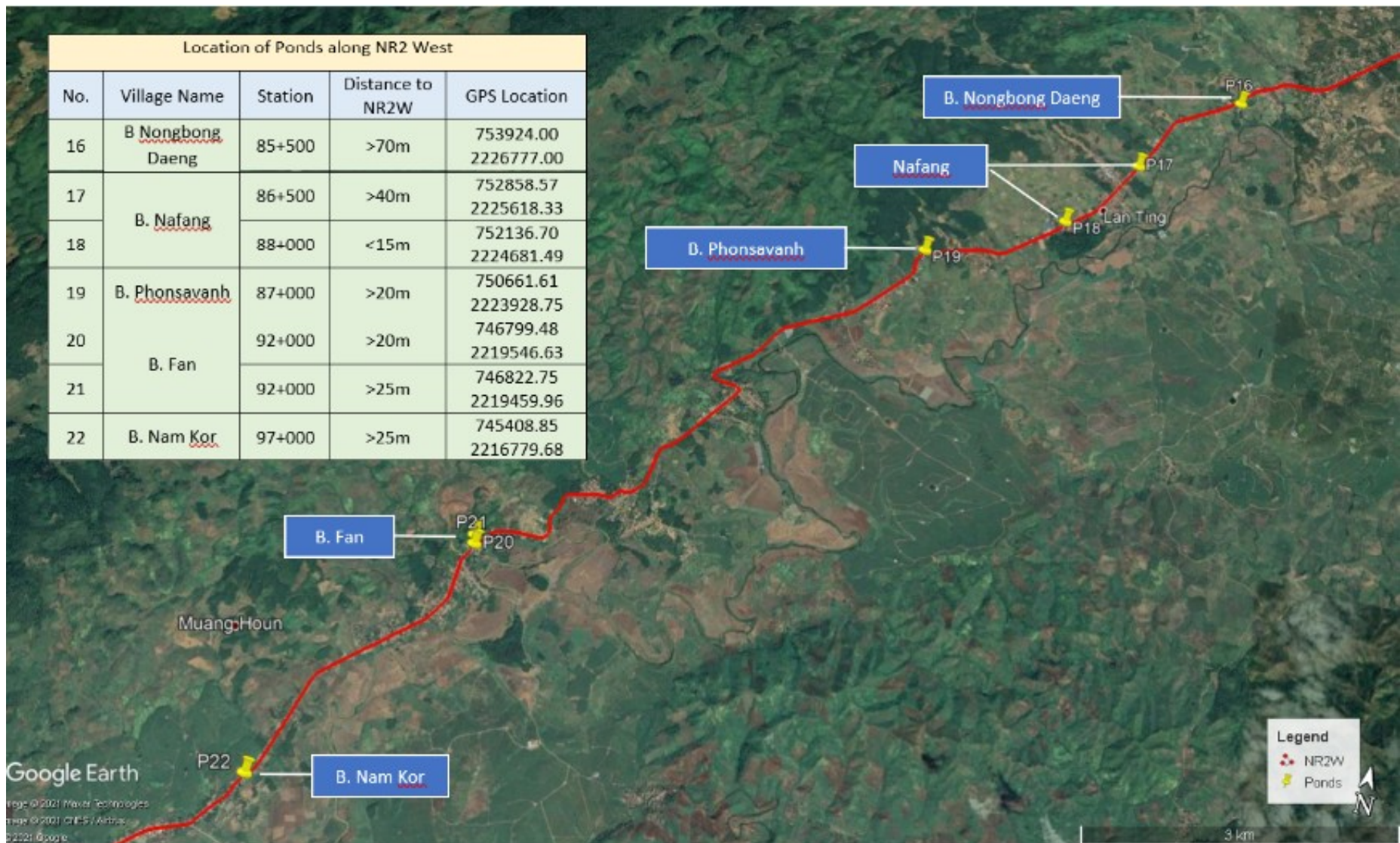


Figure 3-10 Location of Ponds along NR2W – Houn District, Oudomxay Province



Figure 3-11 Location of Ponds along NR2W – Nguen District, Xayabouly Province

3.1.8 Groundwater

97. Groundwater in Lao PDR is held within eight broad types of aquifers. The widespread distribution of Mesozoic sandstones (a good aquifer with high groundwater storage capacity) across Lao PDR suggests that groundwater plays a role in gross water storage across the country. The NR2 region lies predominately within the Mesozoic and Late Palaeozoic Sedimentary hydrogeological groups. A summary of estimated aquifer properties is shown in Table 3-6.

98. Due to the abundance of surface water in Lao PDR, limited attention has historically been paid to quantifying groundwater resources. However, groundwater is an important water source, particularly in rural areas during the dry season (Vote et al., 2014). Within the Nam Tha River Basin, the water table in lowland areas is very shallow and in many places water comes to the surface during the wet season. This phenomenon is essential to the local economy as it allows for wet paddy rice production in these areas. During the dry season, however, most lowland areas must be watered or irrigated to produce crops (WCS 2003). The water level measured at Muang Nalae in March 2007 (during the dry season) was approximately 8 metres below ground level.

Table 3-6: Summary of estimate aquifer properties in Lao PDR

Group	Aquifer category	Distribution	Groundwater assessment	Estimated Total Storage (Mm ³)	% of total storage	Estimated specific yield (%) *	Estimated aquifer productivity (L/s)
Basement and bedrock	Basement rocks and granitoids	Mountainous region along Vietnamese border	Limited groundwater storage. Limited yield data indicate low aquifer productivity.	5,629	1.3	1.4 (0.25-2.55)	0-0.5
	Schists			8,341	1.9	1.4 (0.25-2.55)	0.2-0.5
	Volcanic (vesicular basalts)	Southern Lao PDR (Bolaven Plateau)	Aquifer expected to be heterogeneous. Limited yield data. Very high recharge rates due to high precipitation rates on Bolaven Plateau.	23,058	5.2	10 (2-15)	0.3-3
Late Palaeozoic Sedimentary	Karsts	Northern and central Lao PDR	Unknown – storage and yields estimated. Expected to store important reserves of water.	32,345	7.3	12 (2-15)	0-10
	Limestones	North of Vientiane	Few borewells indicate low yields. Limited coverage means that limited groundwater is held within limestone aquifers.	4,252	1.0	5.25 (0.5-10)	0.1-1
	Sandstones	Widespread across country	Sedimentary units dissected into small blocks which restrict groundwater to localised flow. No yield data, yield estimates based on Mesozoic sandstones. Variable recharge rates across country.	71,913	16.3	4 (3-15)	0.1-0.8
Mesozoic	Sandstones	Widespread across country	Both deep confined and shallow unconfined aquifers supporting regional groundwater flow. Variable recharge rates across	259,818	58.8	8 (3-15)	0.1-1.5

Group	Aquifer category	Distribution	Groundwater assessment	Estimated Total Storage (Mm ³)	% of total storage	Estimated specific yield (%) *	Estimated aquifer productivity (L/s)
			country.				
Alluvial sediments	Sands, gravel, clays	Lowland areas near Vientiane province, Savannakhet and along Mekong River.	Broadly homogenous, although small scale variations in clay content will affect storage capacity on local scale. Large estimated storage capacity. Yields estimated from variable yields obtained from a variety of different boreholes. Relatively low recharge rates due to lesser rainfall in lowlands.	36,864	8.3	13.25 (7.75-18.75)	0.3-6

Source: Viossanges *et al.* (2017)

*Specific yield given as average value (range of estimates in brackets). Specific yield = porosity – water retained in aquifer by capillary forces

99. Due to the abundance of surface water in Lao PDR, limited attention has historically been paid to quantifying groundwater resources. However, groundwater is an important water source, particularly in rural areas during the dry season (Vote et al., 2014). Within the NR2 project region, the water table in lowland areas is very shallow and in many places water comes to the surface during the wet season. This phenomenon is essential to the local economy as it allows for wet paddy rice production in these areas. During the dry season, however, most lowland areas must be watered or irrigated to produce crops (WCS 2003). The water level measured at Muang Nalae in March 2007 (during the dry season) was approximately 8 metres below ground level.

3.1.9 Air Quality and Noise

3.1.9.1 Air Quality

100. Due to its distance from major population centres and industry, the baseline air quality in the Project area is considered good for the majority of the year. Sources of ambient air pollution in the Project area include dust from unsealed roads and particulates from vegetation burning activities associated with site preparation for agricultural plots. Particulate concentrations may be quite high for adjacent unsealed roads during the dry season (refer to results below).

101. Smoke due to burning activities for agricultural site preparation in this region of can be a major source of respirable particulates PM10 and PM2.5, exceeding international health criteria (WHO, 2013), as can indoor cooking fires and outdoor waste burning.

102. The key gases of concern with respect to potential impacts on health and the environment include:

- Sulphur dioxide (SO₂): a common atmospheric pollutant derived from the combustion of fossil fuels (e.g. vehicle exhaust) and some industrial processes;
- Nitrogen oxide (NO_x): a group of pollutants emitted by combustion but can also be produced by lightning (Bond et al., 2002) and by biogenic process from tropical soils, particularly following rainfall (Vinken et al., 2014). NO₂ can be formed by oxidation of NO_x and explosives blasting, and is the main source of ground-level ozone and urban smog. NO₂ can also be found in indoor air pollution as a result household heating and cooking from biomass fuels;
- Carbon monoxide (CO): a gas produced through incomplete burning, particularly of firewood and fossil fuels. CO can be produced by open burning, cooking fires, bushfires, or poorly maintained vehicles or generators; and
- Ozone (O₃): a pollutant gas associated with NO_x, urban smog and biomass burning, and is naturally produced by lightning.

3.1.9.2 Noise

103. The NR Corridor passes through diverse communities, ranging from the highly-populated Muang Xay district to semi-urban areas in Beng, Houn and Pakbeng district centres, and foothill remote areas along the remaining sections of the NR2 West. An ambient noise condition therefore reflects both anthropogenic and natural sources in these areas.

104. Man-made sound waves can interfere with natural background sound waves in the same environment and are generally considered noise pollution where the noise is loud, unpleasant or repetitive. Sounds are only considered noise pollution if they adversely affect wildlife, human activity, damage structures or disturb natural processes. Sources of baseline anthropogenic noise emissions in the foothills include:

- Primary vehicle (including heavy trucks) and motorcycle use on road.
- Local construction activities.
- Local industries.
- Agricultural activities (e.g. cows, goats, machinery).
- Thunder and rain.
- Domestic animals and wildlife/insect activity.
- Village activities.

3.1.10 Waste Disposal for Hazardous and Non-hazardous Materials

105. As observed from site visits and FGD with locals villagers, waste disposal of both non-hazardous and hazardous waste was still very limited. The city landfill of Xay District, as shown in, practice burning and backfilling of solid waste. While in the smaller villages where the city waste collection service doesn't reach, locals are responsible for their own waste and either bury waste in a pit or burning on their own property.

106. Information on hazardous waste management in Oudomxay and Phongsaly remain limited. Baseline data on waste in these provinces should be collected with relevant local authorities during the full ESIA. Nevertheless, in 2020 the Japan International and Cooperation Agency (JICA) conducted a waste study in five provinces across Lao PDR, including Xayaboury. The report indicated in Xayaboury that final waste dump at open landfills is approximately 40 tonnes per day with average waste generated per person is 0.6 kg. The report was presented in 2013 and has not been updated since then. In addition, there is no official recycling station in Xayaboury, nor information on recycling data available.



Plate 3-4 Current Landfill in Xay District, Oudomxay Province

3.1.11 Vegetation Cover

107. The ecoregion in which the NR2 Project occurs is referred to as the Northern Indo-China Subtropical Forest. (Wikramanayake, et al. 2002). This large eco-region extends across the uplands of northern Lao PDR, and Vietnam, and is home to an unusually large number of unique mammals, bird, and plant species. The vegetation is dominated by tropical forest. Forest types present include tropical seasonal rain forest⁹, tropical montane rain forest¹⁰, evergreen broad-leaved forest¹¹ and monsoon forest¹². At this stage of assessment, there is not enough information on changes or trends in vegetation cover and/or land use. The full ESIA should collect relevant information on these topics to inform analysis of risks/impacts and mitigation measures for specific project locations.

108. In Lao, recent vegetation mapping was conducted by the Forest Inventory and Planning Division of the Forestry Department, Ministry of Agriculture and Forestry in 2015. The mapping indicated that the main vegetation types present in the Oudomxay, Xayaboury and Phongsaly provinces are Unstocked Forest and Upper Mixed Deciduous Forest. Small areas of other vegetation types were also identified during a rapid field investigation, including Riparian Forest and Bamboo Forest. These vegetation types are described below:

- **Upper Mixed Deciduous Forest.** This forest type represents the most biologically diverse vegetation type present. Most areas of this vegetation type appear to have not been previously cleared, particularly on steep slopes on the Phou Hinphee NPA, Nam Phak Water Resource Protection Forest. However, disturbance from local activities was evident in some areas during the site visit, mostly upland agriculture development. These forests consist of dense trees of around 20 m canopy with deciduous tree species representing more than 50% of the stand. This forest type occurs

⁹ Tropical seasonal rainforests are found at a greater distance from the equator where rainfall and day length vary seasonally. These forests get median annual 1,270mm of rainfall and are markedly distinguished from equatorial rainforests by a cooler dry season.

¹⁰ Tropical montane rainforest is forest that grows on mountains and above an altitude of 3,300 feet.

¹¹ Evergreen broad-leaved forest is dominated by evergreen vegetation. These forests grow in regions where year-round rainfall is high and steady and frost is rare

¹² Monsoon forest is open woodland in tropical areas that have a long dry season followed by a season of heavy rainfall.

above 200 masl. Common species in vegetation type include *Adiantum caudatum*, *Largerstroemia tomentosa* and *Ficus altissima*.

- **Unstocked Forest.** Unstocked Forest consists of areas that were previously forested in which the crown density has been reduced to less than 20% because of logging and shifting cultivation. These areas usually have previously been completely cleared and burnt and are in various stages of regeneration following one or two years cropping. Dominant flora species included *Tetrameles nudiflora*, *Albizia duclouxii* and *Sapium discolor*.
- **Bamboo Forest.** This forest type has bamboo as the dominant species and the overstorey has a canopy cover of less than 5%. Bamboo occurs as clumps, and the single clump may last for many years. The regeneration following the abandonment of a ray area is often dominated by bamboo. Bamboo Forest varies in height from 2 m to 25 m. Common Bamboo species recorded included *Dendrocalamus brandisii* and *Cephalostachyum virgatum*.
- **Riparian Forest.** Dense forest occurring patchily on the edge of the Mekong, Nam Beng, Nam Phak, and Nam Ou Rivers. Usually contain some evidence of disturbance, and a few large trees generally remain. Bamboo is present in some areas. Dominant tree species recorded in the field included *Streblus asper*, *Homonoia riparia* and *Crataeva religiosa*.
- **Regeneration Forest** refers to areas cleared for shifting cultivation at least one year ago which has not regenerated into Bamboo Forest. Regeneration Forests mostly include dense scrub or young mixed forest stands with canopy heights ranging from 2 – 10 m. No mid-storey vegetation layer was present or observed during the site visit.

109. Oudomxay Province is part of the Northern Indochina Subtropical Moist Forests ecoregion¹³. Approximately 85% of the province consists of upland areas (1,306km²) with the remaining lowland areas comprising approximately 230km². According to 2014 statistics from the District Office of Natural Resources and Environment in Muang Xay, forested land accounted for over 90% of land use in the province with 19.6km² utilised for agriculture and 23.9km² for other land cover. Key agricultural and forestry commodities produced in the province include rice, corn, rubber, eucalyptus tree, forest products. Managed forest areas in the province are generally divided into three major categories: conservation forests, production forests, and protection forests.

¹³ http://wwf.panda.org/about_our_earth/ecoregions/northernindochina_moist_forests.cfm



Plate 3-5 Upper Mixed Deciduous Forest and Bamboo Forest

3.1.12 Flora and Fauna

3.1.12.1 Flora

110. Biodiversity in Oudomxay is still considered to be high. The provincial forests (refer to Section 3.1.4 and Section 3.1.5) are reported to support tiger, elephant, deer, muntjak deer, bear, boa, turtle, *Amyda catelageane*, wild boar and many other animals. Plant diversity is also rich with such varieties of agar wood, *Phyllanthus milabilis*, hopea, ironwood (Maidengnam), honey orchid, rattan, *Debrenaesia hypoleuca*, bamboo, mushroom, herbs and other species. Muang Xay Town is bordered by the Phou Hinphee National Protected Forest to the east.

111. A literature review of available secondary information on flora and fauna in the Project area was conducted as part of this ESMF exercise. An Initial Environmental Examination (IEE) for Pak Beng Hydropower project, which is also located in the NR2 West region, identified a total of 75 flora species. Four species were classified as threatened on the IUCN Red List for Lao PDR (2007). An EIA Report for Nam Ou Cascade (ESL/Earth Systems, 2012) identified a total of 265 flora species.

112. *Afzelia xylocarpa* is classified as Endangered and is a commercially valuable species. The seeds are harvested for medicinal purposes and the seed pulp can be used to make cigarettes. The bark is also used for herbal medicine. The tree grows up to 30 m tall.

113. *Aquilaria crassa* (also known as Agar Wood or Eagle Wood) is classified as a critically Endangered species. Seedlings of these species were claimed to be harvested from the forest, and cultivated in the village for trade. The high value of the wood for the perfume industry is thought to have resulted in population declines in the species throughout Indochina over recent years. Other parts of the plant are also widely used for purposes such as incense, cosmetics and medicines. This species occurs in several locations in Lao PDR, and is also known to occur widely but sparsely in Vietnam (IUCN, 2007).

114. *Diperoctarpus costatus* is classified as Endangered was observed in the Phou Hinphee NPA. This species has a wide distribution and occurs in lowland, hill and upper dipterocarp forest. It is native to many south-east Asian countries including

Cambodia, Thailand and Lao PDR. This species was reported to be used by the villagers for furniture and house construction.

115. *Hopea odorata*, which is classified as Vulnerable, was also observed as being used by local people. This species is widespread and usually occurs in lowland riparian forest on deep rich soils. It is native to many countries including India, Bangladesh, Thailand and Lao PDR. This species was used by villagers for furniture and house construction.

3.1.12.2 Terrestrial Fauna

116. Lao PDR is considered to be globally important for biodiversity conservation due to its relatively high forest cover and high diversity of flora and fauna. Approximately 40% of Lao PDR is currently forested. The flora resources include forests, agricultural areas and other land uses, which together contain an estimated 8,000 – 11,000 species of flowering plants. Lao PDR is also known for harbouring a high genetic diversity of rice species. Considerable research has been conducted on NTFPs species and orchids in the country. However, compared to its neighbouring countries, there is only very little botanical documentation in Lao PDR due to very few studies on plant taxonomy (GOL, 2010).

117. The country's fauna includes at least 166 to more than 200 reported species of reptiles and amphibians, at least 700 bird species, 90 known species of bats and over 200 species of mammals (GOL, 2010). A high proportion of these are also high conservation significance. For example, a total of 319 species out of the 1,140 species reviewed by Duckworth et al (1999) are of national or globally conservation significance. Birds and large mammals have been particularly well documented in Lao PDR, however even within these groups several new species have been discovered within the country in recent years. For example, in 1994 a three large mammals was discovered in Lao PDR were small dark muntjac (*Muntiacus truongsonensis*), and the giant muntjac (*Megamuntiacus* (*Muntiacus*) *vuquangensis*), which are endemic to the Annamite Range along the border between Lao PDR and Vietnam. Reptiles, insectivores and rodents are still relatively poorly documented on a national scale.

118. There is very little information available regarding terrestrial wildlife occurring along the NR2 areas, due to a lack of previous surveys. All previous fauna surveys in the direct vicinity of the NR2 identified are those associated with the Phou Den Din NPA in Phongsaly province. The 126,880 ha Phou Den Din Important Bird Area (IBA) is located within the Phou Den Din NPA.

119. A study for Pak Beng Hydropower Project, located in part of Pak Beng district, Oudomxay province and Ngeun district, Xayaboury province, identified at least 31 mammal species, 29 bird species, and 9 reptile species occurring in the local area. Eleven species identified were classified as threatened on the IUCN Red List (2007), consisting of nine mammals, one reptile and one bird (Earth Systems, 2008).

Table 3-7: Threatened terrestrial fauna species identified in the Pak Beng Hydropower Project Area

Scientific Name	Common Name	Local Name	IUCN Classification
Dipercarpus costatus	Dipercarpus costatus	Dipercarpus costatus	Vulnerable
Carpicornis sumatraensis	Serow	Nguang Pha	Vulnerable
Cuon alpinus	Red dog or Dhole	Ma Nai	Endangered
Hylopetes alboniger	Particolored Flying Squirrel	Bang Dam	Endangered
Hystrix brachyura	Malayan Porcupine	Men	Vulnerable
Lutrogale perspicillata	Indian Smooth-coated Otter	Nak Tin Ma	Vulnerable
Macaca arctoides	Stump-tailed Macaque	Ling Thone	Vulnerable
Mycticebus pygmaeus	Lesser Slow Loris	Ling Lom Noi	Vulnerable
Panthera tigris	Tiger	Sua Khong	Endangered
Pavo muticus	Green Peafowl	Nok Young	Vulnerable
Prionailurus viverrinus	Fishing Cat	Sua Nok	Vulnerable

Source: Earth Systems, 2008

3.1.13 Ecosystem Services

120. Ecosystem services are the benefits people obtain from ecosystems and the surrounding natural environment. Ecosystem services and natural resources are a very significant contributor to the daily lives of people in rural Lao PDR for both provisioning and supporting services. Vegetated communities provide edible plants, medicinal plants, firewood, materials for construction and handicrafts, habitat for commonly hunted fauna, etc. Vegetation also stabilises soil, minimising losses of topsoil to erosion and sediment transport and replenishing soil fertility.

121. Ecosystem services are typically divided into four broad categories, as defined by the Millennium Ecosystem Assessment (2005), including provisioning, regulating, cultural and supporting services.

122. The NR2W improvement activities could have the potential for reduced access to forest and NTFPs resources for forest dependent communities through land acquisition and temporary restriction of access. However, this is expected to be greatly minimized by developing project activities along the existing alignment, thereby reducing the need to acquire land or restrict resources.

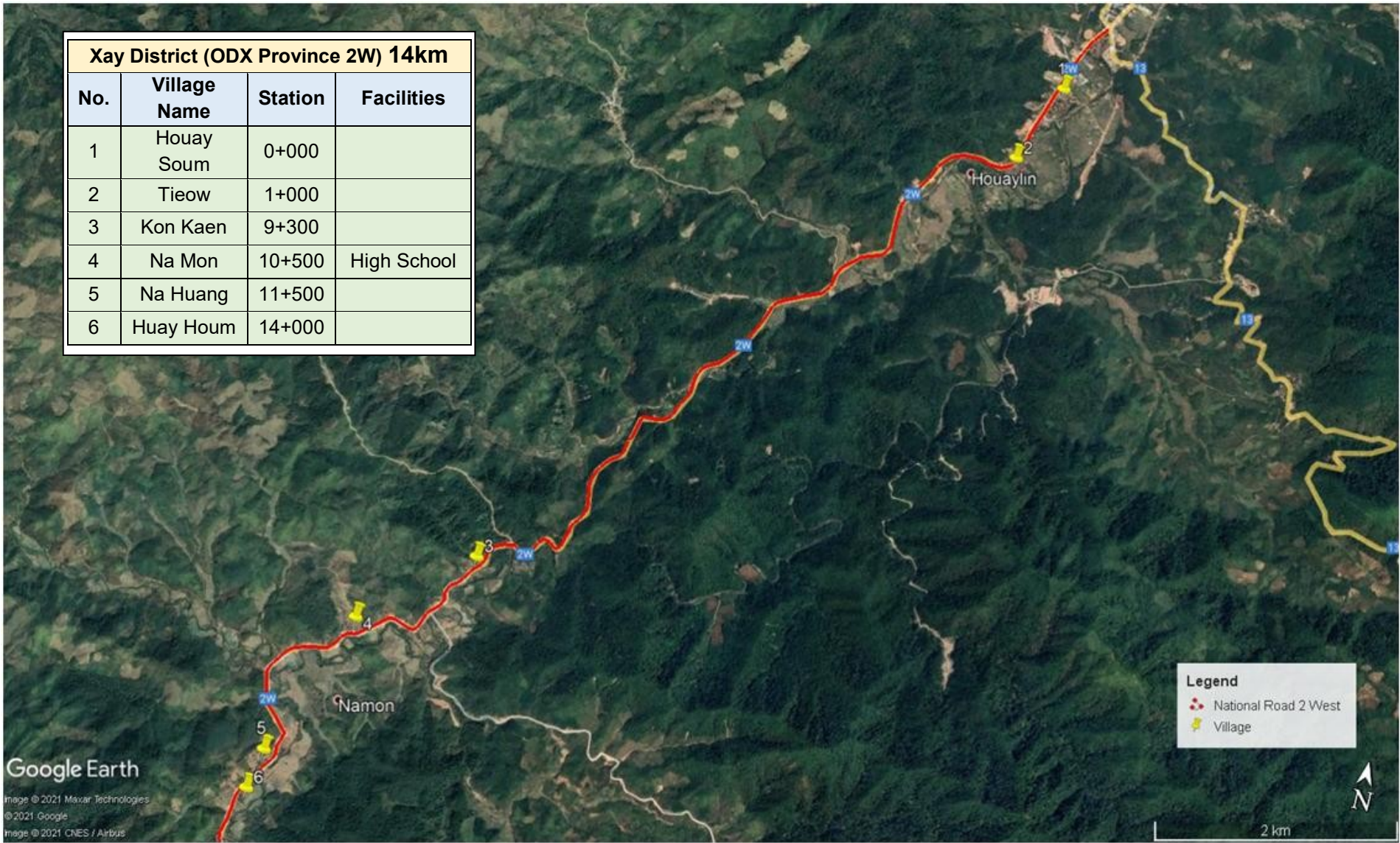
123. Nevertheless, the full ESIA should identify forest resource availability and use by local communities living along and nearby the NR2 West. The assessment will also consider the potential impact on these resources due to the proposed NR2 West.

124. Ecosystem services indicators for the assessment will include the variety and extent of non-timber forest products (NTFPs) and timber forest products (TFPs) available to Project affected communities as well as cultural services, biodiversity habitats and the protection of water and soil resources that forested areas in the Project footprint provide.

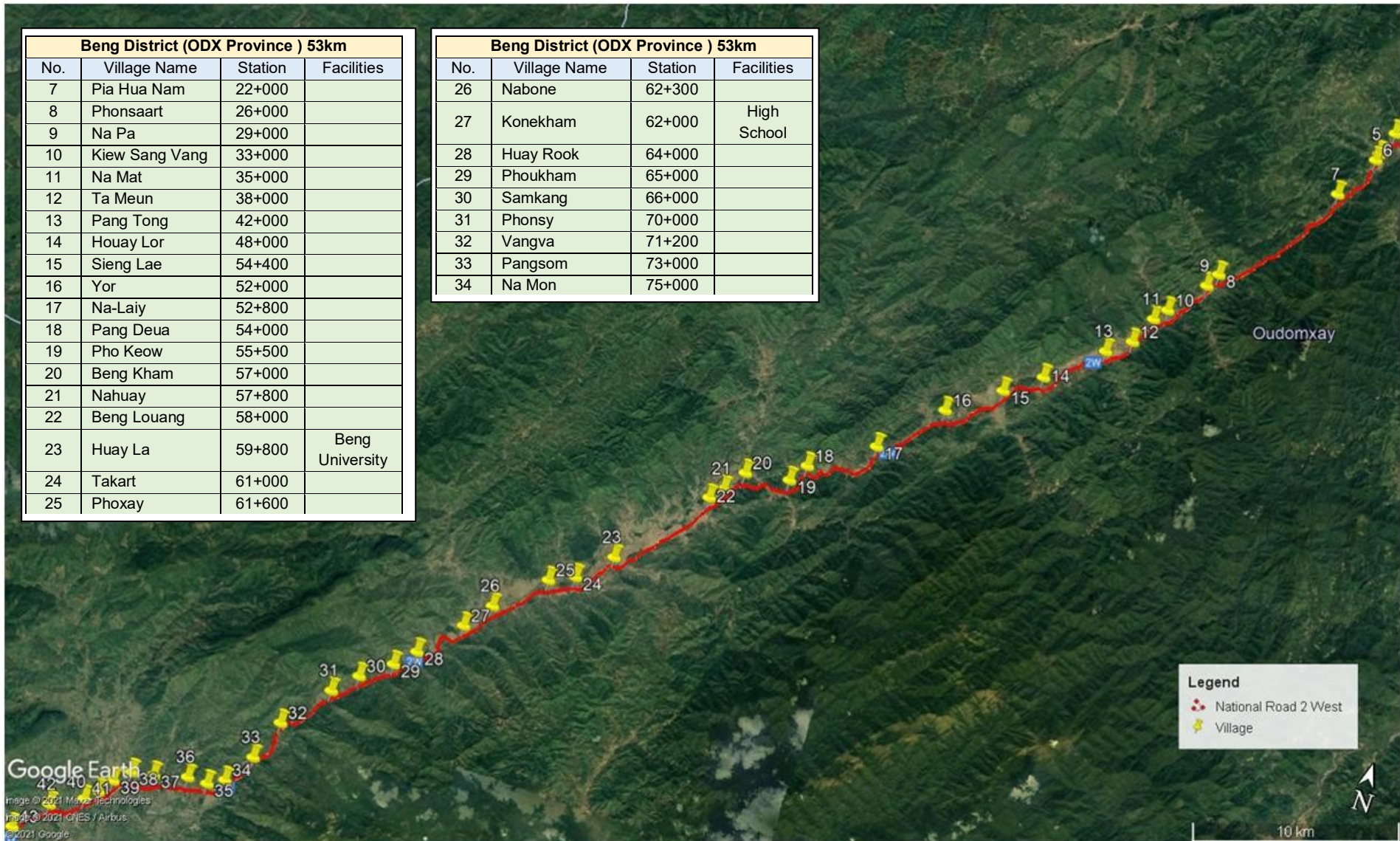
3.2 Social Aspects of the Project Areas

125. During the pre-ESIA, it was found that as of 2020 an estimated 256,000 people live in districts along NR2W; an estimated 19,000 people live in Meuang Ngeun district in Xayaboury province where the Lao-Thai BCF is located and an estimated 28,000 people living in Meuang Mai district, Phongsaly province where the Pang Hoc Lao-Vietnam BCF is located. Most villages are accessible by roads and some villages are within the main road or ROW of the NR2W including some schools and temples. Along the road also are some rivers, agricultural lands and forest areas and bridges. Please refer to Figure 3-12.

Xay District (ODX Province 2W) 14km			
No.	Village Name	Station	Facilities
1	Houay Soum	0+000	
2	Tieow	1+000	
3	Kon Kaen	9+300	
4	Na Mon	10+500	High School
5	Na Huang	11+500	
6	Huay Houm	14+000	

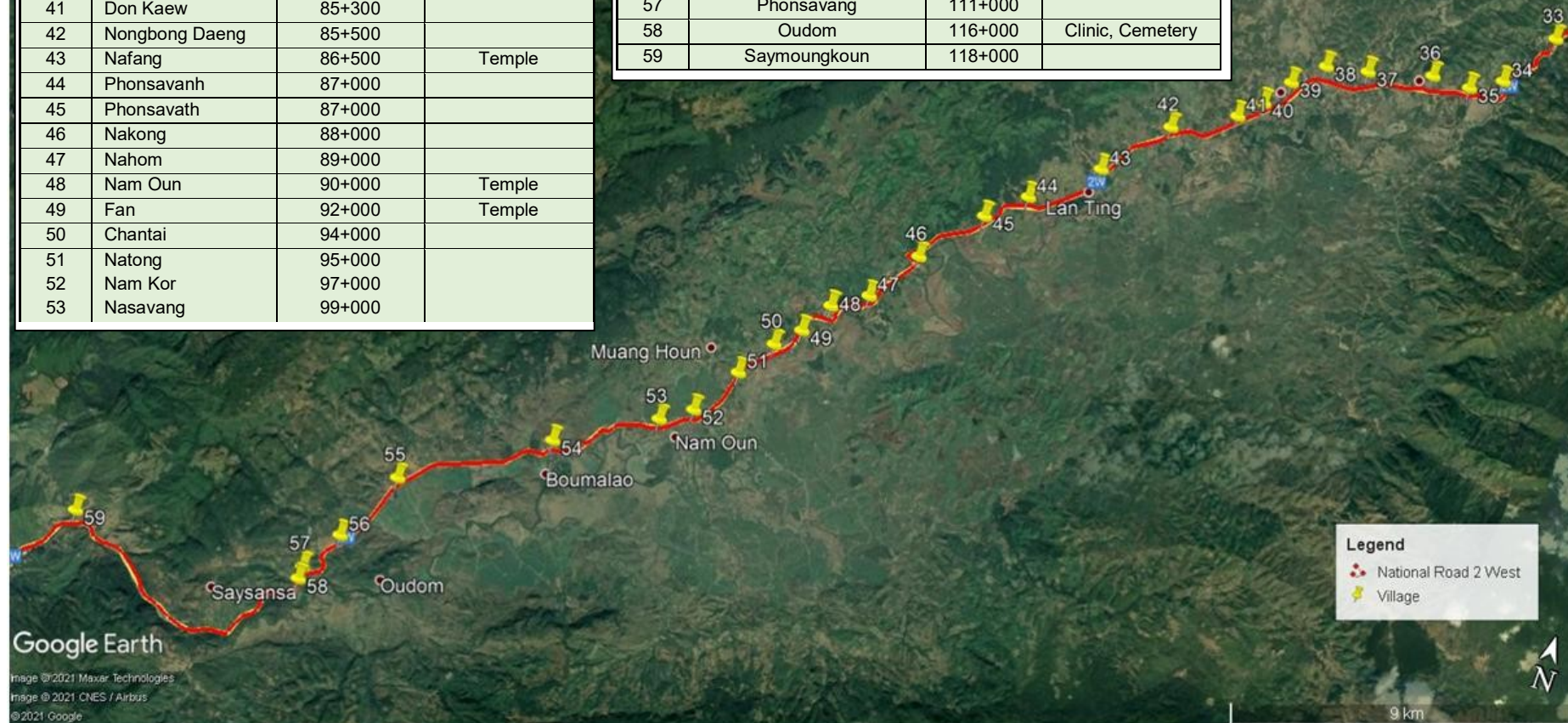


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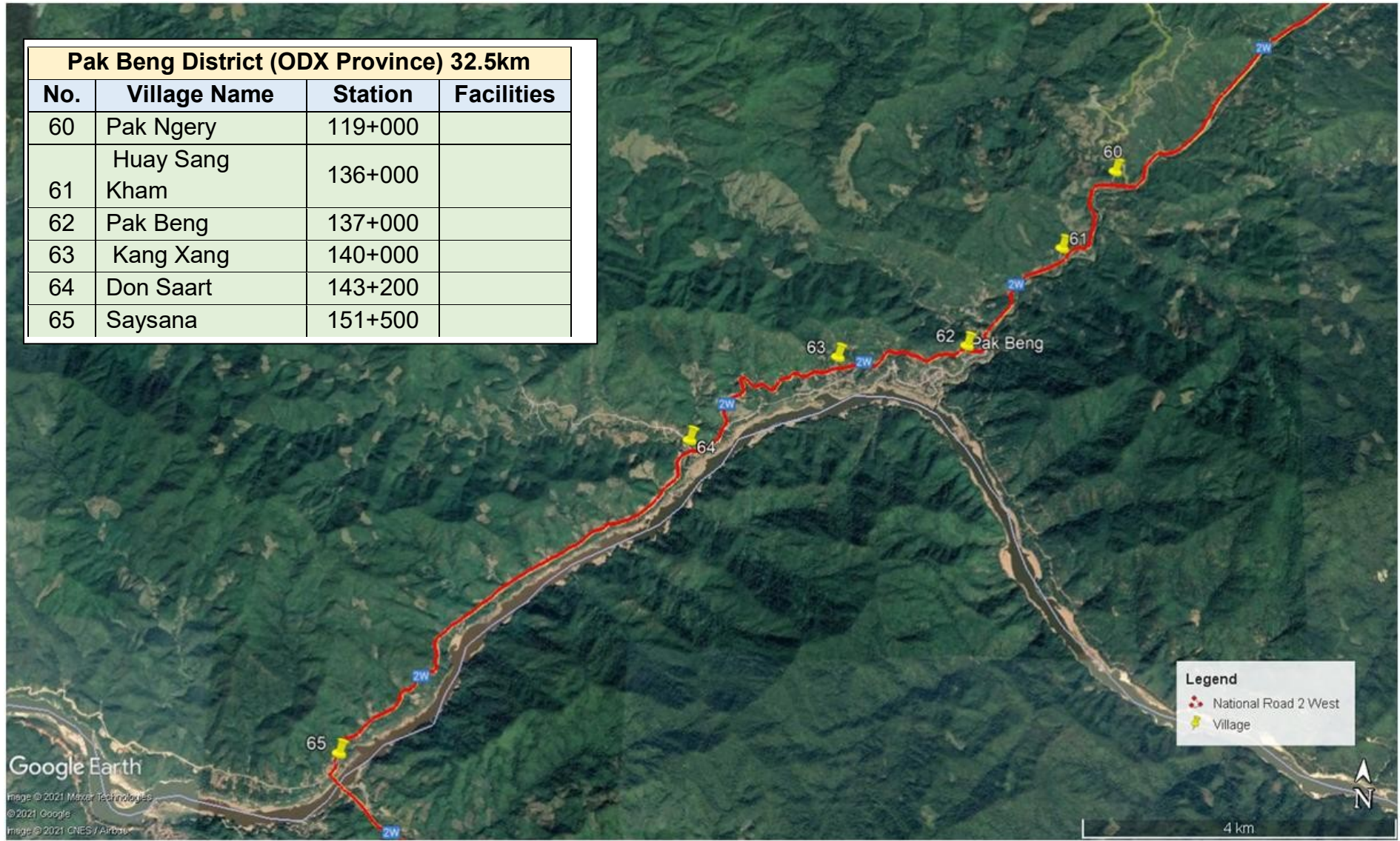


Houn District (ODX Province) 42.4km			
No.	Village Name	Station	Facilities
35	Huay Pha	75+600	Middle School
36	Vangtang	78+000	Middle School
37	Lang Cheeng	80+000	
38	Na-Nguen	82+000	
39	Don Kham	83+000	
40	Vongla	84+000	
41	Don Kaew	85+300	
42	Nongbong Daeng	85+500	
43	Nafang	86+500	Temple
44	Phonsavanh	87+000	
45	Phonsavath	87+000	
46	Nakong	88+000	
47	Nahom	89+000	
48	Nam Oun	90+000	Temple
49	Fan	92+000	Temple
50	Chantai	94+000	
51	Natong	95+000	
52	Nam Kor	97+000	
53	Nasavang	99+000	

Houn District (ODX Province) 42.4km			
No.	Village Name	Station	Facilities
54	Nam Yon	101+000	
55	Buamlaow	104+000	
56	Sibounheaug	107+000	Primary School, High School, Temple, Hospital, Cemetery
57	Phonsavang	111+000	
58	Oudom	116+000	Clinic, Cemetery
59	Saymoungkoun	118+000	



Pak Beng District (ODX Province) 32.5km			
No.	Village Name	Station	Facilities
60	Pak Ngery	119+000	
61	Huay Sang Kham	136+000	
62	Pak Beng	137+000	
63	Kang Xang	140+000	
64	Don Saart	143+200	
65	Saysana	151+500	



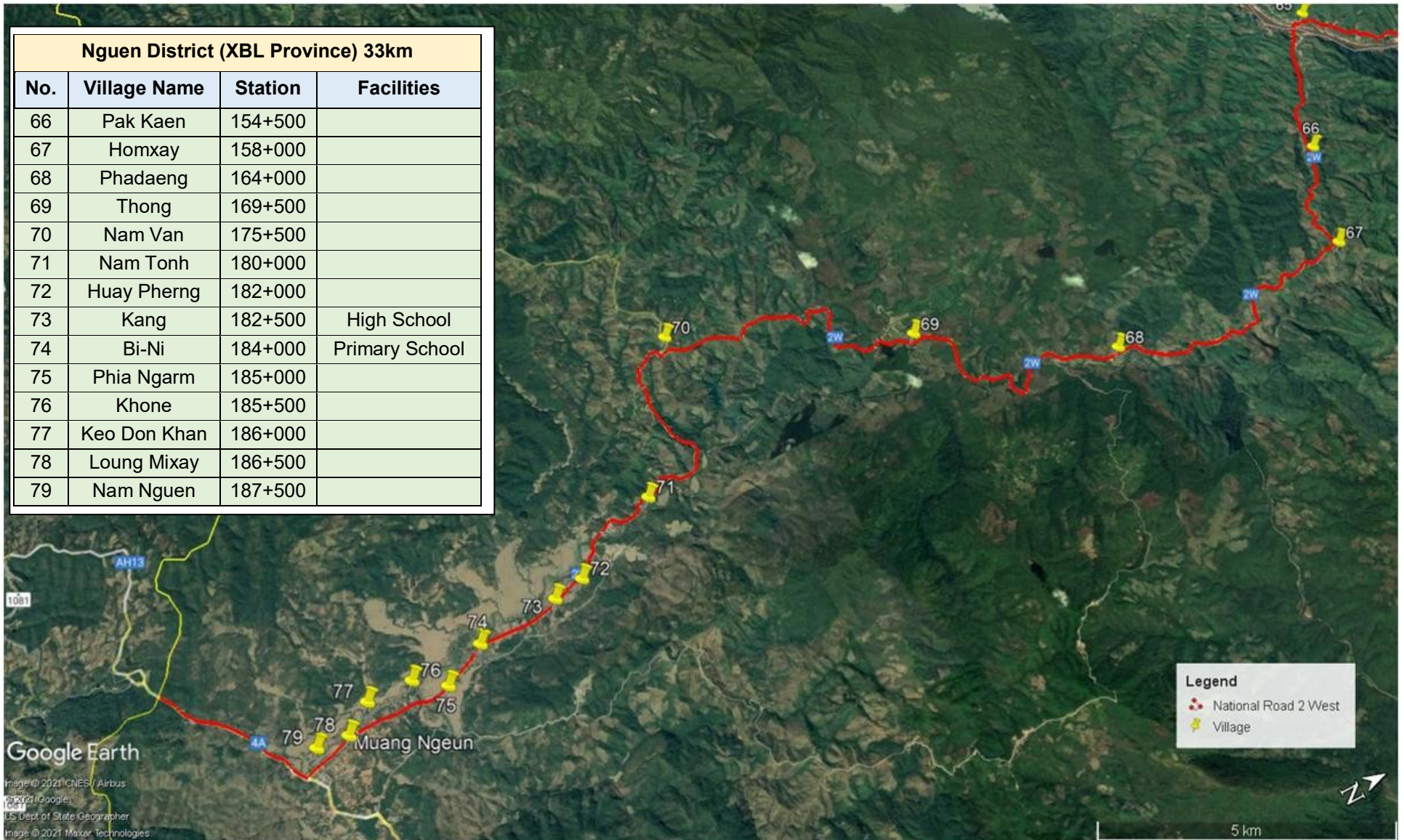


Figure 3-12 Maps showing the location of the villages and facilities along the NR2 West:

126. This section presents social data at the provincial levels, based on published literature, mainly from the Lao Statistics Bureau and Provincial Statistics Offices. Primary data available at the Lao Statistics Bureau, particularly the Population Census 2015 is also analysed for selected variables to show social conditions at the level of NR2W, especially districts along the NR2W corridor. Qualitative information from case studies, site visit and interviews, is also presented for certain sub-sections based on data availability. In other words, under each aspect of the social profile (e.g., population) data/information at provincial level is presented first, followed by qualitative information from case study/site visit/interviews and NR2 corridor, unless otherwise stated.

3.2.1 Administration and topography

127. SEARECC covers 5 provinces, with 31 districts and 2,096 villages (Table 3-8). The number of districts ranges from 5 districts in Luangnamtha to 12 districts in Luangprabang. The number of villages is also lowest in Luangnamtha (354 villages) and highest in Luangprabang (755 villages). Most villages in these provinces are in highland areas. In Phongsaly, this is almost 99% (Please see Table 3-9 for details). Although the mountainous terrain of Phongsaly is a challenge for the province in terms of improving transport and agricultural land use, it is an advantage for the province to develop hydropower projects, particularly along the Nam Ou River.

Table 3-8: Number of districts and villages by province in 2020

Provinces	No. of districts	No. of villages
Phongsaly	7	515
Luangnamtha	5	354
Oudomxay	7	472
Luangprabang	12	755
Xayaboury	11	429
Total	31	2,096

Source: Lao Statistics Yearbook (2020)

Table 3-9 Number of villages by geographical characteristics in 2018

Provinces	Lowland areas	%	Highland areas	%	Total
Phongsaly	7	1,4%	511	98,6%	518
Luangnamtha	81	22,1%	286	77,9%	367
Oudomxay	61	12,9%	411	87,1%	472
Luangprabang	227	30,1%	528	69,9%	755
Xayaboury	127	29,5%	304	70,5%	431
Total	503	19,8%	2,040	80,2%	2,543

Source: Local Statistics Yearbook (2018) of Phongsaly, Luangnamtha, Oudomxay, Luangprabang and Xayaboury.

128. The NR2W covers 2 provinces, 5 districts and a total of 81 villages (Table 3-10). Most villages are within the boundaries of Oudomxay province, particularly in Beng and Houn Districts. Size of the villages ranges from 52 households in Na Mone village, Beng District, to 714 households of Sibounheang village in Houn District, Oudomxay province.

129. According to Table 3-10, 81 villages are located along the NR2W. When it comes to detailed social characteristics of each village, however, the total number of villages is slightly less than the number shown above, due to data availability. Data at village level is derived from the Lao Population and Housing Census 2015, and data of 2 villages (Houaypha in Houn District, Oudomxay Province and Keodonkhoun of Meung Ngeun district, Xayaboury province) are not available, perhaps because of relocation or consolidation of villages.

Table 3-10 Number of villages a long NR2W

Province	District	Number of village
Oudomxay	Beng	28
	Houn	26
	Pakbeng	8
	Xay	5
	Sub-total	67
Xayaboury	Meang Ngeun	13
	Sub-total	13
Grand Total		81

3.2.2 Demography

3.2.2.1 Population

130. The 5 northern provinces have a total population of 1,627,000 in 302,291 households (Table 3-11). The population is more concentrated in Luangprabang, Xayaboury and Oudomxay. Phongsaly has the lowest population in the region, with about 193,000 people or 11.9% of the total population of the 5 provinces. This is followed by Luangnamtha, 199,000 people or 12.2% of the total northern region. The 5 provinces have an average household size of 5.4.

Table 3-11 Population by province in 2020

No	Province	No. of households	Household size	Total population
1	Phongsaly	35,255	5.5	193,000
2	Luangnamtha	37,372	5.3	199,000
3	Oudomxay	64,725	5.3	345,000
4	Luangprabang	84,370	5.5	467,000
5	Xayaboury	80,569	5.3	423,000
	Total	302,291	5.4	1,627,000

Sources: Statistics Yearbook (2020)

131. Along NR2W, the average household size of all districts (5.5) is slightly higher than the regional average of the 5 provinces (5.4). Only one district, Houn, has a household size lower than the regional average. Overall, the 5 districts of the NR2W corridor have a total population of just under 240 thousand people in 2015. Please see Table 3-12 for details. Data provided by provincial officials indicates that just over 75 thousand people live along the NR2W in Oudomxay province.

132. Table 3-12 indicates that just over 238 thousand people live 5 districts along the NR2W in Oudomxay province in 2015. Of this, more than 73 thousand people in just over 14 thousand households live in 81 villages along the NR2W. Household size of these villages from 3,6 in Na Nhang, Ngeun District (significantly lower than the district and provincial average) to 7.9 in Phonhsai village, Beng District (significantly higher than the district and provincial average)/ Please refer to ANNEX 18: Additional Social Baseline Data for more details.

Table 3-12 Population of Districts along the NR2W

Province	District	Household	Total	Household Size
Oudomxay	Xay	14,590	79,535	5.5
	Beng	7,248	37,491	5.2
	Houn	13,132	74,254	5.7
	Pakbeng	4,841	29,405	6.1
Xayaboury	Meung Ngeun	3,546	17,589	5.0
	Total	43,357	238,274	5.5

Source: Lao Population and Housing Census 2015

3.2.2.2 Population density

133. Population density is considered only as a rough indicator of the concentration of population living in that area. Phongsaly has the lowest population density, partly due to its more mountainous terrain (Table 3-13).

Table 3-13 Population density by province

Province	Population	Area (sq.km)	Persons/sq.km
Phongsaly	177,989	16,270	11
Luangnamtha	175,753	9,325	19
Oudomxay	307,622	15,370	20
Luangprabang	431,889	16,875	26
Xayaboury	381,376	16,389	23

Source: Lao Statistics Bureau (2015).

3.2.2.3 Ethnicity and culture

134. Laos is the most ethnically diverse country in mainland Southeast Asia. The population is over 7 million and, has 49 ethnic groups¹⁴. Many of these are, in fact, transnational groups that also live-in neighbouring countries. The main Ethnic Groups are Mon-Khmer, Lao-Tai, Hmong-Mien, and Sino-Tibetan. Mon-Khmer groups were the first inhabitants of the territory that is now modern-day Laos. They share customs, such as the exchange of great wealth at marriage, post-partum rituals, cemetery burials, sacred forests, and festivals for the territorial spirit at the end of the agricultural year. They believe in divinities, *yang*, which are located in specific areas and are personal. They distinguish domestic spirits – of inhabited space, space built or used by humans – from natural spirits- of nature or the forest. Their beliefs establish strong moral codes within the community and help to delineate boundaries between villages and communities. They play a part in marriage practices and gender relationships, as well as figuring prominently in beliefs concerning health and illness. Apart from strong beliefs in animistic spirits, Mon-Khmer groups also practice ancestor worship. They normally engage in swidden cultivation on the higher lands. A field is cultivated one season and then left fallow. Communities split into smaller production units living in their fields during the agricultural season in the North; while in the South the abundance of land allows periodical migration of the whole community to new productive land within a circular trajectory, which marks the limit of each village's land. This group includes the Khmu, Pray, Lamet, Makong, Tri, Tarieng, Brao, and Kri, as well as twenty-four others.

135. Lao-Tai system is characterised by a sedentary geographical frame, allowing permanent paddy cultivation farming in the Mekong Valley and on its tributaries. The system also allows for swarming migration patterns, linked to land pressure, and strategies to get closer to trading crossroads. Hence, their residence is not really fixed: a fact attested by the migration history of villages in Laos. Members of the Tai-Kadai group are mostly Theravada Buddhist. The group is comprised of the Lao, Tai, Phou Tay, Lue, Nyouan, Nhang, Sek, and Tai Neua.

136. Settled mostly in Northern Laos, ethnic Mien traditionally practice pioneer swidden cultivation, in which land is cultivated until soil exhaustion forces the community to move to a new location. Ancestor worship is widespread among such patriarchal clanship structures. Apart from Buddhism and animism, ethnic Mien also observe Taoism. The Lu Mien believe there are thirty-three levels of heaven protecting the human earth. In Lu-Mien societies, leadership structures combine both secular and religious functions. Therefore, the religious leader and the head of the tribe are the same person: a leader or clairvoyant, who has responsibility for worship of place spirits. The Hmong usually distinguish political from ritual leadership, with the head of the clan being a different person from the Saengxao (or leader of beliefs). However, sometimes, the political leader is also invested with

¹⁴ Law Research and International Cooperation Institute, Ministry of Justice 2011.

responsibility for beliefs and traditional customs. The Hmong and Lu-Mien are the only members of this group.

137. Sino-Tibetan They also traditionally practice swidden cultivation, cultivating soil until it is exhausted and the community must move. This group is composed of the Akha, Phounoy, Lahu, Sila, Hanyi, Lolo, and Ho.

138. Ethnicity and vulnerability are linked. Some ethnic groups are more dependent on natural resources, including forest products and water resources than others, hence are more vulnerable to declines in such resources. Residents of the 5 provinces of the SEARECC are very ethnically diverse. The list of ethnic groups is quite long for each province; the number of people belonging to each group, however, differs greatly, ranging from only 1 person to thousands of people. Table 3-14 presents a shorter list of ethnic groups, forming most of the population in the 5 provinces, while Table 3-15 provides the whole list of ethnic groups with number of population by province. The SEARECC would need to establish through the ESIA which of these ethnic groups are considered Indigenous Peoples as per the requirements of ESS7. Procedures for establishing this are discussed in the EGEF.

139. Akha account for the largest percent of the provincial population in Phongsaly and Luangnamtha, (31.8 % and 25.5% respectively), followed by Khmou (18,7 % and 24.6% respectively). Meanwhile, the Khmou ethnic group account for the largest proportion of the population in Oudomxay and Luangprabang (58.9 % and 46.9% respectively). The Hmong accounted for the second largest group in Oudomxay (15.%), while the Lao ethnic group is the second largest ethnic group in Luangprabang (28.4%). In Xayaboury, the majority of the provincial residents is the Lao ethnic group (58.8%).

140. At least 43 ethnic groups reside along the NR2W corridor. The number of people of each ethnic group ranges, however, from 1 person to just under 50,000 people. Ethnic groups with more than a percent of the total population in a given district include Hmong, Hor, Khmou, Lao, Lue, Phounoy and Tai. The Khmou ethnic group account for the majority in almost all districts, except for Meuang Ngeun. Please refer to ANNEX 18: Additional Social Baseline Data.

Table 3-14 Proportion of population by ethnicity for the 5 provinces in 2015

Ethnicity	Province, %				
	Phongsaly	Luangnamt	Oudomxay	Luangprabang	Xayaboury
Akha	31.8	25.5	2.7	0.0	0.0
Ewmien	3.7	3.2	0.1	0.3	0.9
Hmong	3.6	7.2	15.0	17.7	9.2
Hor	3.9	1.1	1.0	0.0	0.0
Khmou	18.7	24.6	58.9	46.9	10.8
Lahou	0.1	3.6	0.0	0.0	0.0
Lame	0.0	2.6	0.0	0.0	0.0
Lao	2.7	2.9	9.4	28.4	58.8
Lue	8.7	10.3	7.5	2.3	7.5
Ngoa	0.1	2.8	0.1	0.5	3.5
Pounoy	14.9	2.6	1.2	0.2	0.2
Pray	0.0	0.0	0.0	0.1	6.6
Tai	4.6	8.9	1.6	1.5	0.4
Total	92.8	95.2	97.5	98.0	98.1

Source: Data from the Lao Population and Housing Census (2015)

Table 3-15 Population by ethnicity for the 5 provinces in 2015

Ethnicity	Province				
	Phongsaly	Luangnamt	Oudomxay	Luangprabang	Xayaboury
Don't tell	7	-	9	3	5
Unknown	2,231	2,251	3,503	4,830	6,584
Akha	56,636	44,760	8,203	25	99
Bid	1,140	658	389	-	9
Brao	1	3	-	-	7
Cheng	1	6	2	5	3
Ewmien	6,614	5,550	387	1,407	3,493
Gria	1	10	11	13	9
Guan	-	1	1	-	-
Harak	-	11	3	2	2
Hayi	640	15	25	6	1
Hmon	6,334	12,728	46,003	76,590	35,254
Hor	6,908	1,873	3,139	107	110
Katang	-	4	86	1	1
Katu	-	1	3	-	3
Khmer	1	2	1	72	1
Khmou	33,346	43,262	181,143	202,341	41,330
Kree	49	15	12	18	13
Lahou	112	6,323	26	13	4
Lame	2	4,595	41	11	37
Lao	4,877	5,026	28,893	122,763	224,334
Lavy	45	17	4	-	1
Lolo	1,588	263	15	3	-
Lue	15,503	18,156	23,016	10,073	28,592
Makong	66	9	5	9	14
Moy	1	3	8	8	9
Ngah	-	1	-	-	2
Ngoa	94	4,933	268	2,229	13,404
Oedo	4	22	13	52	12
Othe	52	45	123	65	35
Oy	4	3	8	1	9
Pacoh	5	1	-	16	9
Phong	2	6	-	1	18
Phouth	235	359	1,045	2,218	400
Pounoy	26,510	4,586	3,733	711	586
Pray	4	10	16	459	25,162
Sadang	1	3	-	-	3
Samtao	2	1,144	-	2	2
Syla	2,538	522	5	1	1
Ta-oy	16	10	-	3	12
Tai	8,232	15,594	5,066	6,512	1,618
Thaen	8	6	5	292	26
Thaine	1,215	2,205	645	840	76
Toum	1	1	1	1	2
Tri	2	2	1	1	1
Trie	1	2	3	-	2
Xaek	13	11	41	9	14
Xing	-	8	7	12	12
Xuay	-	86	-	1	2
Yae	2	3	5	1	3
Yang	2,945	642	1,704	155	46
Yrou	-	6	5	7	4
Total	177,989	175,753	307,622	431,889	381,376

Source: Data from the Lao Population and Housing Census (2015)

Table 3-16 Population by ethnic groups in districts along the NR2W

No	Ethnic group	Oudomxay				Xayaboury
		Xay	Beng	Houn	Pakbeng	Meang Ngeun
1	Akha	224	10	112	2	0
2	Bid	2	0	1	1	0
3	Chen	1	1	0	0	0
4	Ewmien	24	1	33	0	0
5	Griang	2	0	9	0	2
6	Guan	0	0	0	1	0
7	Hara	3	0	0	0	0
8	Hayi	7	0	0	0	0
9	Hmong	14,230	5,017	12,022	1,057	4,561
10	Hor	2627	30	20	8	17
11	Kata	0	0	0	0	0
12	Katu	0	0	2	0	0
13	Khme	1	0	0	0	0
14	Khmou	39,450	20,848	48,289	24,871	5,518
15	Kree	6	0	1	1	0
16	Laho	3	0	5	0	0
17	Lame	27	0	11	2	0
18	Lao	11,463	432	9,027	2,489	1,311
19	Lavy	1	0	1	0	0
20	Lolo	15	0	0	0	0
21	Lue	7,097	8,144	1,297	177	5,785
22	Mako	0	1	4	0	0
23	Moy	2	2	0	3	0
24	Ngoaun	64	7	33	8	25
25	Oedo	4	0	8	0	1
26	Othe	93	26	1	0	0
27	Oy	3	0	1	0	0
28	Phouth	395	268	267	24	12
29	Pounoy	2,124	63	613	15	14
30	Pray	5	1	8	2	97
31	Syla	0	0	5	0	0
32	Tai	558	1509	1420	15	17
33	Thaen	1	1	0	1	1
34	Thaine	228	18	279	31	5
35	Toum	0	0	1	0	0
36	Tri	0	0	1	0	0
37	Trie	0	0	3	0	0
38	Xaek	4	3	3	17	0
39	Xingmo	3	1	1	1	2
40	Yae	4	0	1	0	0
41	Yang	59	660	34	0	2
42	Yrou	0	0	1	3	1
43	Unknown	796	448	740	676	218
	Total	79,526	37,491	74,254	29,405	17,589

Source: Data from the Lao Population and Housing Census (2015)

Table 3-17 Proportion of population by ethnic groups in districts along the NR2W

No	Ethnic group	Oudomxay				Xayaboury
		Xay	Beng	Houn	Pakbeng	Meang Ngeun
2	Hmong	17.9	13.4	16.2	3.6	25.9
3	Hor	3.3	0.1	0.0	0.0	0.1
4	Khmou	49.6	55.6	65.0	84.6	31.4
5	Lao	14.4	1.2	12.2	8.5	7.5
6	Lue	8.9	21.7	1.7	0.6	32.9
7	Pounoy	2.7	0.2	0.8	0.1	0.1
8	Tai	0.7	4.0	1.9	0.1	0.1
	Total	97.5	96.1	97.9	97.4	97.9

Source: Data from the Lao Population and Housing Census (2015)

141. Any changes in natural resources, including forest and water resources would affect these ethnic groups differently, due to differences in their culture and livelihoods. This is an aspect that would need to be looked at by the ESIA and Ethnic Groups Engagement Plans (EGEPs) once project locations are identified, and specific groups and impacts can be properly assessed. In general, the history, culture and livelihoods of the Akha, Khmu, Lao, Hmong and Lue, the major ethnic groups of the provinces, can be summarized as follows¹⁵.

142. The Akha originally settled in the area from Kuaichao and Yunnan, which are today part of China. After moving down to the southern part of Yunnan, they migrated to the Va and Xiengtung districts of Burma (Myanmar) and then to the Lao Chao district of Vietnam, after which they resettled in mountainous areas of northern Laos in the last 200 years. The Akha believe strongly in spirits of ancestors (good spirits), who take care of their family members. They also believe there are spirits in the trees, forest and rivers (bad spirits), which may cause them sickness/illness. The Akha pray to both good and bad spirits for protection from evil. Women are required to stay by a lit fire after giving birth (Yukham or Kalum). They are prohibited from eating certain types of food and working during Yukham. Akha villages are usually situated between 600 to 1,000 meters above sea level and are usually located on hillsides. An average village has about 40-50 households. Most Akha villages are located far from rivers, and therefore they have limited involvement in fishery activities. Their houses are made of materials from the forest such as bamboo and wood planks.

143. The Akha traditionally practice a primitive form of shifting cultivation. Their main crops include dry-land rice, maize and cotton; they also grow vegetables, peanuts, chili and tea. The Akha are skilled foragers and are experts at finding fruits and vegetables. They are skilled hunters, using traps, crossbows and old muskets to hunt large and small game. They raise buffalo, cows, pigs and chickens. It is, however, not common to use livestock as a daily food source, unless there are special traditional celebrations/occasions or guests.

¹⁵ Department of Ethnic Affairs of the Lao Front for National Construction (2008)

144. The Khmu are among the oldest inhabitants of northern Laos. They arrived in the area by the early part of the first millennium A.D. It is a mystery about where the Khmu ethnic group came from, some anthropologists believe they migrated from northern Burma, while others believe they may have migrated from Vietnam or the Yunnan region of China. Khmu, like other ethnic groups in Lao, believe in spirits. They believe in the house spirit (Hrooy Gang), the spirits of water (Hom), the spirits of the forest (Hrooy Prri) and others. Among the most feared are the Hrooy Poop and the Hrooy Suu because of their ability to take possession of people, turning them into dangerous individuals. Therefore, each village must have at least one spiritual master to defeat these spirits.

145. Khmu villages are found near streams in lower mountainous areas. The villages vary in size from 10 to 90 houses. The Khmu usually build their houses on low wooden stilts, with walls made of woven bamboo with no windows. There are two rooms: the inner room will be for their parents, which has a fireplace for cooking rice; the outer room has a separate fireplace and is used for receiving guests. Visitors to their houses are allowed to stay in the outer room only. Traditionally, each village has a communal house where young boys live. After celebrating festivals, Khmu people usually restore and maintain their houses or build new houses.

146. The Khmu practice shifting cultivation. Crops grown in such areas include cassava, maize, peanuts, and other vegetables, as well as tobacco. They raise buffalo, goats, pigs and chickens. They also fish, hunt, catch rodents, collect Non-Timber Forest Products (NTFPs) for cash and/or food. The Khmu are skilled metal workers. They are also skilled at weaving with bamboo and rattan, making baskets, fish traps and other tools and utensils. These can be sold or traded.

147. The Hmong migrated from the Tibetan region in China into Laos in the mid-19th century. They practice a mix of animism, naturalism and spirituality, including the spirits of ancestors, villages and regions. They also believe in the spirits of the sky, forest, rivers, etc. They believe that ancestral spirits of the male line of any family reside in the house. Hmong villages are usually located between 1,000 to 1,500 meters above sea level. Some Hmong villages can be reached only on foot or horseback. Some villages consist of a single clan, but this has been changing rapidly in recent years.

148. The Hmong practice mainly shifting cultivation, including rice and maize. They are skilled at animal husbandry, raising of cattle, buffalos, horses (historically), goats, pigs, dogs and chickens. Handicrafts form an important part of their livelihoods, including carpentry, blacksmithing, baskets, jewellery, and embroidery. They do little fishing.

149. The Lue originally came from Kwangtung Province of China. They migrated through Vietnam into China's Yunnan Province and into northern Laos around the 19th century. They adopted Theravada Buddhism in the 14th century. However, their beliefs still mix with their own brand of animism which includes belief in the spirits of nature and the household. They also believe in the spirit of township (Phi

Meuang); this is the most feared spirit. The villagers pay respect to this spirit by building a spirit house near to the village and offering sacrifices such as pigs and chickens.

150. Lue villages are located at altitudes between 150 to 400 meters above sea level. Their villages are usually located near rivers/streams, partly because of the need for water for farming. They produce mostly glutinous rice as a staple food. Other crops include corn, tobacco, cotton, fruits, and vegetables. They raise buffalo, pigs, and poultry. They make handicrafts, including baskets, weaving, sewing, sarongs, and handbags and also work as silversmiths.

151. Although a single ethnic village as in the past still exist, villages along the NR2W can consist of multiple ethnic groups. The composition can range from 1 person to hundreds of people. This poses a question as to whether screening for ethnic people should be done at individual or household level, rather than village level. It is also possible that translation during the consultations may be needed. As shown by the section on literacy below, literacy rate of some villages, especially those of ethnic group dominance is much lower than others. About 20 ethnic groups reside in 81 villages along the NR2W. Dominance of ethnic groups is not the same across districts and villages of the NR2W. Please refer to Annex 18 for more details.

3.2.3 Informal governance structure

152. The role of informal, i.e., customary-justice system is still very strong. Customary law remains an important part of people's lives in Lao PDR. The village is traditionally the primary political, economic, and social unit. Ethnic communities in Laos observe one of two systems, or structures, of power: one is clan-based and, the other, on a council of elders¹⁶. Hmong-Mien and Sino-Tibetan groups follow a patriarchal clan system, while Mon-Khmer groups are generally led by a council comprised of older males and presided over by members of the 'founding lineage'; i.e., the family or descent-line that founded or established the village.

153. The Hmong ethnic group consists of three original groups: the Hmong Khao and Hmong Lay; Hmong Khiew and Hmong Leng; and Hmong Dam and Hmong Xi. In each group, there are twenty-two clans or Saengxao. Hmong customary leadership consists of: the head of the ethnic group, who is the general leader in that locality; the head of each clan (Saengxao), the leader and protector of the clan's interests; the head of each family, responsible for protecting the interests of all family members; and spiritualists, clairvoyants, and traditional herbal practitioners, who are responsible for healing people or conducting funeral ceremonies. Persons occupying any of these roles must be knowledgeable, competent, and honest. He or she - though the 'political' heads are usually male - must not lie and should be ready to sacrifice his or her own interests for the common interests of the whole family and relatives and set a good example in his or her own personal behaviour. There are certain circumstances in which a position may be acquired by a majority vote of the people.

¹⁶ The Law Research and International Cooperation Institute, Ministry of Justice, 2011.

154. Hmong men, as hereditary agents transmitting the ancestral line, play the principal political role. Only men participate in meetings related to the governance of the group. Women are permitted only to attend as observers, but not to speak or vote. The project will ensure that women will be involved and actively participate from the planning and implementation stages of the project. A specific women-only FGDs led by a women moderator and GRM. The Lao Womens Union (LWU) will also be invited to attend the FGDs or consultation meetings. Old men cast the deciding votes. Those men with the greatest experience and considered the wisest, wield the most influence and their recommendations are almost always followed. Hmong leaders are to be nominated from among the clans' most intelligent, capable, generous, influential, and, generally, oldest members. Traditionally, each hamlet or village is led by a headman, assisted by one or two notables.

155. The Phounoy recognise clanship affiliations based upon five main clans (Xing). Each sub group has differences in its religious ceremonies, food preparation, and (lunar) methods for calculating auspicious months and years for special events. For the Phounoy, the appointment of individuals to positions of power is linked to their social influence, religious role, and personal reputation. Those selected as leaders are expected to be knowledgeable, competent speakers, honest, diligent, and willing to sacrifice their own interests for community or mutual ones. Phounoy leaders need to be confirmed by the government, so that they will have more formal power.

156. The Khmu Rok Krong recognise nine main clans ('Ta'). The Leukoukoug is the head of a Khmu clan and is usually an older man who commands admiration and respect in the community. When the Leukoukoug retires or, more unusually, loses the confidence of the community, then senior villagers will choose a successor. Ordinarily, this would be his son or brother. Whereas, previously, women were not considered eligible or qualified to participate in clan decision-making, these views have softened in recent years. Nevertheless, informal cultural barriers to their participation in community decision-making remain and still greatly constrain their involvement.

157. Iu-Mien Lu-Mien groups rely upon a committee to enforce customary law and govern the community. The committee is composed of respected elders and the village administrative body. Parallel to this committee, rule enforcement concerning governance of the 'spirit of the land' is done by a master clairvoyant who has the supreme power in deciding rules regarding ceremonies for offerings to the spirits. Due to good cooperation between the two groups, both customary and religious rules are coherently carried out. An elder will have a more important role and influence than the state-based village chief in decision-making with respect to beliefs or customary laws.

158. Power or authority at the community level is shared both by the customary holder of a position of power and, also, by the mass organisations presided over by the village chief. Both bodies have important roles and influence in the enforcement of customary laws or in the referral of cases to state justice mechanisms.

159. Changing a person in charge of customary governance is not an easy task. The replacement of a leader, master clairvoyant or head of prayers to the 'spirit of place' will be made only if that person is old and can no longer perform their duties. Changing the head of prayers to the 'spirit of place' may occur once or twice a year, if necessary. However, replacing the master clairvoyant will not occur as frequently, as the ethnic group believe that the master is very important in leading prayers for the 'spirit of place' in order that the community may be peaceful and prosperous. People believe that the master must have merit, knowledge, and ability in religion, as well as be of outstanding personal character and willing to make self-sacrifices for the broader community benefit.

160. In Makong communities, senior people, considered competent and who command respect within the community, take on roles of conflict resolution and leadership. Ritual specialist roles - such as leaders of worship of a 'spirit of place' or ancestral spirits, clairvoyants, or charm practitioners - are inherited by sons and grandsons who are believed to be endowed with special powers to communicate with, and mediate between, ghosts or spirits. Some ethnic groups mentioned the existence of leadership structures above the village level. For the Lolo in Nyot Ou district, Phongsaly Province, the ultimate leader of the five Lolo villages in Laos was called the Lao Phia, the second level was the khasime (i.e., naiban or village chief), and the third level was the Xaghorthe.

a) Authorities

161. Hmong-Mien and Sino-Tibetan Groups as with political authority, men exercise a dominant role and are usually the decisive authorities in customary law matters. The headman of each hamlet or village will seek an amicable settlement of disputes among members of the community. Hmong governance is carried out in accordance with a well-defined and well-respected hierarchy: "A clan chief can rule over an entire region, thanks to the influence he acquires through the mediation of his clan and his clientele." In traditional Akha villages, the dzoema is the village administrator and the ultimate decisionmaker in conflict resolution, as well as arbiter of disputes. He is also the shaman and guardian of traditions.

162. Lao-Tai group elders recognised by the whole community act as the leaders, but usually the function is not hereditarily transmitted. This is not the case amongst the Tai Leu, however, whose authorities are the Sen (secretary), Cha (chief), and Panya. All these positions are hereditary but are open both to males and females. In Phouthai communities, the leader is also in charge of community rituals in the village sacred forest ('pha mahesack'). In situations of conflict, people usually refer to appointed representatives from both sides called sam tao si kae. The Tai Neu use a draft system to select elders. This process is not open to women, who are not allowed to participate in meetings or in conflict resolution committees.

163. Mon-Khmer groups are generally led by a council comprised of older males. The council is presided over by the representative of the founding lineage, which established the village, in charge of community rituals: the Leukounkoug, for the Khmu, and Takong Riayh, for Katuic and Baharic-speaking groups. This council of

elders is the decisive body in charge of regulating conflicts within the community or with neighbouring communities. In relation to everyday dispute resolution, clan elders will consider and resolve disputes. In more serious or unresolved cases, the Leukoukoug will become involved and decide the case along with the clan elders.

3.2.3.1 Urban and rural population

164. Table 3-18 shows that the majority of people in the 5 provinces live in rural areas. Most rural population are engaged in subsistence agricultural activities. They depend heavily on natural resources, including fisheries and NTFPs for food and cash income. Luangnamtha and Phongsaly have fewer households, but most of their households live in rural areas.

165. Just under three quarter of the population in districts along the NR2W Corridor live in rural areas. In the districts of Beng, Houn, and Pakbeng, this is much higher than the three quarter. The same districts have high proportion of the population reside in rural areas without roads. Table 3-19 and Table 3-20 provides detailed urban vs rural population in the districts of the NR2w Corridor.

Table 3-18 Urban and rural households by province

Province	Total	%		
		Urban	With roads	Without roads
Phongsaly	35,157	17.9	79.3	2.7
Luangnamtha	34,554	27.1	72.5	0.4
Oudomxay	58,861	28.7	62.0	9.2
Luang Prabang	83,716	31.8	63.7	4.5
Xayaboury	78,240	48.0	51.4	0.6

Source: Phongsaly Statistics Center (2020), Luangnamtha Statistics Center (2020), Oudmxay Statistics Center (2020), Luangprabang Statistics Center (2020), Xayaboury Statistics Center (2020).

Table 3-19 Urban and rural population in districts along the NR2W Corridor

Province	District	Rural	Rural		Urban	Total
			With road	Without road		
Oudomxay	Xay	44,246	42,157	2,089	35,289	79,535
	Beng	30,312	23,815	6,497	7,179	37,491
	Houn	59,049	51,623	7,426	15,205	74,254
	Pakbeng	26,218	20,818	5,400	3,187	29,405
Xayaboury	Meung Ngeun	9,330			8,259	17,589
Total		169,155	138,413	21,412	69,119	238,274

Source: Data from the Lao Population and Housing Census (2015)

Table 3-20 Percent urban and rural population in districts along the NR2W Corridor

Province	District	Rural	Rural		Urban	Total
			With road	Without road		
Oudomxay	Xay	55.6	53.0	2.6	44.4	100.0
	Beng	80.9	63.5	17.3	19.1	100.0
	Houn	79.5	69.5	10.0	20.5	100.0
	Pakbeng	89.2	70.8	18.4	10.8	100.0
Xayaboury	Meung Ngeun	53.0			47.0	100.0
Total		71.0	58.1	9.0	29.0	100.0

Source: Data from the Lao Population and Housing Census (2015)

3.2.3.2 Population growth rate

166. Table 3-21 shows that over a period of 10 years from 2005-2015, the population growth rate in the 5 provinces of the project has been uneven. Luangprabang growth was the slowest, followed by Phongsaly (not just among the five provinces of the project, but all other provinces in the country), perhaps because of continued out-flow of their populations searching for better livelihoods elsewhere. Oudomxay's growth rate is close to the national average (1.4 %).

Table 3-21 Population growth rate by province

Province	Population growth rate
Phongsaly	0.7
Luangnamtha	1.9
Oudomxay	1.5
Luangprabang	0.6
Xayaboury	1.2

Source: Lao Statistics Bureau (2015).

3.2.3.3 Sex ratio

167. All 5 provinces had more males than females in 2018. Luangprabang had the largest ratio. The other 3 provinces, except for Luangnamtha, share exactly the same ratio over the same period (Table 3-22). Sex ratio of the districts of the NR2W corridor provides a slightly different picture. The districts of Beng, Pakbeng and Meuang Ngeun have fewer females than males. Meanwhile, Xay district of Oudomxay has a higher sex ratio compared to the provincial average. Please see Table 3-23 for more details.

168. At the village level along the NR2W, sex ratio is highly different across villages. The ratio can be as low as 83.6 in Bangkham village, Beng district and as high as 254 in Vunglor, Houn district. Migration of young people to urban towns for works and differences in culture may play a role in the difference. Please see Annex 18 for more details.

Table 3-22 Sex ratio by province, 2018

Province	Total	Female	Male	Sex ratio
Phongsali	186,189	91,742	94,447	102.9
Luangnamtha	186,080	92,645	93,435	100.9
Oudomxay	324,122	160,047	164,075	102.5
Luangprabang	455,669	224,141	231,528	103.3
Xayaboury	395,647	194,963	200,684	102.9

Source: Phongsaly Statistics Center (2020), Luangnamtha Statistics Center (2020), Oudomxay Statistics Center (2020), Luangprabang Statistics Center (2020), Xayaboury Statistics Center (2020).

Table 3-23 Sex ratio of the districts on the NR2W Corridor

Province	District	Female	Male	Sex Ratio
Oudomxay	Xay	39,153	40,382	103.1
	Beng	18,787	18,704	99.6
	Houn	36,642	37,612	102.6
	Pakbeng	15,044	14,361	95.5
Xayaboury	Meang Ngeun	8,821	8,768	99.4
Total		118,447	119,827	101.2

Source: Data from the Lao Population and Housing Census (2015)

3.2.3.4 Fertility rate

169. Fertility rate is linked to education of mothers. Women with lower education have a higher fertility rate compared to women with higher education¹⁷. The fertility rate also is correlated with wealth status. The fertility rate of women in the poorest groups is three times higher than women in the richest households. There are also differences between ethnic groups. The Hmong-Mien group's fertility rate is 5.5 times higher than women of other ethnic groups and 2 times higher than women household heads in the Lao-Tai ethnic group. Table 3-24 shows the total fertility rates in the 5 project provinces. Women between ages 15-49 in Oudomxay give birth to close to just over 3 children on average, while women in the same age group in Xayaboury give birth to just over 2 children.

Table 3-24 Total fertility rate by province

Province	Total Fertility Rate
Phongsaly	2.8
Luangnamtha	2.5
Oudomxay	3.1
Luangprabang	2.9
Xayaboury	2.1

Source: Lao Statistics Bureau et al. (2018).

¹⁷ Please see the Lao Social Indicators Survey undertaken in 2011/2012 (LSIS 2011/12)

3.2.4 Livelihoods

3.2.4.1 Key livelihood activities of households in the 5 provinces

170. Households in the five provinces of the SEARECC undertake multiple livelihood activities, but not all activities are carried out at the same time in the year. Examples of activities include paddy cultivation, upland rice, non-rice crops, fishing, collection of other aquatic animals and plants, riverbank gardening, raising livestock, hunting, collection of NTFPs, and planting of industrial trees such as rubber and teak. Most frequently stated important activities include, but are not limited to, activities pertaining to rice, livestock and fishing.

171. Broadly, the Lao Statistical Bureau (LSB), Ministry of Planning and Investment (MPI), categorizes economic activities into paid employment and self-employment. The main economic activity of close to 83 % of the working-age population in Phongsaly is self-employed at own-operated farms (Table 3-25). In Xayaboury, it is just over 70 percent of the working population. Luang Prabang has the lowest percentage, but it is still significant (close to 70 %). All five provinces of the north have higher percentage of the working population compared to the national average (55.8%).

172. Site visit undertaken by the E&S team during 18-23 September 2021 observed along NR2 West plantation of rubber and bananas. Note, however, that big areas of bananas are owned by big companies, mainly Chinese. This has created employment opportunities for local people, although health issues arisen from the use of chemicals are of concerns.

173. Along the NR2W corridor, all districts share similar portion of the population of 10 years old and above working as self-employed, unpaid family worker, and students. Together, the proportion of population engaged in these activities account for most of the total working-age population in each district. Note that the percent of the population with unemployment status during the referenced period is quite low, ranging from 0.3% in Meang Ngeun to 2.0% in Xay district. Table 3-26 presents detailed number and percentage of the working-age population (10+ years old) by districts along the NR2W. The project will ensure that no workers of any type are under 18 years old.

Table 3-25 Livelihood activities by province

Province	Percentage of working population of			Activities in the last 7 days before the survey			
				Percent of working hours			
	Female	Male	Total	Paid employment	Self employment		
			Off-farm activities		Self-operated farm	Total	
Lao PDR	51.8	60.4	56.0	18.3	25.9	55.8	100
Phongsaly	67.0	73.7	70.3	8.7	8.6	82.7	100
Luangnamtha	40.6	48.4	44.5	16.2	15.5	68.3	100
Oudomxay	57.6	61.3	59.4	13.8	18.2	68	100
Luangprabang	57.9	63.0	60.4	11.6	20.6	67.8	100
Xayaboury	67.1	74.4	70.7	14.9	14.6	70.5	100

Source: Lao Statistics Bureau (2020).

Table 3-26 Livelihood activities of people of 10 years and above in the last 12 months before the census

Livelihood activity	Oudomxay				Xayaboury
	Xay	Beng	Houn	Pakbeng	Meang Ngeun
Employer	211	27	60	55	33
Government employee	5,734	1,197	3,723	876	768
Household duties	2,646	95	1,078	710	507
International or NGO	35	13	2	4	1
Self employed	14,863	7,389	13,380	5,446	4,195
Private employee	1,962	453	215	424	306
State enterprise employee	390	26	71	167	47
Student	16,226	7,283	14,175	5,245	2,581
Unemployed	1,235	261	535	369	44
Unpaid family worker	16,004	10,910	21,103	7,750	4,983
Other	2,284	1,502	1,438	294	248
Total	61,590	29,156	55,780	21,340	13,713

Source: Data from the Lao Population and Housing Census (2015)

Table 3-27 Percentage of people engaged in each livelihood activities in the last 12 months before the census

Livelihood activity	Oudomxay				Xayaboury
	Xay	Beng	Houn	Pakbeng	Meang Ngeun
Employer	0.3	0.1	0.1	0.3	0.2
Government employee	9.3	4.1	6.7	4.1	5.6
Household duties	4.3	0.3	1.9	3.3	3.7
International or NGO	0.1	0.0	0.0	0.0	0.0
Self employed	24.1	25.3	24.0	25.5	30.6
Private employee	3.2	1.6	0.4	2.0	2.2
State enterprise employee	0.6	0.1	0.1	0.8	0.3
Student	26.3	25.0	25.4	24.6	18.8
Unemployed	2.0	0.9	1.0	1.7	0.3
Unpaid family worker	26.0	37.4	37.8	36.3	36.3
Other	3.7	5.2	2.6	1.4	1.8
Total	100.0	100.0	100.0	100.0	100.0

Source: Data from the Lao Population and Housing Census (2015)

174. Number of people engaged in each livelihood activity of villages along NR2W are provided in Annex 18. In Laos especially in the project region, the labour for people under 18 years is likely culturally appropriate and thus a risk to the project. The full ESIA will look into in more detail in the project-specific areas.

3.2.4.2 Household consumption

175. Either income or consumption could be used to evaluate living standards because in theory, over the long run, income and consumption should be equal as a household cannot increase debt indefinitely. Income is considered a good indicator of living standards. Data on income, however, is difficult to collect, often under reported. A study drawing on data from 17 developing and transition countries,

indicated that the observed differences between income and consumption are extremely large, being on average 31 percent and in four cases over 50 percent (the maximum value being 72 percent). The study¹⁸ also found evidence of the underreporting being systematically associated with individual, household and survey characteristics. Older, less educated household heads tend to underreport income more. The degree of underreporting appears to also be strongly associated with the income source with agricultural income suffering more than any other components from underreporting.

176. Luangprabang and Xayaboury had lower consumption than the national average (Table 3-28). Note that total consumption includes both rural and urban residents. Mean monthly household consumption countrywide in urban areas is higher than in rural areas¹⁹.

Table 3-28 Consumption by provinces in 2018/2019

Province	Mean monthly consumption, 1000LAK
Lao PDR	2,634.30
Phongsaly	2,719.40
Luangnamtha	3,799.10
Oudomxay	3,353.30
Luangprabang	2,185.70
Xayaboury	1,927.40

Source: Lao Statistics Bureau (2020).

3.2.4.3 Sources of cash income

177. Diversity and the variability of income sources over time can be an indicator of vulnerability at the household level. Generally, the higher the diversity of income, the greater the resilience of livelihoods to disruption of specific income sources. Income-generating activities in the 5 provinces include: rice, vegetables and fruits, meat, fishing, non-timber forest products and others²⁰.

178. Share of rice in the total cash income of households can be as high as 40.8% in Luangprabang and as low as 17.1% in Phongsaly. Vegetables and fruits are important sources of cash income in Oudomxay, Luangprabang and Xayaboury. Contribution of meat in the total cash income is particularly high in Luangprabang and Xayaboury. Fishery is a readily available source of cash income for all the 5 provinces, ranging from just under 8% in Xayaboury to just over 19% in Phongsaly. NTFPs remain important source of cash income in almost all 5 provinces, except for Xayaboury. Please see Table 3-29 for details.

¹⁸ Measure for Measure: Systematic Patterns of Deviation between Measures of Income and Consumption in Developing Countries Evidence from a New Dataset Carlo Azzarri (FAO and World Bank), Gero Carletto (World Bank), Katia Covarrubias (FAO), Ana Paula de la O (FAO), Carly Petracco (FAO), Kinnon Scott (World Bank) and Alberto Zezza (FAO). Third Global Conference City Group on Statistics on Rural Development and Agricultural Household Income May 24-25, 2010 0

¹⁹ Please see LECS6

²⁰ Please see results of the sixth Lao Expenditure and Consumption Survey

179. Results of eight case studies undertaken in 2016 in Phongsaly, Oudomxay and Luangprabang by the International Finance Corporation (IFC) in collaboration with the Department of Water Resources, MONRE, indicate that households derive their cash income from a variety of sources, including livestock, handicrafts, crops, fishing, riverbank gardening, NTFP collection (e.g., cardamom, galangal, and bamboo shoots), wage labour, and remittances. Although many villages share similar sources of income, the degree of importance of each source may be different from one village to another. For example, in Phongsaly Province, livestock is ranked as the most important source of income by Ban Paknga, Sob Kong, Sob Nao and Na Gnao, while NTFPs such as cardamom is most important for Ban Phoumeuang.

Table 3-29 Cash income sources

Province	Income 2018/2019, 1,000LAK						Total
	Rice	Vegetable and fruit	Meat	Fish	Forest products	Others	
Lao PDR	7,342	1,905	2,620	2,719	579	4,055	19,220
Phongsaly	5,037	884	2,966	5,698	1,453	13,406	29,444
Luangnamtha	5,678	218	1,535	4,260	1,586	16,094	29,371
Oudomxay	6,603	5,519	2,611	2,341	1,005	611	18,690
Luangprabang	5,804	1,621	3,592	1,887	1,000	314	14,218
Xayaboury	8,560	8,763	5,454	2,254	479	3,801	29,311
	Income 2018/2019, %						
Lao PDR	38.2	9.9	13.6	14.1	3.0	21.1	100
Phongsaly	17.1	3.0	10.1	19.4	4.9	45.5	100
Luangnamtha	19.3	0.7	5.2	14.5	5.4	54.8	100
Oudomxay	35.3	29.5	14.0	12.5	5.4	3.3	100
Luangprabang	40.8	11.4	25.3	13.3	7.0	2.2	100
Xayaboury	29.2	29.9	18.6	7.7	1.6	13.0	100

Source: National Statistics Bureau (2020)

3.2.4.4 Land use

180. Land inheritance in Lao is mainly governed by matrilineal or patrilineal systems. Matrilineal systems are mostly followed by Lao-Tai groups. Both daughters and sons are eligible to inherit land and property. It is quite common that families will pass the land ownership to the youngest daughters since she would remain the caretakers after she was married. However, the patrilineal system is followed by ethnic groups such as Hong-lu Mien and Mon Khmer group (e.g. Khmu). The family name and property are transmitted from father to son. Women generally do not inherit land from parents. Instead, the women are expected to move to the husband's house and access land through her husband.

181. Laws in Lao PDR acknowledge equal rights of men and women in many aspects. Some articles were written in a way that protects women's rights and wellbeing. For example, the Family Law, issued in 1990, Article 27, states that spouses have equal rights over marital property. Unfortunately, the revised Land Law 2019 missed out that specific clause. This omission has caused great concern²¹, and to address this the project will ensure alignment with ESS5 which ensures women's land rights are also protected. Women, especially ethnic groups,

²¹ Somphong bouthakanh, P., & Schenk-Sandbergen, L. (2020). Women and Land Rights in Lao PDR: Rural Transformation and a Dream of Secure Tenure. Vientiane Municipality : Land Information Working Group (LIWG).

who are illiterate, have little access to legal information, and may not speak Lao, making them more vulnerable to land transactions.

182. The *Land Law* recognizes land use rights of individuals, legal entities, and organizations, and stipulates that these rights are managed “by registering land books, certifying land use, issuing land titles and registering transfer and changes of land use rights”. The Law also acknowledges and protects customary land use rights pending the issuance of official land titles. Lands that are not transferred to the previously described entities are considered public lands, which can be granted to Party organizations, state agencies and local administrative authorities through a titling process. Public land can also be transferred to the use of a village or cluster of villages in accordance with local land allocation plans to select land uses with temporary land use certificates. Both the permanent land titles and temporary land use certificates are issued by district (DONRE) and provincial (PONRE) offices in paper format, which is the only legally binding version of the documents.

183. Only one-third of the estimated 1.6 million registered land parcels in Lao have been titled. Land registration and titling have been mostly carried out in urban and peri-urban areas, but not much has been done in rural areas. With the government policies to transform subsistent agriculture to market orientation, grant land concessions to private companies, and foreign direct investment, it is possible that women without a land title may not get fair compensation, generally as a result of projects, as they are supposed to. For this reason, alignment with WB ESS is important, and special attention to be paid by project plans, in particular future RAPs and EGEPs as well as the Stakeholder Engagement Plan.

184. According to Table 3-30, in Phongsaly and Ouxomday, more than half of the total land area of the provinces is allocated for production, protection and conservation forests. In contrast, these two provinces have lesser areas for agricultural production, compared to the other 3 provinces, where agricultural lands accounts for the highest percentage of the total provincial land areas.

185. Most households in the five provinces have access to land²². The percentage of households with access to land and owning lands are very high in all provinces, although Xayaboury has a slightly lower percentage of households having access to and owning land compared to other provinces (Table 3-31).

186. Along the NR2W, residential areas and agricultural lands are observed, which may be affected by the need for land acquisition (Please see Plate 3-6 and Plate 3-7). The areas around NR2W vary significantly. In some road sections, especially when passing through villages, some people have their houses and shops very close to the existing road carriage. This means that even minimal widening of 1m to either side, is likely to result in some land acquisition. In some cases, land acquisition could involve cutting protruding roofs only, or shifting back structures. In some cases, it is possible that the entire house would need to move for safety reasons. Meanwhile, in other sections the road transverses agricultural land with

²² According to the Lao Statistics Bureau (2020)

crops generally a distance away from the main carriageway. The land acquisition and resettlement will be necessary and depending upon final detailed design, land may be acquired on a temporary or permanent basis with compensation. Voluntary land donations will not be considered in the SEARECC project. The detailed assessment and inventory of loss shall be conducted during the FS and full ESIA study stage.

187. The use of the road is also important. In some sections of the road small children could be seen playing and congregating, suggesting the road is not only a transport pathway, but a shared social space, especially in villages where shops and houses are close to the road side. Community health and safety and damages to community facilities/individual structures that may be caused by (i) transport of materials and spoils, operation of construction equipment and various construction activities community facilities; (ii) the excavations/digging for installation of side drains especially where the community structures are located at the adjacent to the COI; (iii) traffic disruption, congestion and obstruction of access to roadside properties and establishments. This suggests that consultation with communities and road safety campaigns will be highly needed to educate road users about safety issues, particularly as better roads may lead to higher speeds. Road safety plans should also consider speeding measures and put in place speed limits and other measures when the road passes villages, schools, hospitals and temples. Big trucks and movement of soil, etc. during construction will also need to consider safety measures of pedestrians, but also the potential to knock over trees and structures as some are very close to the roadside. The detailed safety risk assessment shall be conducted during the FS, full ESIA study. The TMP will be prepared as part of the site specific ESMP. The minimum content of the TMP will be prepared by the consultants for preparing the ESIA and ESMP.



Plate 3-6 Residential areas along the NR2W



Plate 3-7 Agricultural areas along the NR2W

Table 3-30 Land use by province, 2018

Land use	Phongsaly		Luangnamtha		Oudomxay		Luangprabang		Xayaboury	
	Area	%	Area	%	Area	%	Area	%	Area	%
Total	5,616,705.5	100.0	399,848	100.0	3,289,712.9	100.0	1,608,426	100.0	1,583,803	100.0
Agricultural										
Production land	1,413,019.8	25.2	154,600	38.7	521,244.6	15.8	508,142	31.6	454,133.2	28.7
Paddy land	90,766.2	1.6	35,802	9.0	66,482.8	2.0	29,865	1.9	103,365	6.5
Irrigated land	179,795.5	3.2	4,475	1.1	114,143.1	3.5	54,074	3.4	68,162	4.3
Construction land	62,263.6	1.1	14,937	3.7	60,441.7	1.8	28,842	1.8	173,700	11.0
Industrial land	842,237.8	15.0	5,641	1.4	17,144.5	0.5	25,573	1.6	83,270	5.3
Grassland	21,448.7	0.4	3,733	0.9	32,812.1	1.0	30,711	1.9	83,270	5.3
Production forest	195,606.6	3.5	25,045	6.3	420,354.6	12.8	260,435	16.2	30,488	1.9
Protection forest	2,864,466.8	51.0	23,485	5.9	481,570.0	14.6	236,297	14.7	109,419	6.9
Conservation forest	106,848.0	1.9	23,661	5.9	1,404,158.1	42.7	92,912	5.8	233,772	14.8
Others	110,814.1	2.0	108,468	27.1	171,361.5	5.2	341,575	21.2	244,223	15.4

Source: Phongsaly Statistics Center (2020), Luangnamtha Statistics Center (2020), Oudomxay Statistics Center (2020), Luangprabang Statistics Center (2020), Xayaboury Statistics Center (2020).

Table 3-31 Percentage of households with access to land

Province	Access to land	Owning land
Lao PDR	97.2	93.7
Phongsaly	99.4	98.9
Luangnamtha	91.8	86.1
Oudomxay	92.4	89.5
Luangprabang	99.4	98.3
Xayaboury	99.5	99.1

Source: Lao Statistics Bureau (2020).

3.2.4.5 Production: rice, crops/vegetables, riverbank gardens, livestock, and fisheries

a) Rice production

188. Productivity of upland rice is much lower than paddy. While yield of rainfed paddy is not less than 4.2 ton/ha (Table 3-32), no province of the 5 provinces have seen yields of upland rice of more than 2.1 ton/ha (Table 3-33). However, qualitative studies in the past have ranked upland rice as the most important livelihood activity for many upland villages. Results of the household survey undertaken in 2016 by IFC in collaboration with the Department of Water Resources, MONRE, indicated that close to 30 % of the population living in the 5km corridor along the Nam Ou River, covering Phongsaly, Oudomxay and Luangprabang did not have enough rice to eat the whole year-round. On average, these households experience approximately 5 months of rice shortages each year. The above study indicates that female-headed households experienced longer periods of rice shortages (5.5 months), compared to male-headed households (4.7 months). Not many households have land suitable for cultivation of dry season paddy or second crops.

Table 3-32 Lowland rainfed paddy

Province	Planted Area: (ha)	Harvested Area: (ha)	Yield: (ton/ha)	Production: (ton)
Phongsaly	8,178	8,178	4.20	34,350
Luangnamtha	8,764	7,840	4.38	34,360
Oudomxay	15,387	15,266	4.26	64,990
Luangprabang	13,315	13,141	4.38	57,590
Xayaboury	32,707	32,707	4.39	143,430

Source: Lao Statistical Bureau 2020

Table 3-33 Upland rice production by province

Province	Planted Area: (ha)	Harvested Area: (ha)	Yield: (ton/ha)	Production: (ton)
Phongsaly	9,400	9,400	1.88	17,715
Luangnamtha	9,169	8,024	2.00	6,020
Oudomxay	15,387	11,471	2.00	22,900
Luangprabang	26,322	18,897	2.01	38,070
Xayaboury	11,185	11,185	2.10	23,500

Source: Lao Statistical Bureau 2020

b) Crops/vegetables

189. Non-rice crops include maize, starchy roots, peanut, soybean, vegetables, tobacco, cotton, sugarcane, coffee, and tea. Biggest differences in crops yield are observed with starchy roots, ranging from 13.5 tons/ha in Phongsaly to 35.1 ton/ha of starchy roots in Xayaboury and 1.00 ton/ha of tea in Luangnamtha to 11.69 tons/ha in Luangprabang. While Luangprabang has the lowest yield of maize (3.68 tons/ha), peanut (1.55 tons/ha) and tobacco (6.02 tons/ha), it has the highest yield of tea (11.69 tons/ha) compared to the other provinces (1.00-1.74 tons/ha). Please see Table 3-34, Table 3-35 and Table 3-36 for details.

Table 3-34 Yield and production of maize, starchy roots and soybean

Province	Total Maize		Starchy Roots		Soybean	
	Yield (ton/ha)	Production (tons)	Yield (ton/ha)	Production (tons)	Yield (ton/ha)	Production (tons)
Phongsaly	4.78	29,276	12.52	27,489	1.45	240
Luangnamtha	4.99	16,608	25.96	63,322	2.76	193
Oudomxay	4.63	143,983	13.55	8,905	2.38	407
Luangprabang	3.68	33,798	15.72	42,044	2.53	604
Xayaboury	5.42	236,702	35.10	1,041,281	3.19	492

Source: Lao Statistical Bureau 2020

Table 3-35 Yield and production of peanut, vegetables, and tobacco

Province	Peanut		Vegetables		Tobacco	
	Yield (ton/ha)	Production (tons)	Yield (ton/ha)	Production (tons)	Yield (ton/ha)	Production (tons)
Phongsaly	2.31	1,760	4.82	26,574	-	-
Luangnamtha	1.72	224	9.47	25,135	6.13	460
Oudomxay	2.26	1,164	7.67	34,146	6.40	1,901
Luangprabang	1.55	1,675	7.83	94,459	6.02	4,636
Xayaboury	2.63	14,863	7.91	132,622	6.85	3,836

Source: Lao Statistical Bureau 2020

Table 3-36 Yield and production of sugarcane, coffee and tea

Province	Sugarcane		Coffee		Tea	
	Yield (ton/ha)	Production (tons)	Yield (ton/ha)	Production (tons)	Yield (ton/ha)	Production (tons)
Phongsaly	47.85	222,510	2.3	3,515	1.74	3,870
Luangnamtha	48.30	270,453	-	-	1.00	350
Oudomxay	47.50	25,650	2.0	1,635	-	100
Luangprabang	49.05	92,205	3.0	5,038	11.69	9,180
Xayaboury	48.21	62,822	-	-	-	-

Source: Lao Statistical Bureau 2020

c) Livestock

190. Assets are important means of resilience. Households with welfare generating assets are considered less vulnerable to welfare losses associated with extreme events such as floods and droughts. Livestock are an important livelihood asset that enhances household capacity to recover or withstand shock. Experience in Lao PDR shows that losing livestock is the most serious loss of long-term livelihood and household security. Buffalos and cows are key livestock assets in many villages. The sale of livestock is an important source of funds when a disaster strikes, or medical emergency arises. In rural areas of the country, the income from the sale of

a buffalo can provide enough cash to buy rice for 4-5 household members for an entire year (WFP, 2001).

191. Qualitative studies in the last few years in this part of the country reported that livestock is ranked as one of the most important livelihood activities for most rural households. It is quite common that wealthier households in rural areas raise bigger livestock. Most households raise poultry. Please see Table 3-37 for detailed statistics of livestock in the 5 provinces of the project.

Table 3-37 Number of livestock in the 5 provinces in 2020

Province	Buffalo	Cattle	Pig	Poultry	Goat and sheep
	Thousand	Thousand	Thousand	Thousand	Thousand
Phongsaly	46	60	302	1,230	19
Luangnamtha	17	28	144	861	20
Oudomxay	37	51	225	2,061	35
Luangprabang	59	104	303	3,292	107
Xayaboury	54	157	184	3,730	17

Source: Lao Statistical Bureau 2020

d) Fisheries

192. Experience shows that the further away from the mainstream Mekong and its tributaries such as Nam Ou River, the fewer number of households participate in fishing activities. But as social infrastructure, particularly roads are improving, people who live far away from rivers/streams are expected to be increasingly involved in captured fishery. This also includes temporary migration for fishing (i.e., people who travel longer distances for fishing on a seasonal basis).

193. Qualitative information obtained through FGDs, and individual interviews suggest fish catch has reduced in the last few years. In already inundated areas, women and children in case study villages who used to go for small fish and the collection of other aquatic animals and plants, can no longer do so due to the deep reservoir and steep slopes in rivers with dams such as Nam Ou River. The number of species caught has also reduced.

194. Aquaculture is not widespread in the 5 provinces of the SEARECC. Aquaculture production is significantly less than captured fishery (Table 3-38).

Table 3-38 Captured and cultured fishery in the 5 provinces

Province	Captured fishery	Aquaculture
	Ton	Ton
Phongsaly	225	49
Luangnamtha	3,227	23
Oudomxay	1,742	80
Luangprabang	3,251	1,861
Xayaboury	4,219	763

Source: Lao Statistical Bureau 2020

3.2.4.6 Food security

195. According to Table 3-39, the majority of households in all 5 provinces of the project had no experience in food insecurity in 2019. Nevertheless, a proportion of the provincial population experienced some level of food insecurity. Just under 19% of households in Luangprabang said their level of food insecurity was highly severe in 2019 and 11.2% of sample households in Luangnamtha said so over the same period. 21.1% of sample households in Oudomxay and 16.1% in Luangnamtha, respectively, said their level of food insecurity was moderate.

Table 3-39 Food security in the 5 provinces

Province	Level of food insecurity			
	No experience	Not severe	Highly severe	Moderate
Lao PDR	68.1	12.1	10.6	9.3
Phongsaly	75.8	3.2	8.4	12.7
Luangnamtha	55.4	17.2	11.2	16.1
Oudomxay	59.9	9.7	9.3	21.1
Luangprabang	66.8	6.9	18.6	7.7
Xayaboury	86.5	5.6	3.4	4.5

Source: Lao Statistics Bureau 2020

3.2.5 Living conditions

3.2.5.1 Poverty

196. Poverty in rural areas -caused by factors such as limited opportunities for skills development, investment, high dependence on rainfed farming, NTFPs, and fisheries which are highly seasonal –are a major source of vulnerability. Vulnerability in this context is not fixed, but highly dynamic. The poverty distribution in the northern 5 provinces of Lao PDR shows that the poorest province in 2013 and 2019 is not the most remote, most mountainous province, Phongsaly (Table 3-40), but rather, poverty rate is highest in the province of Oudomxay, located in the middle of the 5 provinces. Among the 5 Northern provinces, 3 of them (Oudomxay, Luangprabang, and Xayaboury) have poverty rates higher than the national average.

197. Luangnamtha achieved the biggest reduction in poverty rates over the period 2013-2019, followed by Phongsaly (14.4 % and 11.8% reductions in the poverty rate respectively). The pattern of poverty distribution of almost all 5 provinces (except for Oudomxay) is like the distribution of population, although very different in term of change over the same period. Please see Table 3-40 for details.

198. Table 3-41 shows that poverty rate is highest in districts bordering with Vietnam, compared to those bordering with China/Myanmar and Thailand. Poverty rate has been decreased over the period of 2013-2019 in areas bordering with

Vietnam, while the same period has seen a decrease in the population distribution in these areas as well.

199. The Lao-Tai ethno-linguistic group has the lowest poverty rate compared to the other ethnic groups. Hmong-lew Mien share the highest poverty rate (38.4%) in 2019, followed by Mon-Khmer ethno-linguistic ethnic group (32.7%). Significant reduction in poverty over the period of 2013-2019, however, has been made by the Mon-Khmer group (Table 3-42).

Table 3-40 Poverty by province

	Poverty rate			Poverty Distribution			Population Distribution		
	2013	2019	Change	2013	2019	Change	2013	2019	Change
Lao PDR	24.6	18.3	-6.3	100	100	0	100	100	0
Phongsaly	19.9	8.1	-11.8	2.4	1.2	-1.1	2.9	2.8	-0.2
Luangnamtha	25	10.5	-14.4	3	1.8	-1.2	3	3	0.1
Oudomxay	36.6	29.2	-7.5	6.5	8.7	2.2	4.4	5.5	1.1
Luangprabang	30	20.4	-9.6	8.7	7.8	-0.9	7.1	7	-0.2
Xayaboury	15.7	21.1	5.4	3.8	6.9	3.1	5.9	6	0.1

Source: Lao Statistics Bureau and the World Bank (2020).

Table 3-41 Poverty by border with neighboring countries

	Poverty rate			Poverty Distribution			Population Distribution		
	2013	2019	Change	2013	2019	Change	2013	2019	Change
Lao PDR	24.6	18.3	-6.3	100	100	0	100	100	0
Non-bordering districts	27.5	20.1	-7.4	54.4	58	3.6	48.7	52.9	4.1
Bordering with Thailand	12.8	10.3	-2.5	17	16.7	-0.3	32.8	29.7	-3.1
Bordering with China/Myanmar	21.8	13.8	-8	2.9	2.5	-0.4	3.2	3.3	0.1
Bordering with Vietnam	43.5	31.9	-11.6	20.3	19.8	-0.5	11.5	11.3	-0.1

Source: Lao Statistics Bureau and the World Bank (2020).

Table 3-42 Poverty by ethnicity

	Poverty rate			Poverty distribution			Population Distribution		
	2013	2019	Change	2013	2019	Change	2013	2019	Change
Lao PDR	24.6	18.3	-6.3	100	100	0	100	100	0
Lao-Tai	14.5	10.6	-4	39.4	37.7	-1.7	66.7	65.2	-1.5
Mon-Khmer	48.1	32.7	-15.4	43.1	38.7	-4.4	22.1	21.7	-0.4
Chino-Tibetan	25.7	18.1	-7.5	3.5	3	-0.5	3.4	3.1	-0.3
Hmong-lew Mien	45.2	38.4	-6.8	13	19.5	6.5	7.1	9.3	2.2
Others	33.5	26.6	-6.9	1	1	0	0.7	0.7	-0.1

Source: Lao Statistics Bureau and the World Bank (2020).

3.2.5.2 Access to social infrastructure and services

200. Villages with 'supportive contexts', with access to services such as electricity, water supply, road access and markets are likely to be more resilient. Electricity

includes sources from the state network, electricity generated by turbines, solar cells and mini hydropower.

201. Most villages are accessible by roads. Fewer villages, however, are accessible by road during rainy season, especially in Phongsaly (Table 3-43). Public services, higher education, health facilities and market opportunities are mainly available in district and provincial capitals of these provinces. Improving access to these administrative centers is of high importance. The percentage of access to permanent markets is very low for all provinces, although still nearby markets are available for higher percentage of villages in the province. The rate of villages with access to water supply systems is also especially low in Phongsaly and Oudomxay. Please see Table 3-44 for more details.

Table 3-43 Accessibility to social infrastructure and services

	Percent of villages with:	Phongsaly		Luangnamtha		Oudomxay		Luangprabang		Xayaboury	
		%	Number	%	Number	%	Number	%	Number	%	Number
1	Road access	93.2	479	97.0	356.0	93.4	441	96.7	731	99.5	429
2	Road access during dry season	91.4	470	99.5	365	93.4	441	96.3	728	99.5	429
3	Road access during rainy season	52.1	268	73.8	271	59.1	279	66.8	505	96.3	415
4	Water supply	8.9	46	19.1	70	13.6	64	14.6	110	22	95
5	Permanent markets in the village	2.9	15	4.4	16	4.4	21	5.2	39	13	56
6	Markets nearby	11.1	57	15.3	56	17.2	81	22.8	172	21.6	93
7	Electricity	93.4	480	94.6	347	100	472	84.1	636	98.8	426

Source: Phongsaly Statistics Center (2020), Luangnamtha Statistics Center (2020), Oudomxay Statistics Center (2020), Luangprabang Statistics Center (2020), Xayaboury Statistics Center (2020).

202. Most households of the target provinces, except for Xayaboury, have their drinking water from unimproved sources of water (Table 3-44). Very high percentage of households with water from rivers/streams/dam and hills/mountains, suggesting any impacts on the quality and availability of such sources of water would highly affect the local population.

Table 3-44 Percentage of households by sources of water

Province	Total households	Improved sources of water					Unimproved sources of water				
		Total improved water sources	Water supply	Protected dug wells/ Drilled	Rain water	Bottle water	Total unimproved sources of water	Unprotected dug wells/Drilled wells	River/stream/ dam	Sources from hills/ mountain	Others
Lao PDR	1,183,386	61.4	6.6	18.3	0.4	36.1	38.6	8.1	5.9	24.1	0.6
Phongsaly	34,068	14.4	11.7	2.3	0	0.4	85.6	1.9	14.9	67.1	1.7
Luangnamtha	33,242	39.1	12.1	4.9	0	22.1	60.9	1.4	3.7	55.6	0.2
Oudomxay	55,383	27.7	7.3	1.6	0	18.7	72.3	3.1	9.2	59.9	0.1
Luangprabang	81,212	37.2	4.3	1.5	0	31.3	62.8	0.9	6.3	55.2	0.4
Xayaboury	76,034	65.1	7.3	17.7	2.2	37.8	34.9	5.6	4.6	24.2	0.5

Source: Lao Statistics Bureau (2015)

3.2.5.3 Education

a) Male and female literacy rates

203. Three quarter of the total population of 15 years old and older in Phongsaly, Luangnamtha and Oudomxay is literate²³. Literacy rate of females is much lower than males in all 5 provinces (Table 3-45). The SEP and the project will need to take into account that Phongsaly and Luangnamtha only have just over half the female population literate. So producing IEC materials in written form only (especially on issues like SEA/SH and GRM) is not going to be sufficient – i.e. the project will need to look at ways to reach out to women who are not literate.

Table 3-45 Male and female literacy rate by province

Province	Population	Literacy rate		
		Total	Female	Male
Lao PDR	4,412,430	84.7	79.4	90
Phongsaly	113,952	62.6	54.3	70.6
Luangnamtha	115,295	64.9	54.7	75.3
Oudomxay	197,050	72.8	61.8	83.8
Luangprabang	283,642	82.6	75.9	89.2
Xayaboury	274,022	92.5	89.7	95.1

Source: Lao Statistics Bureau (2015)

204. The overall literacy rate of villagers along NR2W can be as low as 68.5 percent in Houyhoum village to 97.9 percent in Hiepsoum village (Table 3-46). Both villages are in Xay district, Oudomxay province. These two villages, however, differ in terms of ethnic composition. The former is dominated by Khmou, while the latter is dominated by Lao.

Table 3-46 Literacy rate of villagers along NR2W

No.	District/Village	Can read and write?				Total Can Read	Total Pop	Literacy rate
		N/A	Yes, Lao	Yes, other	Not at all			
1	Xay District							
	B. Houyhoum	97	367	0	213	464	677	68.5
	B. konkane	78	490	0	91	568	659	86.2
	B. Namon	120	501	0	200	621	821	75.6
	B. Tuey	85	759	26	39	870	909	95.7
	B. Hiepsoum	132	1219	16	29	1367	1396	97.9
2	Beng District					0	0	
	B. Bangkham	48	414	2	39	464	503	92.2
	B. Bangrouang	101	1026	28	42	1155	1197	96.5
	B. Houaira	93	588	0	108	681	789	86.3
	B. Khonkham	36	222	2	38	260	298	87.2

²³ Data from the Lao Population Census 2015

	B. Kiewsangvan	118	581	7	240	706	946	74.6
	B. Kokngiew	42	356	0	8	398	406	98.0
	B. Nabon	52	383	3	62	438	500	87.6
	B. Nahouai	109	669	1	136	779	915	85.1
	B. Nalai	31	295	18	34	344	378	91.0
	B. Nammate	101	928	6	153	1035	1188	87.1
	B. Namon					0	0	
	B. Napanuea	100	839	0	101	939	1040	90.3
	B. Pangduar	52	384	10	57	446	503	88.7
	B. Pangsom	72	318	0	74	390	464	84.1
	B. Pangthong	24	259	7	23	290	313	92.7
	B. Pheerhouanum	140	527	1	149	668	817	81.8
	B. Phonhkeo	56	521	3	58	580	638	90.9
	B. Phonhsaat	47	428	2	44	477	521	91.6
	B. Phonhsai	174	425	0	272	599	871	68.8
	B. Phonhsi	155	369	1	265	525	790	66.5
	B. Phoukham	52	323	0	72	375	447	83.9
	B. Samkang	80	822	3	54	905	959	94.4
	B. Sienglae	24	216	0	15	240	255	94.1
	B. Somlor	76	566	6	77	648	725	89.4
	B. Thakart	68	566	1	67	635	702	90.5
	B. Thamuen	42	423	1	38	466	504	92.5
	B. Vungva	27	290	0	23	317	340	93.2
	B. Yor	48	515	1	43	564	607	92.9
3	Houn District					0	0	
	B. Bouamlao	58	470	0	59	528	587	89.9
	B. Donkeo	142	835	6	337	983	1320	74.5
	B. Donkham	144	648	0	287	792	1079	73.4
	B. Jontainuea	142	917	28	185	1087	1272	85.5
	B. Langching	106	495	0	159	601	760	79.1
	B. Nahoum	51	497	1	27	549	576	95.3
	B. Nakhong	117	1197	3	103	1317	1420	92.7
	B. Namkhor	97	482	0	133	579	712	81.3
	B. Namoun	107	1486	2	152	1595	1747	91.3
	B. Namyon	329	1260	0	439	1589	2028	78.4
	B. Nanguen	38	355	1	41	394	435	90.6
	B. Naphang	87	682	0	73	769	842	91.3
	B. Nathong	99	306	0	153	405	558	72.6
	B. Navang	368	1500	0	481	1868	2349	79.5
	B. Nongbouadang	219	869	5	234	1093	1327	82.4
	B. Oudom	158	763	0	256	921	1177	78.2
	B. Phane	119	1320	8	161	1447	1608	90.0
	B. Phonesavan	173	1362	19	120	1554	1674	92.8
	B. Phonesavang	200	942	1	396	1143	1539	74.3
	B. Phonesavat	79	651	41	51	771	822	93.8

	B. SibounHouang	634	2368	12	1150	3014	4164	72.4
	B. Vangtang	154	530	0	302	684	986	69.4
	B. Vunglor	54	1343	6	77	1403	1480	94.8
4	Pakbeng District							
	B. Done sa at	184	749	6	321	939	1260	74.5
	B. Houayxaengkham	81	377	6	102	464	566	82.0
	B. Kaengxang	170	974	9	154	1153	1307	88.2
	B. Pak ngeui	61	500	111	58	672	730	92.1
	B. Pakbaeng	208	1544	14	153	1766	1919	92.0
	B. Xaixana	224	1038	2	425	1264	1689	74.8
5	Ngeun District (
	B. Hom xai	70	460	3	55	533	588	90.6
	B. Huay phueng	91	329	0	111	420	531	79.1
	B. Kang	40	324	0	27	364	391	93.1
	B. Khon	124	1159	0	83	1283	1366	93.9
	B. Luang	92	719	0	65	811	876	92.6
	B. Na nhang	80	671	0	48	751	799	94.0
	B. Nam nguen	359	1595	18	249	1972	2221	88.8
	B. Nam thon	78	442	0	68	520	588	88.4
	B. Parkjeng	75	514	1	99	590	689	85.6
	B. Pha daeng	190	654	1	160	845	1005	84.1
	B. Pheir ngam	85	785	3	67	873	940	92.9
	B. Py myy	93	738	13	50	844	894	94.4
	B. Thong	140	1175	5	130	1320	1450	91.0

b) Attainment of secondary education and higher.

205. The education level is an indicator for resilience and ability to adapt to changing circumstances. Natural resource-users with low education levels would have more difficulty in adapting to productivity declines of their resources-based livelihoods, compared to better educated persons who would find it easier to look for work opportunities. Table 3-47 shows that the percentage of the population of the 5 provinces who have completed secondary education or higher is low. Only one province, Xayaboury, has higher percentage of people in this category. If livelihoods of the people in these provinces are affected, just over 11% of the 16+ years old population in Phongsaly may be able to find better livelihood opportunities elsewhere, while approximately 17 % in Luangnamtha and 15% in Oudomxay can do so.

Table 3-47 Attainment of secondary school and higher

Province	Population of 6+ years old	No education	Some education	Complete secondary school and higher
Lao PDR	5,668,318	13.4	64.5	22.1
Phongsaly	152,632	31.2	57.6	11.2
Luangnamtha	152,263	27.6	55.3	17.1
Oudomxay	265,412	22.5	62.5	15.0
Luangprabang	374,229	14.5	65.7	19.8
Xayaboury	338,330	7.1	67.5	25.4

Source: Lao Statistics 2015

3.2.5.4 Educational services and quality

206. According to Table 3-48, most villages in the 5 provinces have a primary school in the village. Nevertheless, not all schools have textbooks. High proportion of the schools teach mixed grades. A lot of the primary schools have half day teaching. Very few villages, however, have a secondary school in the village. This is particularly true for Luangnamtha and Xayaboury.

Table 3-48 Educational services and quality

Province	Village with primary school	Village with secondary school	Percentage of primary school in 2018/2019			
			Number of pupils per teacher	Village with text books	Mixed grades	Half day teaching
Lao PDR	82.9	18.2	30.8	95.3	47.8	20.5
Urban	74.8	29.8	44.0	96.3	10.1	16.2
Rural with road access	83.7	17.8	29.0	94.0	50.1	21.0
Rural without road access	88.5	6.6	27.0	100.0	74.3	22.7
Phongsaly	74.9	20.7	31.1	99.2	65.7	6.6
Luangnamtha	73.3	6.5	19.0	96.0	46.0	40.1
Oudomxay	84.0	27.8	25.6	100.0	37.6	42.4
Luangprabang	83.5	16.9	31.3	93.2	50.9	21.5
Xayaboury	87.7	8.1	22.3	97.9	27.2	49.9

Source: Lao Statistics Bureau (2020).

3.2.5.5 Health

a) Access to health services

207. Of the 5 provinces, Phongsaly has the lowest percentage of population with access to health services in terms of pharmacy, licensed pharmacy and traditional medicines. Only 11.7 % of the Phongsaly population has access to a licensed pharmacy (Table 3-49). The issue of low accessibility to licensed pharmacies is common in all 5 provinces, except for Xayaboury. Luangnamtha and Luangprabang have low percentage of population with access to medical staff/nurse, 14.0% and 18.4% respectively.

Table 3-49 Proportion of population with access to health services by province in the 5 provinces

Province	Proportion of population with health services						
	Pharmacy	Lincensed pharmacy	Medical equipment	Midwife	Tradional medicine	Health volunteer	Medical staff/nurse
Lao PDR	39.2	36.3	42.6	40.7	34.7	31.2	39.3
Phongsaly	15.2	11.7	33.3	30.1	30.6	23.3	45.8
Luangnamtha	28.7	27	24.2	28.2	37.6	14.2	14
Oudomxay	22.8	19.9	58.6	45.8	37.6	50	34.8
Luagprabang	31.9	23.7	42.2	51.8	44.5	24.1	18.4
Xayaboury	48.8	46	49.4	65.1	32.8	26.7	38.5

Source: Lao Statistics Bureau 2020

b) Child malnutrition

208. Child malnutrition or undernutrition is common globally, resulting in both short- and long-term irreversible negative outcomes on health. Child malnutrition may result in stunted growth (possibly linked to cognitive development deficiencies), underweight children and wasting. Low weight-for-height or wasting or thinness in most cases indicates a recent and severe process of weight loss, often associated with acute starvation, severe disease, and/or a result of a chronic unfavorable condition. If there are no food shortages, wasting is usually below 5 %²⁴.

209. Natural resource-users with household members who are already malnourished would likely be more affected if their access to natural resources declined. Water resources, such as fish, other aquatic animals and plants, and river-bank gardens, are an important part of nutritional values of people in the 5 provinces of the project. In rural areas of Laos, a food security study found that wild meat and aquatic resources, especially wild fish were the biggest source of animal protein²⁵. Results of the household survey within the 5km corridor of the Nam Ou and Nam Phak undertaken by IFC and DWR in 2016 show that values of water resources namely, irrigated rice, fish and other aquatic animals range from 15-28 % of the total monetary values of daily consumption. Changes in natural resources, including water resources would directly affect nutrition of the population in the basin.

210. Malnutrition accounts for more than half of child mortality problems worldwide²⁶. Stunted growth is high for almost all 5 provinces, except for Xayaboury, and higher than the national average (33.0 %). Xayaboury and Laungpnamtha have a lower rate of underweight children compared to the national average, while it is still very high in Phongsaly, Oudomxay and Luangprabang (Table 3-50).

²⁴ World Health Organization 2017

²⁵ WFP 2007

²⁶ Ministry of Health, Lao Statistics Bureau and Ministry of Education and Sport 2012

Table 3-50 Child Malnutrition by province

Province	Weight for age		Height for age			Weight for height					
	Underweight		Mean ZScore (SD)	Stunted		Mean ZScore (SD)	Wasted		Overweight		Mean ZScore (SD)
	- 2 SD	- 3 SD		- 2 SD	- 3 SD		- 2 SD	- 3 SD	+ 2 SD	+ 3 SD	
Lao PDR	21.1	4.9	-1.1	33.0	12.7	-1.4	9.0	3.0	3.5	1.5	-0.5
Phongsaly	27.7	9.7	-1.3	54	28.9	-2	8.9	4.5	10	3.2	-0.1
Luangnamtha	19.3	4	-1.1	34.1	9.1	-1.6	3	1.4	1.8	0.6	-0.3
Oudomxay	24.2	5.4	-1.3	42.7	17	-1.7	6.2	1.6	1.7	0.5	-0.4
Luagprabang	25	5.3	-1.3	41.3	16.5	-1.6	8.9	3.2	6.5	3.3	-0.3
Xayaboury	18.5	3	-1.1	25.1	10.9	-0.9	19.1	3.4	5.1	2.5	-0.8

Source: Lao Statistics Bureau et al 2020

3.2.5.6 Community facilities located close to NR2

211. Overall, there are 9 villages in 4 districts of Oudomxay and Xayaboury province with schools, located in between a few meters to more than 100 meters from the NR2W. The most sensitive ones are the high school in Ban Namon, Xay District and Konekham, Beng District, and Vanthang, Houn District, which are less than 10 meters from the NR2W. Attention will also need to be paid to the high school of Ban Kang, and hospital in Sibounheang, which are less than 50 meters from NR2W. Likewise, special attention needs to be given to cemetery areas in Sibounheang and Oudom, Houn District, as well as the temple in Nam Oun, which are less than 50 meters from NR2. Please see Table 3-51 and Table 3-52 for details.

Table 3-51 Educational and health facilities along the NR2W

No	District/Village	School	Distance to NR2W	GPS Location
Xay District, Oudomxay Province				
1.	B. Na Mon	High School	<10	805596.00, 2279304.00
Beng District, Oudomxay Province				
2	Huay La	Beng University	>200m	775629.64, 2246455.32
3	Konekham	High School	<10m	770511.98, 2241910.31
Houn District, Oudomxay Province				
4	Huayy Pha	Secondary School	>150m	760534.46, 2230716.15
5	Vangthang	Secondary school	<10m	759808.42, 2230384.01
6	Sibounheang	Primary School	>100m	744455.98, 2215848.83
		High School	>150m	745432.62, 2216538.00
		Hospital	<50m	744566.33, 2216012.92
	Oudom	Clinic	>50m	736974.42, 2208980.37
Ngeun District, Xayaboury Province				
7	Kang	High School	<50m	720878.00, 2174635.00
8	Bini	Primary School	>100m	721037.80, 2173552.60
9	Loung Mixay	Primary School	>100m	721433.47, 2171091.50

Table 3-52 Cultural Places

No	District/Village	Cultural places	Distance to NR2W	GPS Location
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Houn District, Oudomxay Province				
1	Nagang	Temple	>50m	752541.11, 2225305.23
2	Nam Oun	Temple	<50m	746903.58, 2219564.46
3	Fang	Temple	>50m	746761.11, 2218849.13
4	Sibounheang	Temple	>50m	745115.54, 2216257.84
		Cemetery	<50m	743490.39, 2215529.24
5	Oudom	Cemetery	<50	736236.75, 2208572.50

Note that for villages where no facilities are recorded, either there were none or they are significantly outside of the project's Corridor of Impact (COI)

3.2.5.7 Other social issues

212. Women and girls are more vulnerable to Gender-Based Violence (GBV). According to the 2014 National Survey on Violence Against Women carried out by UNFPA, 15.3% of women and girls aged between 15 and 64 have physical or sexual violence by current or former male partners. 5.3% of women and girls have experienced non-partner sexual violence since the age of 15, either forced intercourse, attempted forced intercourse/unwanted sexual act²⁷. According to the statistic record from five target provinces concerning domestic violence in 2018, Oudomxay province had 212 reported cases, Luang Prabang 74 reported cases, Luang Numtha 62 reported cases, and Xayaboury 26 reported cases²⁸.

213. GBV disproportionately affects women and girls. Violence against women and girls includes domestic and sexual violence, human trafficking and the enforcement of traditional practices, such as forced child marriage. The project is more likely to encounter issues relating to SEA/SH as a result of project activities, though there is the potential for a cumulative impact on GBV and human trafficking as a result of broader expansion of the NR2 corridor. Annex 12 provides more details about GBV.

a) Human-Trafficking

214. Human trafficking is governed by the Anti-Human Trafficking Law (2015). The ministerial level National Steering Committee on Anti-Human Trafficking and the working-level National Secretariat on Anti-Human Trafficking lead anti-trafficking response. To implement the 2016 anti-trafficking law and national action plan, the Prime Minister's 2018 decree on the creation of multi-sectoral anti-trafficking steering committee at the provincial and district levels was issued. All provinces of Laos, including the 5 provinces of northern Laos, have established a committee on Anti-Human Trafficking. The Anti-Trafficking Department (ATD) under the Ministry of Public Security has the authority to identify a trafficking victim. In practice, provincial police, immigration police, village authorities, and the Lao Women's Union (LWU), and NGOs identify victims and may report cases to the ATD. The LWU operates the government's shelter for trafficking victims.

²⁷ UNFPA (2014), Lao National Survey on Women's Health and Life Experience, https://lao.unfpa.org/sites/default/files/pub-pdf/Final_Eng_VAW%20Report.pdf

²⁸ Administrative data on domestic violence (2018) in Oudomxay, Luang Prabang, Luang Numtha and Xayaboury provinces.

215. In Laos, human trafficking is closely linked to rising legal and illegal labor migration. Around 200,000 to 450,000 people were victims of human trafficking annually. Girls aged 12-18 make up approximately 90% of trafficking victims each year²⁹. Women and girls are the majority of victims of human trafficking. Most trafficked women and girls become sex workers, prostitutes, and forced laborers. In recent years, NGOs and Lao authorities have observed an increased risk of trafficking in Special Economic Zone, agriculture plantation, and large-scale infrastructure projects. In many cases, particularly in Northern provinces, poor parents were offered a certain dowry if they married their daughters with Chinese men. Between 2008 and 2018, at least 3,000 Lao girls and women were lured to move to China. Trafficking data for the 5 provinces of the project is limited. However, overall situation documented for the country applies. Laos is a source, but also transit and destination country for trafficked women, children, and men. The main drivers of trafficking include income inequality, increased economic development and lack of resources to control border areas³⁰. Traffickers exploit a large number of Lao women and girls in Thailand in commercial sex and forced labour in domestic service, factories, agriculture, and in some cases exploit those sold as brides in China in sex trafficking or domestic servitude. Traffickers exploit Lao men and boys in forced labour in Thailand's fishing, construction, and agricultural industries. Some local officials reportedly contribute to trafficking vulnerabilities by accepting payments to facilitate the immigration of girls to China³¹.

216. Some victims migrate with the assistance of legal or illegal brokers charging fees, while others move independently through Laos' 101 official border crossings using valid travel documents. Many of these border crossing points are managed by provincial or district level immigration authorities with less formal training and have more limited hours of operation, making them easier transit points for traffickers to facilitate the movement of Lao victims into neighboring countries. Vehicle drivers sometimes intercept migrants returning to Laos and facilitate their re-trafficking. Traffickers in rural areas often lure acquaintances and relatives with false promises of legitimate work opportunities or promises of marriage in neighboring countries and then subject them to sex or labour trafficking. These forms of human-trafficking were confirmed by local consultations during 29 November-3 December 2021. Minor from poor, rural areas are especially vulnerable. Students often have little incentive to continue their education, especially given the legal work age of 14 and the lure of higher wage abroad. NGOs estimate 13,000 individuals are in prostitution in Lao commercial establishments and are potentially vulnerable to sex trafficking,

²⁹ Sengsavang. (n.d.). Human Trafficking in Laos. Retrieved from Human Trafficking in Laos: <https://sengsavang.org/en/human-trafficking-in-laos/>

³⁰ Open Development Lao. 2018. Human Trafficking. Webpage: [Human trafficking | Open Development Laos \(opendevelopmentmekong.net\)](https://opendevelopmentmekong.net/). Accessed: Sept 2021.

³¹ U.S Department of State 2020.

with as many as three times that figure operating independently throughout the country³².

217. However, interviews conducted with police officers at the border checking points at Pang Hoc, Lao-Vietnam Border, and Meung Ngeun, Lao-Thai Border, suggested that trafficking has not been detected historically at these border crossings. When asked if any specific procedure/legislation exist in detecting and dealing with human-trafficking, the officers reported that to the best of their knowledge, there is no specific legislation, but relevant laws, implying the Anti-Human Trafficking Law. A training of local officials on Anti-Human Trafficking would be beneficial outcome to reduce trafficking. However, experience in various provinces with human trafficking was raised by participants during consultations for project preparation in December 2021.

218. The project has an opportunity to positively contribute to the government's efforts to tackle human trafficking and GBV issues, in particular through improved stakeholder engagement, the availability of the grievance redress mechanism as well as strengthened border crossing facilities which may minimize the potential for trafficking of persons. This should be explored at more length in the full ESIA. Also, results of local consultations during 29 November-3 December 2021 indicated that there is a need for technical and financial support for awareness raising activities at district and village levels. Content of the awareness raising would include not just legal aspects but also forms of trafficking such as marriage and employment opportunities. This is discussed more at length in Annex 12.

b) Domestic violence and rape

219. Table 3-53 presents reported domestic violence and rape cases in the 5 provinces of the project. Note, however, there are numerous domestic violence and raped cases which are not reported. Violence against women is prevalent and underreported in Lao PDR, only one in five female respondents (victims) notified the authorities, and only 3 percent and 4 percent respectively reached out to health services and the police. The majority (43.2 percent) of the victims were afraid to tell anyone about being abused, they usually did not report the violent incident to anyone or to any organization because they are either ashamed or are afraid of the potential social stigma³³. It is recommended that the ESIA need to determine in more detail potential project risks through women only focused-group discussions led by women in targeted project villates/areas with the assistance from the Lao Womens Union (LWU). It will also be important for the ESIA to distinguish between the potential for SEA/SH and domestic violence and/or other forms of GBV, as a result of project activities. (see Annex 12 on SEA/SH Action Plan)

³² U.S Department of State 2020.

³³ Lao PDR GBV Institutional Mapping Report, 2020

Table 3-53 Number of Cases of Gender-based violence by province in 2018

Gender-based violence	Phongsaly	Luangnamtha	Oudomxay	Luangprabang	Xayaboury
Domestic violence	74	62	212	107	26
Raped	2	3	26	10	4

Source: Phongsaly Statistics Center (2020), Luangnamtha Statistics Center (2020), Oudomxay Statistics Center (2020), Luangprabang Statistics Center (2020), Xayaboury Statistics Center (2020).

3.2.5.8 Road accidents

220. Road accidents occur with all type of profession, but ordinary people and students altogether account for most of the people involved in road accidents in the 5 provinces (Table 3-54). Students account for more than 10 percent of the total cases in each province.

Table 3-54 Road accidents by sectors in 2020

Province	Total, cases	Sectors involved in accidents, %						
		Officer	Soldier	Police	People	Worker	Student	Foreigner
Phongsaly	406	17.0	0.2	0.2	46.3	9.1	11.8	15.3
Luangnamtha	625	17.8	2.9	1.9	41.0	12.2	17.9	6.4
Oudomxay	618	14.1	7.1	0.5	51.5	9.2	13.1	4.5
Luangprabang	1,295	9.3	1.8	0.7	38.8	24.6	19.4	5.5
Sayaboury	882	6.9	6.6	2.3	57.9	8.5	16.6	1.2

Source: Statistical Yearbook (2020).

3.2.5.9 Substance abuses

222. Cases of substance abuses are similar in almost all 5 provinces, except for Luangnamtha (Table 3-55) Likewise, substance traders are reported to be least in Luangnamtha.

Table 3-55 Substance abuses, cases

Province	Substance abuses, person	Substance traders, persons
Phongsaly	1,533	183
Luangnamtha	790	89
Oudomxay	1,468	286
Luangprabang	1,585	288
Xayaboury	1,436	144

Source: Phongsaly Statistics Center (2020), Luangnamtha Statistics Center (2020), Oudomxay Statistics Center (2020), Luangprabang Statistics Center (2020), Xayaboury Statistics Center (2020).

3.2.5.10 Development projects

223. Table 3-56 shows that more than half of the total villages in Oudomxay, Luangprabang and Xayaboury have at least one development project being implemented in the village in 2018. This is 30.1% and 45.0% in Phongsaly and

Luangnamtha, respectively. Villages with projects in education account for the highest percentage in all provinces. Except for Phongsaly, this is followed by public health, water and sanitation and cropping projects. The percentage of villages with projects in public works and transport is also high in Xayaboury and Oudomxay.

Table 3-56: Villages with development projects by province in 2018

Development projects	Phongsaly		Luangnamtha		Oudomxay		Luangprabang		Xayaboury	
	%	Number	%	Number	%	Number	%	Number	%	Number
At least one project in the village	30.1	156	45.0	165	64.2	303	62.7	474	60.1	259
Cropping	15.4	80	23.4	86	24.8	117	15.3	116	24.1	104
Irrigation	4.2	22	6.5	24	15.9	75	4.2	332	15.5	67
Forestry	2.5	11	10.1	37	8.5	40	6.1	46	19.3	83
Trade	1.5	8	2.7	10	2.3	11	3.8	29	13.0	56
Public works and transport	6.2	32	8.2	30	14.0	66	7.3	55	22.0	95
Handicraft	2.1	11	6.0	22	5.1	24	7.5	57	13.0	56
Education	18.3	95	38.4	141	52.8	249	42.3	320	43.2	186
Public health	13.1	68	33.2	122	48.1	227	43.9	332	46.9	202
Water and sanitation	13.1	68	28.6	105	37.3	176	23.8	180	45.7	197
Others	1.9	10	9.3	34	12.5	59	4.0	30	16.2	70

Source: Phongsaly Statistics Center (2020), Luangnamtha Statistics Center (2020), Oudomxay Statistics Center (2020), Luangprabang Statistics Center (2020), Xayaboury Statistics Center (2020).

3.2.6 Division of labour

224. A gender-based division of labour is linked to (women's) economic and social well-being and status in a community. It may influence the nature, content, or exercise of men and women's respective rights, as well as their demands for justice³⁴.

225. In general, in Laos, across all ethnic groups, men perform tasks that are considered heavy, dangerous, solitary, done at night or that require short bursts of energy. Such activities include clearing the land for swidden cultivation, warfare, preparing agricultural tools, hunting, trapping, and fishing, as well as organising religious ceremonies, giving alms, organising weddings, constructing a house, and - as noted above - governing the household, family or village.

226. Women carry out most domestic chores and provide much other labour input; ranging from collecting firewood and water to production activities that can be done simultaneously with childcare, which require longer periods of time and usually done in groups of two or more. Such activities include clothes production, cooking, taking care of children, washing clothes, and feeding domestic livestock. Sons are generally given more opportunities and rights compared to daughters, including for education and social involvement, in part due to the demands upon girls' - and women's - time because of their workload.

227. Women shoulder a much greater burden of labour than men, but higher social and economic value is attached to men's work than to women's. These two factors create and entrench gender inequality because the division of labour is not based on

³⁴ The Law Research and International Cooperation Institute, Ministry of Justice (2011)

being “different but equal”. Rather, it systemically elevates and privileges men’s roles: endowing men with economic and social power, while concurrently devaluing women’s roles. Thus, men and women operate on an uneven playing field, where access to power, resources, and opportunities are not balanced. Women may not be actively involved in the consultations process and that the project knowing this, will ensure the Stakeholder Engagement Plan (SEP) works out ways to ensure active participation and involvement by women.

3.2.7 COVID19 Situations in Lao PDR

228. As of 05 November 2021, Lao PDR has reported 45,980 confirmed cases with 81 deaths. About 2,776,646 are fully vaccinated or 39% of the population.

229. The Ministry of Health (MOH) maintains that Lao PDR is at high risk, given the proximity and links with countries heavily affected by COVID-19, and the limited response capacity to a widespread outbreak, including community transmission. The continuous lockdown in the country and closing of the border has negatively impacted the economy.

4 POTENTIAL E&S RISKS AND IMPACTS, AND MITIGATION MEASURES

230. Risks and impacts are broken down into positive, direct, indirect, downstream, cumulative and trans-boundary impacts. The full ESIA should further assess these potential risks and impacts as well as explore whether project alternatives, including no-project options, are suitable.

a) Positive risks/impacts

231. The ESMF investigations have identified that the Project has the potential to result in a variety of benefits for local communities and the national economy, however, there will be environmental and social impacts and risks that will need to be effectively managed to ensure that the Project is delivered and operated successfully.

232. Being an integral part of a regional and international transport corridor, the NR2 Project will contribute to key strategic transport priorities for the region and help meet the objectives of regional integration, socio-economic development and investment in transportation infrastructure outlined in key national policies. The Project is expected to provide a range of direct and indirect benefits at the national, regional and local levels. Direct benefits include: government revenue through fees and taxes, increased foreign direct investment in the country and new employment opportunities. The project has the potential to increase the movement of goods, thereby increasing the incomes and livelihoods of farmers and the production of crops etc. Also the benefit of connectivity with Thailand and Vietnam will increase eco-tourism, value chains and improvement of road connectivity between the railway corridor to agriculture production areas and tourism sites.

233. Indirect benefits include flow on effects, training / skills development and infrastructure development. For road users, the Project will significantly reduce

transit times and is expected to help to improve community safety and reduce road traffic accidents in the region through the provision of a dedicated roadway which isolates vehicle traffic from pedestrians and non-motorised vehicles.

234. While some impacts, particularly on land, assets, water quality and environment will not be able to be avoided due to the widening of 1m on either side of NR2W and associated construction activities, impacts can be minimized and potential benefits maximised through appropriate management and mitigation to be developed in detail during the full ESIA phase. If mitigation and management measures identified in the ESMP, Resettlement Action Plan and other relevant management plans need to be developed and implemented diligently and successfully, the Project is expected to deliver a net socio-economic benefit to Lao PDR and the GMS countries region as a whole without significantly compromising the key environmental values of the surrounding environment. Ongoing consultation with the Government of Lao PDR's line agencies, regional communities and other stakeholders will be important to ensure stakeholder interests continue to be taken into account in the planning and development of the Project.

235. It is important to mention that with the support from the European Investment Bank (EIB), MPWT will conduct a full feasibility study (FS) and a full Environmental and Social Impact Assessment (ESIA) for the entire NR2 corridor (both NR2 East and NR2 West) and the related local/feeder roads. The studies are expected to commence in early 2022 with conceptual design expected to be completed by December 2022. The EIB-funded ESIA will contribute to site-specific assessments once the sites are selected and will use this ESMF as guidance. Discussions with EIB and other potential development partners have been conducted by the World Bank about the possibility of harmonization between the WB and EIB on Environmental and Social approaches (i.e the EIB following the WB requirements for NR2 E), as distinct from a common approach.

236. While World Bank financing will be used for upgrading NR2 West, the Government of Laos (GoL) is expected to use EIB funding to finance road upgrade works on NR2 East. These road sections are separated from each other by the provincial town of Oudomxay. As such, the EIB investment will not be treated as an associated facility to the World Bank project as defined under paragraph 11 of ESS1, as the road upgrade investments planned under the EIB funded section of NR2 will not be necessary for the WB project to be viable. Also, the EIB section is not reliant on the WB project for its viability, as the overall functioning of the road network is not critically affected if one of these investments does not go ahead. During implementation, the harmonization of the WB and EIB E&S risk management requirements across the investments will be undertaken in order to leverage the EIB financed E&S work, to minimize the risk of social conflict arising from different mitigation measures being applied in different districts along the corridor. The detailed technical designs of the road works will only be available during project implementation.

237. The ESIA and ESMP should include inter alia the contents included in ESS1 – Annex 1. Environmental and Social Assessment of the WB’s ESF (“D. Indicative outline of ESIA” and “E. Indicative Outline of ESMP”) which are available on WB’s website³⁵ and EIB’s website. In preparing the ESIA, the Consultant shall carefully review E&S requirements of the GOL, WB ESF and EIB E&S policies and prepare ESIA that comply with requirements of GOL and donors in a streamline manner to avoid unnecessary repetition.

b) Summary of direct, indirect, downstream, cumulative and transboundary risks/impacts

238. The SEARECC project covers a number of activities, including NR2W, feeder roads, Border Crossing Facilities, Consolidation Facilities, and Dry Port and agricultural activities TA. Some impacts shall be shared by some or all activities, while others shall be specific to specific activities. Based on this, this section is broken down into two main sub-sections: impacts and mitigation measures shared by all activities and impacts/mitigation measures specific to specific activity.

239. Direct impacts and risks related to road construction: slope stability in landslide prone area; air quality and community health due to emission of dust and burning of waste at the project sites; exhaust from engines of earth moving equipment; erosion; wastes generated during earth movement and construction; community safety related to traffic during construction; health and safety of the workers; impacts on river ecology of Nam Beng River, and natural habitats along the ROW due to road widening and construction facilities (e.g. workers accommodation and laydown area) that may need land clearing.

240. Direct impacts and risks related to building construction/rehabilitation -e.g. Border Crossing Facility (BCF): dust, noise, handling and disposal of asbestos-contaminating materials (ACM) which maybe relevant if it involves demolition of existing building, health and safety of workers, and key biodiversity area (KBA) nearby Vietnam border crossing facility.

241. Indirect impacts that may be potentially amplified following road upgrading and the increased connectivity among Lao PDR, Thailand and Vietnam: illegal trades of timber and wildlife products³⁶ from nearby forests/protected areas, community road safety risks, increased risk of human trafficking and incremental impacts on environmental characteristics due to works conducted outside the project area. Downstream impacts arising from TA type of activities which may not result in any direct environmental risks and impacts but could have downstream environmental implications (e.g. impact on water quality from extensive use of agrochemicals due to improved agricultural trade, accelerated change of land use from remaining forests to agricultural lands).

³⁵<https://www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-standards?qck=1522164538151#ess1>

³⁶ <https://wwf.panda.org/?284190/Lao-PDR-Vietnam-Cooperate-Combating-Illegal-Timber-Wildlife-Trade-Across-Borders>

242. Main expected environmental risks and impacts anticipated for this project are:

- Sediment and erosion;
- Water quality;
- Dust, noise, and vibration;
- Disposal of hazardous materials and wastes;
- Domestic solid wastes;
- Potential impacts on flora and fauna;
- Potential impacts on protected forests and biodiversity;
- UXO risks;
- Climate change.

243. Main social risks and impacts anticipated for this project are:

- Land acquisition, economic displacement and possible loss of access to properties;
- Risk for vulnerable groups if they are physically or economically displaced by the project;
- The main risks relating to labour and working conditions in the project are: i) unequal payment for the same job for female and male workers; ii) discrimination of women and/or vulnerable groups; iii) payment for unskilled workers below the minimum wage³⁷ of KIP 1,100,000 as per GOL mandated minimum wage ; iv) inadequate working facilities for workers including housing for government staff at the border posts, in particular lack of sanitation facilities for women; v) risks of child labor or indentured labour, especially in the supply chain. (vi) labour related disputes, (iv) SEA/SH and VAC, and (vii) occupational health and safety or OHS related issues such as inadequate personal protective equipment (PPE) and unsafe handling and disposal of asbestos containing material (ACM) at building renovation/demolition sites.
- Road safety and increase of heavy traffic (especially international long haul trucks) during project operation but also related risks during construction;
- Temporary labour influx of workers, which might increase the risk of substance abuse;
- Increased risk of SEA/SH from workers (including in training/TA activities) and their proximity to vulnerable groups, as well as opening up of the corridor;
- Increased risk of human trafficking from corridor connectivity;

³⁷ The minimum wage in Lao PDR is a single rate applicable to all employees, and does not differ based on region, skill level, or employer characteristics.

- Impacts to ethnic groups due to their likely presence in the project area;
- Impacts to cultural and spiritual spaces;
- Risks of exclusion of ethnic or vulnerable farmers from the benefits of the agricultural programs;
- Risk of COVID19 transmission; and
- Risks in the supply chain (such as underage or forced labour)

4.1 Risks, Impacts and mitigation measures shared by all activities

244. Table 4-1 presents main risks/impacts and potential mitigation measures that should be used as guide to prepare site specific environmental and social management plans (See next section). Screening of the type of temporary and permanent risks/impacts listed in ANNEX 2 will need to be conducted once locations of sub-projects are known to see which apply, and to appropriately assess the extent of impacts and determine the most appropriate mitigation measures (the suggested ones, or additional ones). This process is discussed in Section 5 of this report.

Table 4-1 : Potential Adverse Environment and Social Risks and Impacts and Mitigation Measures

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
Environmental and Social Impacts and Risks and Mitigation Measures					
Assessment and management of social risk and impacts	All components	<ul style="list-style-type: none"> • Specific social risks not identified during site studies and planning. • Risk of exacerbating gender inequality if women's rights to compensation are not systematically protected, for example through land certificates with husband name. • Risk of insufficient public information and awareness among the project's beneficiaries. 	<ul style="list-style-type: none"> • Undertake data collection, using the screening form (see ANNEX 2: Environment & Social Screening and Scoping). • Undertake site-specific ESIA • Undertake awareness raising at the village level. Awareness will include benefits, risks, relevant legislation without cost, etc. • Provide public consultations during project preparation and construction phase, training to the Village Mediation Committee on the Grievance Redress Mechanism (GRM) as well as dissemination of information on the GRM available to affected peoples; and • Project to assign environmental and social teams at PTRI, guiding, advising, and supporting the teams working on the grounds in the implementation of the 	ESS1	MPWT, PTRI, DPWTs/ESMWGs, DDiS ³⁸ and Contractor during Details Design, Pre-construction and Construction Phases

³⁸ MPWT= Ministry of Public Works and Transport
 PTRI: Public Works and Transport Research Institute
 DPWTs: Department of Public Works and Transport in the Project Provinces
 ESMWG= Environment and Social Monitoring Working Groups the Project Provinces
 DDiS: Detailed Design Implementation and Supervision (Consultants)

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
		<ul style="list-style-type: none"> Weak system of grievance redress mechanism. 	<p>environmental and social mitigation measures. The qualified E&S risk management consultants, who will lead E&S screening and planning, monitor implementation and report systematically.</p> <ul style="list-style-type: none"> Implement the project's SEP 		
Environmental Impacts and Risks and Mitigation Measures					
Tree cutting, quarry and borrow pit	NR2W, Feeder Roads, BCFs, and Consolidation Facilities	<ul style="list-style-type: none"> Sites may be needed to extract gravel and other construction materials, which may cause erosion, pollution and issues with air and water quality. Loss of natural habitats Land acquisition 	<ul style="list-style-type: none"> Tree cannot be cut without approval from CFC/FE. The Contractor will use a quarry of materials according to the regulations and compensate by planting of trees in case of deforestation or tree felling. Sourcing of quarry and borrow materials from existing licensed sites shall be preferred over establishment of new sites as much as possible. Quarries and borrow pits shall not be established in national, provincial, district protected forests, productive land and others ecologically sensitive and protected areas. In case the Project will involve new quarry/borrow sites/spoil disposal sites, environmental assessment and approvals will be needed. Such sites shall be located over 500 m away from residential, school, hospital and other sensitive receptors. 	ESS 1, 3 and 4	MPWT, PTRI, DPWTs/ ESMWGs, DDIS and Contractor during Details Design, Pre-construction and Construction Phases

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<ul style="list-style-type: none"> • Prior to extraction, topsoil (about 15 cm) shall be stockpiled, preserved and then refilled after completion of quarry/borrow pit operation for rehabilitation purposes after excavation is over. • Dust control during excavation and transport (i.e. water spraying on access roads and provision of truck cover) shall be undertaken in areas where there are sensitive receptors such as residential areas, school, hospital, etc. • Long-term material stockpiles shall be covered to prevent wind erosion. • During quarry and borrow site operation, provide adequate drainage to avoid accumulation of stagnant water. • The use of river bed sources (e.g. sand & gravel dredging) shall be avoided, as much as possible. However, if this is unavoidable, the contractor shall minimize use and avoid small rivers and streams. Alluvial terraces or alluvial deposits which lie on the river beds but not covered by water in normal hydrological conditions shall be preferred. Extraction of these materials if necessary, shall have prior approval from local authorities. 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<ul style="list-style-type: none"> • Confine quarrying of river bed materials to less than 20% of river width in any location and keep away from river banks. Extraction of materials shall have prior approval from relevant authorities. • Protect and reinstate river banks if unexpected erosion occurs. • Quarry and borrow sites must be selected amongst those offering the highest ratio between extractive capacity (both in terms of quality and quantity) and loss of natural state. • Quarry and borrow sites lying close to the alignment, with a high level of accessibility and with a low hill gradient, are preferred. • Upon completion of extraction activities, recontour borrow/quarry pit wall or fill-up when there are available and suitable materials such as excavation spoils, replace topsoil, and re-vegetate with native species such as grasses and fast-growing shrubs and trees. • Upon completion of extraction activities, borrow pits shall be dewatered and fences shall be installed, as appropriate, to minimize health and safety risks. • In quarries located in mountainous or hilly 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>areas, or wherever slopes are important, terraces shall be cut after extraction, and drainage system and vegetation cover shall be provided for rehabilitation to enhance slope stability.</p> <ul style="list-style-type: none"> • Implement compensatory planting (at least one to one ratio) if trees will have to be removed at quarry and borrow sites. • Borrow pits will be left in a tidy state with stable side slopes and proper drainage in order to minimize soil erosion, siltation of nearby bodies of water and to avoid creation of water bodies favorable for mosquito breeding. • To avoid or prevent people from drowning when pits become water-filled, measures such as fencing, providing flotation devices such as a buoy tied to a rope, safety signs, etc. shall be implemented. • It is possible that villagers may request borrow pits to be left excavated so that they may be used as water reservoirs or fishponds. If this were to be agreed between the contractors and the villagers, all the full safety measures detailed above must be observed. Such agreements would be formalized in writing between the 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>contractors and the villagers after full discussion with all concerned parties.</p> <ul style="list-style-type: none"> • If landowners are affected by use of their areas for stockpiles or borrow pits, they must be included in the project resettlement plan and proper agreement and record will be secured. • If access/rescue roads are needed, actions to mitigate all negative impacts described in this ESMF and future ESMPs will also be applied. The alignment for each of these roads must be clearly determined with its impacts and mitigation measures. • Quarry Management Plan will be prepared and implemented by contractors. 		
Sediment and Erosion	NR2W, Feeder Roads, BCFs, and Consolidation Facilities	During earth works, there could be possible significant erosion and run-off to water bodies. This would be particularly relevant near river banks and/or other water bodies.	<ul style="list-style-type: none"> • On hill slopes and other potentially erodible places along the roadside, appropriate native vegetation that retards erosion should be planted. • As much as possible, construction activities in hilly areas should to be undertaken during the dry season only. • Road embankments and slopes should be monitored during construction for signs of erosion, vegetative cover should be provided on slopes by planting native 	ESS 1	MPWT, PTRI, DPWTs/ ESMWGs, DDIS and Contractor during Details Design, Pre-construction and Construction Phases

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>grass and creepers on erosion prone sections.</p> <ul style="list-style-type: none"> • Long-term material stockpiles should be covered with native species of grass or other suitable materials to prevent wind erosion. • Appropriate erosion control and stabilizing measures should be used such as benching, geotextiles, mats, fiber rolls, soil binders, etc. that are not toxic to the environment, or vegetation measures/temporary landscaping in disturbed areas and on graded slopes. 		
Water quality and Downstream	NR2W, Feeder Roads, BCFs, and Consolidation Facilities TA	<ul style="list-style-type: none"> • Contractor campsites, bridge works, stockpiling of construction materials and spoils, use of hazardous materials and earthworks if not properly managed are likely to cause deterioration of surface water quality, flooding and 	<p>The Contractor must take all the efforts to prevent wastes (solid and liquid) discharge into all rivers and to protect surface and groundwater from pollution and other adverse impacts including changes to water levels, flows and general water quality. Discharge of engine oil and oily waste from dredgers and construction machines to the rivers will be strictly prohibited. Engine oil, used oil, and other toxic substances and hazardous wastes must be properly collected, stored, treated, and/or disposed-off. Key measures are as follows:</p> <ul style="list-style-type: none"> • Used oil/engine oil: The oil container at the construction site (especially when the site is located less than 10 meters from the 	ESS 1, 3, 4	MPWT, PTRI, DPWTs/ ESMWGs, DDIS and Contractor during Details Design, Pre-construction, Construction Phases and Operation

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
		<p>flow obstruction of watercourses.</p> <ul style="list-style-type: none"> • Paving / asphaltting in weather; road maintenance works conducted without using proper staging techniques to reduce spillage of paving materials 	<p>waterways) must be of sufficient strength to ensure to prevent leakage. The container must be situated within a secondary containment system (bund), which will prevent the release of any leaked oil. The Contractor must make provisions to ensure that all hazardous substances including oil drums or containers on site are properly labeled and properly stored and that no oil or other contaminants are allowed to reach water courses or groundwater.</p> <ul style="list-style-type: none"> • Wastewater from sites: Whenever possible, the Contractor must minimize the amounts of wastewater that need to be discharged and find alternative means of disposal. The Contractor will ensure that any seepage and wastewater arising from the works and camp sites must be collected and discharged via a settlement tank. The standards for wastewater treatment prior to discharge must be agreed in advance with the ESA. Contaminated water or water of an uncertain quality must be discharged into sewers by tankers or other approved means of disposal. 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<ul style="list-style-type: none"> • Drainage. Water drainage must be designed to avoid stagnant conditions that could create bad smell and unsanitary condition. The Contractor must agree with the ESA in advance, details of the methodology to be employed, prior to commencement of the construction. Particular attention must be given to regular pest control treatment (particularly rats and flies); removal of sludge and other debris after drainage; reducing smell nuisance from sludge and algae by measures including deodorizing, hosing down etc. • Spoils, construction wastes and construction materials stockpile area shall be located away from water bodies and under no circumstances will these materials be dumped into watercourses. • Do not fill up canals and creeks at the construction site. In case filling of local drainage system is necessary, consultation with local authorities shall be undertaken and their permission obtained beforehand. An alternative drainage shall be established before the existing canal is filled-up. 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<ul style="list-style-type: none"> • Slope stabilization measures (e.g., planting of fast growing native species of grass and shrubs, etc.) shall be implemented on exposed surfaces along river embankments to reduce material wash-away. • Construct retaining structures such as gabion baskets, rip-rap, etc. for riverbank protection. • Obtain required permits indicating water sources and permissible volumes • Through engagement with local communities, ensure that local water users • Design of BCFs, Dry Port, and Consolidation Facilities shall be equipped with proper and sufficient sanitation facilities, including water supply for hand washing. • Monitoring water quality. • Limit asphaltting / concreting works to dry weather / season; use of staging techniques prior to maintenance works (e.g. covering from drain inlets; use of drip pans and absorbent materials on paving machines) 		
Dust, noise, and vibration.	NR2W, Feeder Roads, BCFs,	<ul style="list-style-type: none"> • As a result of construction works 	The Contractor must make efforts to control dust, noise, and vibration levels from the site, as far as is reasonably practicable.	ESS 1.3.4	MPWT, PTRI, DPWTs/ESMWGs,

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
	and Consolidation Facilities		<p>Excessive noise/vibration generation activities must be in accordance with GOL standards. For critical areas, the Contractor may be required to conduct noise measurement in close consultation with the local residents and establish appropriate measures to control and manage noise level.</p> <p>Measures for reducing dust and other air pollution, noise, and vibration are provided as follows:</p> <ul style="list-style-type: none"> • Inform the residents: Prior to commencement of work at any site, the Contractor will be required to inform the local authority and residents regarding the construction plan and potential noise and vibration that may occur from the construction activities, including measures to reduce noise and vibration. • The Contractor will ensure that no burning of waste materials on site; adequate water supply is available on site; dry sweeping of large areas is not allowed; • Cover all trucks carrying loose or potentially dusty materials (soil, mud, etc.) to and from construction site; • Water or sprinkle the construction areas periodically, especially at site located near residential area; avoid overloaded of trucks; routinely clean public roads and 		DDIS and Contractor during Pre-construction Construction Phases and Operation

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>access routes;</p> <ul style="list-style-type: none"> • Ensure vehicles working on site have exhausts positioned such that the risk of re-suspension of ground dust is minimized (exhausts should preferably point upwards), where reasonably practicable; • Control driving speed on un-surfaced haul routes and work areas; • Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery; • Mix large quantities of cement, grouts and other similar materials in designated areas; • Store materials with the potential to produce dust away from site boundaries where reasonably practicable; • Minimize the amount of excavated material held on site; • Sheet, seal or damp down unavoidable stockpiles of excavated material held on site, where required; • Seal or re-vegetate completed earthworks as soon as reasonably practicable after completion. 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<ul style="list-style-type: none"> • Care must be undertaken during the transportation of construction materials to and from the construction site; the spoil must be covered at all time. • Fly-tipping will not be permitted. Loads must only be deposited at designated sites. • The Contractor will be responsible for all the trucks delivering to, or exiting from, a worksite and will clean up all damage that may occur to public road and other public facilities. • Care should be taken when loading or unloading vehicles or dismantling scaffolding or moving materials to reduce impact noise. • Loading or unloading bays may have to be housed in suitable acoustic enclosures. • Noisy plant or equipment including will be sited as far away as is practicable from noise sensitive buildings. The use of barriers, (e.g. soil mounds), site huts, acoustic sheds or partitions to deflect noise away from noise sensitive areas should be employed wherever practicable. • The Contractor will be obliged to comply with the vibration levels according to GOL 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			standards. Due attention will be given to minimize human exposure (1 Hz to 80 Hz) and protection of damage to nearby structures.		
Disposal of Hazardous Materials	NR2W, Feeder Roads, BCFs, and Consolidation Facilities	<ul style="list-style-type: none"> • Preconstruction and construction activities may generate large amount of construction wastes including those generating from resurfacing and excavation of soil, old road surface and/or concrete structure and other surplus materials (oily wastes, miscellaneous woods, steel, etc.). • Pollution and safety risks due to use of hazardous materials and disposal of hazardous wastes 	<ul style="list-style-type: none"> • The Contractor will prepare and implement a plan to reduce the generation of these wastes. When possible, these wastes should be properly reused and/or recycle. • Bags and other solid wastes will be collected for recycling while appropriate arrangement will be made if a temporary disposal area will be required. Appropriate final disposal sites must be identified and implemented in discussion with local authorities. • Store fuel and hazardous substances and wastes on bunded paved area with roof and interceptor traps so that accidental spills do not contaminate the environment. If spills or leaks do occur, undertake immediate clean up. • Develop and implement Emergency spill procedures by contractors. • Train relevant construction personnel in handling of fuels and other hazardous substances as well as spill control and 	ESS 1, 3 and 4	MPWT, PTRI, DPWTs/ESMWGs, DDIS and Contractor during Pre-construction, Construction and Operation Phases

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>cleanup procedures.</p> <ul style="list-style-type: none"> • Ensure availability of spill clean-up materials (i.e. absorbent pads, etc.) specifically designed for petroleum products and other hazardous substances where such materials are being stored. • Segregate hazardous wastes (oily wastes, used batteries, fuel drums) and ensure that storage, transport and disposal shall not cause pollution and shall be undertaken consistent with national and local regulations. • Store waste oil, lubricant and other hazardous materials and wastes in tightly sealed containers to avoid contamination of soil and water resources. • Ensure all storage containers of hazardous substances and wastes are in good condition with proper labelling. • Regularly check containers for leakage and undertake necessary repair or replacement. • Store hazardous materials above flood level. • Storage areas for fuel, oil, lubricant, bitumen and other hazardous substance will be located at least 100 m away from 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>any watercourses.</p> <ul style="list-style-type: none"> • Storage, transport and disposal of hazardous wastes, including spill wastes, shall be consistent with national and local regulations. • Wherever possible, refuelling will be carried out at a fuel storage area. • Refuelling shall not be permitted within or adjacent to watercourses. • Where significant amount of oily wastewater or spill/leakage of oil and grease may occur (i.e. equipment maintenance areas), drainage leading to an oil- water separator shall be provided for treatment of wastewater. The oil-water separator shall be regularly skimmed of oil and maintained to ensure efficiency. • Vehicle maintenance and refuelling will be confined to designated areas in construction sites designed to contain spilled lubricants and fuel. • Bitumen shall not be allowed to enter either running or dry streambeds and nor will be disposed of in ditches or small waste disposal sites prepared by the contractor. • Bitumen storage and mixing areas as well 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>as storage areas for other petroleum products used in the preparation of the bitumen mixture shall be protected against spills and all contaminated soil must be properly handled according to national and local regulations. As a minimum, these areas must be provided with concrete flooring and surrounded by an embankment to readily contain and clean-up spills.</p> <ul style="list-style-type: none"> • Adequate precaution will be taken to prevent oil/lubricant/hydrocarbon contamination of channel beds. Spillage if any will be immediately cleared with utmost caution to leave no traces. • All areas intended for storage of hazardous materials will be quarantined and provided with adequate facilities (i.e. firefighting equipment, sorbent pads, etc.) to combat emergency situations complying with all the applicable statutory stipulation. 		
Domestic solid wastes	NR2W, Feeder Roads, BCFs, and Consolidation Facilities	<ul style="list-style-type: none"> • Various construction activities and operation of workers camps will generate solid 	<ul style="list-style-type: none"> • The Contractor must carry out appropriate measures for waste collection and treatment. The domestic wastes will be collected in plastic or wooden bins with lids placed in convenient places and in worker canteens. 	ESS 1,3,4	MPWT, PTRI, DPWTs/ ESMWGs, DDIS and Contractor during Pre-construction,

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
		<p>wastes. Poor waste management could cause odour and vermin problems, pollution and flow obstruction of nearby watercourses and could negatively impact the landscape.</p>	<ul style="list-style-type: none"> • Generation of these wastes (food wastes and garbage including plastic) will be minimized and/or reused when possible. • Periodically, at appropriate time, transport those bins to the disposal sites (the sites should be approved by local authorities). • The Contractor must sign a contract with the Urban Environmental and Construction Company to collect and treat these wastes during construction. • In case the wastes cannot be transported to the dumping site (for example, due to lack of appropriate transport route), wastes must be buried at temporary dumps in the project area in a sanitary way – a waste layer covered by a layer of soil, and when the dump is filled, it is covered by a soil layer about 50 cm thick. • Temporary dump sites must be located at least 500 m away from residential areas, 200 m away from work camps and surface water sources, and not in the prevalent wind direction of the area. • Upon completion of works, cover the entire temporary dumps with soil, ensure land, and landscape restoration for the subproject area. 		<p>Construction and Operation Phases</p>

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<ul style="list-style-type: none"> Wastewater effluents from contractors' workshops and equipment washing-yards will be passed through gravel/sand beds and all oil/grease contaminants will be removed before wastewater is discharged. Oil and grease residues shall be stored in tightly covered drums. Such wastes shall be disposed consistent with national and local regulations. 		
Materials Management	NR2W, Feeder Roads, BCFs, and Consolidation Facilities Purchasing of materials/ equipment	<ul style="list-style-type: none"> Poorly planned and unsupervised dumping of spoils can affect biodiversity and also block water courses, cause stagnant water, impact the water quality of rivers and streams, block access to people's homes and businesses, and damage people's property Risk of supply chain 	<ul style="list-style-type: none"> Collection of waste, especially oil, not dumped into canal or any water body around construction site. Excavated soil shall be placed in a designated sites with approval from local authorities and land owner in accordance to site management procedures developed and implemented by contractors. Spoils must not dumped in the rice field, river, or any other areas around communities or construction site. Compensation in case of adverse impacts to land/rice field. Need visibility into how suppliers are extracting or producing raw materials to ensure they're following sustainability 	ESS 1,3,6	MPWT, PTRI, DPWTs/ESMWGs, DDIS and Contractor during Details Design, Pre-construction and Construction

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
		(source of those materials/ equipment) and waste disposal of them.	standards <ul style="list-style-type: none"> • Train staff on the proper disposal of waste • Establish a waste management procedure or disposal procedure following international standards and laws and regulations of the government of Lao PDR • Implement the project's LMP 		
Climate Change	NR2W, Feeder Roads, BCFs, and Consolidation Facilities	<ul style="list-style-type: none"> • Construction works are particularly at risk of floods and unpredictable rain patterns and flooding levels may affect surfaces, cause erosion, etc 	<ul style="list-style-type: none"> • During Detailed Engineering Design, climate resilient measures must be taken into consideration to ensure infrastructures can withstand potential climate change impacts, in particular flooding. This can be informed by the full ESIA. • Contractor to construct as per design. • Periodic monitoring and maintenance of roads is of utmost importance, to ensure any problems are fixed promptly and not allowed to worsen with time. 	ESS 1	MPWT, PTRI, DPWTs/ ESMWGs, DDIS and Contractor during Details Design, Pre-construction, Construction and Operation Phases
Flora and Fauna	NR2W, Feeder Roads, BCFs, and Consolidation Facilities	<ul style="list-style-type: none"> • As the Project is not expected to involve major road widening (only 1m either side of NR2W and along alignment in feeder roads), only minimal vegetation 	<ul style="list-style-type: none"> • The project will not finance road improvement that could provide access to critical habitats such as wildlife sanctuaries and protected areas or may cause deforestation. • Consider adaptation of bridges, culverts as fauna crossings in areas of biodiversity concerns. • The full ESIA to ensure extent of potential 	ESS 1,6	MPWT, PTRI, DPWTs/ ESMWGs, DDIS and Contractor during Details Design, Pre-construction and Construction Phases

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
		<p>clearing is expected</p> <ul style="list-style-type: none"> • However, operation of construction equipment and vehicles as well as improper disposal of spoils may cause damage to existing vegetation. Hunting of wildlife and cutting of trees for fuel may not be undertaken by workers and strict prohibitions should be imposed by the contractor. 	<p>impacts and relevant baseline is described and assessed,</p> <ul style="list-style-type: none"> • The Contractor must observe the national and local regulations and policies related to protected areas/species, wildlife sanctuaries. • No trees in nearby sensitive areas can be cut without obtaining prior agreement with the authorities. • When possible, ensure that construction works are carried out without unnecessary clearing of roadside vegetation. • Consolidation location can take into consideration the location and minimization of vegetation clearance. • Ensure no-go zones established in sensitive biodiversity areas near construction sites. • Construction vehicles to operate within the corridor of impact, i.e. approximately within ROW, to avoid damaging soil and vegetation. Avoid soil compaction around trees. Avoid driving heavy equipment or trucks anywhere into the 'drip-line' of a tree (defined as imaginary line around a tree where rainwater falls freely to ground unimpeded by the tree's foliage). 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<ul style="list-style-type: none"> • Organize training courses to improve environmental protection awareness of the staff and local communities. • When the construction activities are carried out near and/or within sensitive areas (such as conservation and protection areas), the Contractor will ensure that the workers will not be involved in fishing and wildlife hunting and/or collection of plants, biodiversity and the activities (such as borrow pit) will not be located in the sensitive area without permission of local authorities. • Spoils and all types of wastes shall not be dumped into forested areas, densely vegetated areas, and water courses. • The contractor will not use or permit the use of wood as a fuel for the execution of any part of the works, including but not limited to the heating of bitumen and bitumen mixtures, and to the extent practicable shall ensure that fuels other than wood are used for cooking, and water heating in all camps and living accommodations. • Contractor shall not buy or use wood from the illegal sources (that come from the 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>illegal logging) .</p> <ul style="list-style-type: none"> • Construction camps, asphalt mixing plants, material storage sites and other project facilities shall not be located in the wildlife sanctuary, forest areas and other densely vegetated sites. • Contractor will take all precautions necessary to ensure that damage to vegetation is avoided due to fires resulting from execution of the works. The Contractor will immediately suppress the fire, if it occurs, and shall undertake replanting to replace damaged vegetation. • Bridge works, if any, should try to be scheduled in dry season to minimize adverse impacts to fishery, river water quality and other aquatic resources. 		
Protected Areas (PAs), wetlands, biodiversity zones	NR2W, Feeder Roads, BCFs, and Consolidation Facilities	<ul style="list-style-type: none"> • Impacts from construction if roads are close to important biodiversity zones. 	<ul style="list-style-type: none"> • Screening would need to be undertaken to assess whether PAs or other zones are impacted and this needs to be assessed in detail during the full ESIA. • The project will not finance road improvement that could provide access to critical habitats such as wildlife sanctuaries and/or protected areas or those that may cause deforestation. • Consider adaptation of bridges, culverts as 	ESS 6	MPWT, PTRI, DPWTs/ ESMWGs, DDIS and Contractor during Details Design, Pre-construction and Construction Phases

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>fauna crossings in areas of biodiversity concerns.</p> <ul style="list-style-type: none"> MPWT could consider ruling out road sections with impacts to PAs/ other zones, or prepare Biodiversity Management Plans to ensure any impacts and mitigation measures are properly identified and assessed. See ANNEX 14: BIODIVERSITY MANAGEMENT PLAN TEMPLATE. 		
UXO	NR2W, Feeder Roads, BCFs, and Consolidation Facilities	Clearance of sections, extraction sites and worker's camps could Unearth Unexploded Ordinances (UXOs).	<ul style="list-style-type: none"> Conduct survey and clearance of UXO risks before clearance, which may involve engaging outside experts. The UXO survey should be done as part of FS, if UXO is a high risk in Lao, particularly along the NR2W. If UXOs are found, engage outside experts for removal. Conduct training and awareness activities with the community in terms of UXO risks and chance finds. Ensure UXO clearance certification from the National Regulatory Authority (NRA) prior to any start of civil works 	ESS 1	<p>MPWT, PTRI, DPWTs/ ESMWGs, DDIS and Contractor during Pre-construction (hire a UXO Firm for Survey and Clearance) and Construction Phases</p> <p>National UXO Clearance Certificate from NRA prior to start of any civil works</p>

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
Potential Social Impacts and Risks and Mitigation Measures					
Labour and Working Conditions	All components, except for TA.	<ul style="list-style-type: none"> • Temporary labour increase in the infrastructure construction site and inappropriate cultural behavior or interaction with local people. • Health and safety risks to project personnel travelling to remote sites. • OHS risks to contracted workers. • Unfair treatment of contracted workers. • Workers' rights to organize and access to grievance mechanisms not respected. • Excessive or inappropriate use of child labour. 	<ul style="list-style-type: none"> • Implementation of the Labour-Management Procedures (LMP). • Implementation of the Occupational Health and Safety Plan, provided by the LMP, applicable for direct project workers, covering travel risks to remote areas (infection, road safety, safety). • Contractors, volunteers, and suppliers required to comply with labour laws and ESS2 employment conditions requirements through the ESMP, Community, Health and Safety, ECOP, LMP and the COC. • Safety working conditions, including sufficient supply and usage of personal protection equipment (in Community, Health and Safety) on implementation sites. • Prepare worker compensation schemes for health hazards and accidents. • Provide a first aid kit where survey work has been conducting. • Provision of PPE (e.g., protective clothing, helmets, goggles, and footwear) to 	ESS2	Contractor / During Construction

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
		<ul style="list-style-type: none"> • Work at the risk area of remain contaminated UXO within new construction area and land survey within the community land. • Working at height at the construction site will be a risk that leads to occupational fatalities and significant injuries; and • Risk of COVID 19 spreading among the worker in construction site and worker camp. 	<ul style="list-style-type: none"> workers. • Types of worker covered by ESS2 identified in LMP. • All staffs will complete the environmental training programs. The goal of programs will be to educate all staffs on the requirements of the environmental and social management plans. • Compliance monitoring including material sources, where relevant. • PMU will contact the National Regulatory Agency (the authority in charge of managing and controlling UXO related action) and request information and advice about the contamination and risk of UXOs in the construction area and the fieldwork area, and also details on how to manage such risks. • The procedure for working at height for the worker and PMU to ensure that the worker is working in safe conditions, as follow: <ul style="list-style-type: none"> ▪ Avoidance where possible, of working at height. ▪ Working from an existing place of work or using an existing means of access and egress 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<ul style="list-style-type: none"> ▪ Provision of suitable work equipment to prevent a fall occurred, e.g., edge protection, safety harness belt, etc. ▪ Provision of work equipment to minimize the distance and consequences of a fall, e.g., fall arrest systems. ▪ Be constructed, used, and maintained to prevent the risks of slipping, tripping, or any person being trapped between them and any adjacent structure; and ▪ Provide instruction and training about working at height. • Ensure that workers must follow the instruction and guidelines to prevent the COVID 19 pandemic from the National Taskforce Committee for COVID-19 and WHO guidelines. The general guideline was mentioned in ; The procedure of ESLRP to handle with the COVID-19 pandemic are follow: <ul style="list-style-type: none"> ▪ Provide alcohol-based hand sanitizer (60-95% alcohol), tissues, and facemasks in the entrance area of the workplace. ▪ Train all staff and workers in the symptoms of COVID-19, how it is spread and how to protect themselves. 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>Train on the correct use and disposal of personal protective equipment (PPE), including gloves, gowns, facemasks, eye protection, and respirators (if available), and check that they understand.</p> <ul style="list-style-type: none"> ▪ Extensive cleaning procedures with high-alcohol content cleaners should be undertaken in the area of the site where the worker was present, prior to any further work being undertaken in that area. ▪ Any worker showing symptoms of respiratory illness (fever + cold or cough) and has potentially been exposed to COVID-19 should be immediately removed from the site and tested for the virus at the nearest local hospital and close co-workers, and those sharing accommodations with such a worker should also be removed from the site and tested; and ▪ Workers under investigation for COVID-19 should not return to work at the project site until cleared by test results. During this time, they should continue to be paid daily wages. 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
Labour influx	All components, except for TA.	<ul style="list-style-type: none"> Temporary labour influx of workers might increase the risk of substance abuses. 	<ul style="list-style-type: none"> Minimize labour influx as much as possible promoting local recruitment Ensure that workers must follow the instruction and guidelines to prevent COVID 19 as outlined above Code of Conduct for workers (ANNEX 9 and ANNEX 10). See Labour Management Procedures (LMP) (ANNEX 7). 	ESS 1, 2 and 4	Contractor / During Construction
Worker's Camps	All components, except for TA.	<ul style="list-style-type: none"> Risks of workers' health 	<ul style="list-style-type: none"> See Guidelines for Worker's Camps (ANNEX 11). Provide adequate housing for all workers at the construction camps and establish clean canteen/ eating and cooking areas. Portable lavatories (or at least pit latrines in remote areas), male and female, shall be installed and open defecation shall be prohibited and prevented by cleaning lavatories daily and by keeping lavatory facilities clean at all times. Provide separate hygienic sanitation facilities/ toilets and bathing areas with sufficient water supply for male and female workers. Toilet facilities for women should be accessible from place of work. 	ESS 2 and 4	Contractor / During Construction
Labour rights,	All components,	<ul style="list-style-type: none"> Risks of not 	<ul style="list-style-type: none"> MPWT will develop LMP (ANNEX 7), which 	ESS 2	Contractor (to

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
gender and non-discrimination	including TA.	<p>complying with labour code, paying workers inadequate rates, discrimination of women, those with disabilities or other vulnerable persons.</p> <ul style="list-style-type: none"> Risks of GBV; SEA/SH and VAC 	<p>should be adhered by all contractors/ sub-contractors which includes protection of all workers engaged to work on and or supply the project related activities in compliance with the Law on Labour Protection and WB ESS2, including prohibition on child labour, zero tolerance of GVB/SH/SEA and VAC, awareness and protection of all workers from HIV/AIDS and OHS protection as described in other sections of this Table.</p> <ul style="list-style-type: none"> Ensure salaries and/or daily rates are in line with guidelines in Labour Law and that at least the minimum wage in Laos is paid for unskilled jobs, and that workers are paid consistent rates (i.e., the same type of work should be paid the same, whether done by a male or female worker). Encourage the hiring of local labour, in particular for unskilled jobs in construction, as well as for providing services to the worker's camps if applicable (i.e. food preparation or cleaning services). Encourage the hiring of women and make at least 15-20% of unskilled jobs available to them, and ensure these are paid at the same rate as similar unskilled jobs that are available for men. When feasible, encourage people living 		<p>implement measures) and MPWT, DPWTs; PTRI and Contractor / (for developing LMP, encouraging women to apply to jobs, grievance redress monitoring and also all provisions apply to MPWT-hired workers) / During Design Stage, Construction and potentially during Maintenance</p>

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>with a disability or other vulnerable people to apply to jobs that may be available.</p> <ul style="list-style-type: none"> • Provide rights to workers to form groups or unions, if applicable. • Ensure access to grievance redress mechanism. • See Codes of Conduct (ANNEX 9 and ANNEX 10). 		
Child labour	All components, except for TA.	<ul style="list-style-type: none"> • Risk of hiring children under 15 years to perform hazardous jobs, in contradiction of GOL legislation and WB ESF. Potential for children to be taken out of school to engage in construction jobs. Risk of child labour in the supply chain (i.e. the primary providers of materials for road construction). Risk of child labour because in some 	<ul style="list-style-type: none"> • Adopt a minimum working age of 18 years and check identities/birth records when hiring. • Communicate through the SEP the age requirements for the project and the rationale behind this. • Conduct screening of providers of materials for road construction (and other primary supply workers) to ensure they do not engage in child labour. • See LMP (ANNEX 7) and Codes of Conduct (ANNEX 9 and ANNEX 10). 	ESS 2	Contractor (and MPWT-hired workers) / During Construction and potentially during Maintenance

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
		areas it may be culturally common.			
Indentured labour		<ul style="list-style-type: none"> Risk of indentured labour, particularly in supply chain. 	<ul style="list-style-type: none"> All persons hired by the contractor must be paid a fair and adequate salary as per provisions in ESS2 (see ANNEX 7). Conduct screening of providers of materials for road construction to ensure they do not engage in indentured labour. Ensure access to grievance redress mechanism for labourers. 	ESS 2	Contractor and MPWT (for grievances and for MPWT-hired workers) / During Construction and potentially during Maintenance
Gender-Based Violence (GBV) and/or Violence to Children (VAC) and/or Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH)	All components, including TA.	<ul style="list-style-type: none"> Risks of violence, exploitation or harassment to women and children in the workforce. Risks of violence to community women or children due to labour influx, in particular in more remote areas. 	<ul style="list-style-type: none"> SEA/SH Action Plan is provided in Annex 12. Strict Code of Conduct for workers with no tolerance for physical or verbal abuse of women or children (see (ANNEX 9 and ANNEX 10). Training to workers on maintaining good community relations, with emphasis on proper conduct around women and children. Training SEA/SH and VAC for community members, in particular women and girls (may be done separately for men and women). Ensuring workers sites are situated (at least 500m) from schools and/or other areas where children congregate. 	ESS 2 and 4	MPWT, DPWTs; PTRI and Contractor (for trainings, grievances and for MPWT-hired workers) / During Construction and potentially during Maintenance

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<ul style="list-style-type: none"> • Children prohibited from construction site and worker's camp. • Ensure access to grievance redress mechanism. • A Gender Action Plan shall be developed, included in the World Bank Project Appraisal Document, and should be adhered to. • Support (in the form of training, awareness raising, etc.) to local law enforcement to act on community complaints regarding SEA/SH and VAC. • Provision of information to local communities about the contractor's policies and responsibilities, including the Contractor's Code of Conduct and minimum working age (see ANNEX 9 and ANNEX 10). 		
Human Trafficking	NR2, Feeder Roads, BCF	<ul style="list-style-type: none"> • Improved access, increased the risks of human-trafficking. 	<ul style="list-style-type: none"> • Ensure access to anti-human trafficking services at all levels, including relevant governmental agencies and NGOs working on human-trafficking. • Support (in the form of training, awareness raising, etc.) to local law enforcement and communities to prevent and respond to human-trafficking. • SEA/SH Action Plan, including human-trafficking, is provided by Annex 12. 	ESS1 and 4	MPWT/PTRI and Contractors.

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
Health and Safety	All components, except for TA.	<ul style="list-style-type: none"> Main risks during the construction stage may arise from: failure to implement measures to avoid accidents and injuries involving workers and the public; introduction of sexually transmitted or other diseases by non-local workers; outbreaks of diseases such as Covid-19, malaria, diarrhea, etc. in the labour force; gender-based violence (discussed above), inadequate sanitation in worker's camp (discussed in section on Worker's Camp); pressures on existing health 	<ul style="list-style-type: none"> Appoint an Environmental Health and Safety Officer (EHSO) who shall be responsible for training, monitoring and reporting on EHS concerns and implementing health and safety related-programs. Conduct orientation for construction workers regarding emergency response procedures and equipment in case of accidents (i.e. head injury from falling, burns from hot bitumen, spills of hazardous substances, etc.), fire, etc.; health and safety measures, such as on the use of hot bitumen products for paving of project roads, etc.; prevention of Covid-19, HIV/AIDS, malaria, diarrhea, and other related diseases, as well as Code of Conduct (including discussion of sex and SEA/SH). Provide fire extinguish equipment and appropriate emergency response equipment (based on on-going construction activities) at the work areas and at construction and workers camps. Provide first aid kits at each camp and working sites that are readily accessible by workers. In addition, the contractor shall 	ESS 2 and 4	MPWT, DPWTs; PTRI and Contractor (for trainings and grievances) / During Construction and potentially during Maintenance

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
		<p>systems at the local level. Particular attention should be paid to women, ethnic minorities and other vulnerable persons.</p>	<p>prepare emergency procedures detailing arrangements with commune health center(s) or nearest hospital(s) to accommodate emergency cases from the work location.</p> <ul style="list-style-type: none"> • Provide workers with appropriate safety equipment/devices (such as dust mask, safety helmets, safety shoes or boots, goggles, ear plugs, etc.) and strictly require them to use these as necessary. • Install sign boards, lighting system at the construction sites, borrow pits, or places which may cause accidents for vehicle, people and workers. • Strictly impose speed limits on construction vehicles along residential areas and where other sensitive receptors such as schools, pagodas, hospitals, and other populated areas are located. • Educate drivers on safe driving practices to minimize accidents and to prevent spill of hazardous substances and other construction materials by providing covers over transporting dump trucks. • Barriers (i.e. temporary fence) shall be installed at construction areas to deter pedestrian access to these areas except at 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>designated crossing points.</p> <ul style="list-style-type: none"> • Sufficient lighting at night as well as warning signs shall be provided in the periphery of the construction site. • The general public/ local residents, and in particular children, shall not be allowed in high-risk areas, i.e. excavation sites and areas where heavy equipment is in operation. • Provide fencing on all areas of excavation greater than 2m deep. • Ensure reversing signals are installed on all construction vehicles. • Measures to prevent malaria if in areas where malaria is an issue, shall be implemented (i.e. provision of insecticide treated mosquito nets to workers, spraying of insecticides, installation of proper drainage to avoid formation of stagnant water, etc.). • Discharge of untreated sewage shall be prohibited. • Conduct road safety trainings for workers and roadside community. • Conduct trainings on Covid-19, HIV/AIDS and STDs with workers and the community (separately). Provide PPE, hand-sanitizer 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>for Covid prevention as needed.</p> <ul style="list-style-type: none"> • Conduct trainings on SEA/SH and VAC with workers and the community (separately). • Ensure particular attention is provided to the needs of women and other vulnerable persons, for instance conducting specific trainings for them led by appropriate trainers (i.e. women-only training on HIV/AIDS and/or SEA/SH led by a woman). • Ensure access to grievance redress mechanism. • Ongoing consultations and awareness raising of local communities. • Free testing for Covid-19 and HIV/AIDS. • Establish health facilities at worker's camps and/or take measures to support or enhance existing health centers at the village, commune or district level. 		
Damage to Community Facilities	All components including TA	<ul style="list-style-type: none"> • Transport of materials, operation of construction equipment and various construction activities may damage community facilities. 	<ul style="list-style-type: none"> • Not allow overloading of trucks used for all project-related activities. • Immediately repair any damage caused by the Project to community and/or private facilities such as water supply, power supply, irrigation canals, drainage, structures, trees, etc. The contractor to pay adequate compensation to affected 	ESS 1 and 4	MPWT, DPWTs; PTRI and Contractor (to disseminate GRM) / During Construction and potentially during Maintenance

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>parties, as necessary.</p> <ul style="list-style-type: none"> • Access roads damaged during transport of construction materials and other project-related activities shall be reinstated upon completion of construction works. • All affected communities shall be made aware of the project grievance redress mechanism and will be provided information in advance on construction activities that may cause public nuisance and disturbance. 		
Traffic Disruption	All components, , except TA	<ul style="list-style-type: none"> • Road construction works are expected to cause traffic disruption and congestion and obstruction of access to roadside properties and establishments. Lack of proper traffic warning signs and other safety measures could cause accidents. 	<ul style="list-style-type: none"> • In cooperation with the local traffic authorities, and contractors shall prepare a Traffic Management Plan (TMP) to apply during pre-construction and during construction and properly organize transport of materials for the project to avoid congestion. • Set up clear traffic signal boards and traffic advisory signs at the roads going in and out the road and bridge construction sites to minimize traffic build-up. • Regularly monitor traffic conditions along access and Project roads to ensure that project vehicles are not causing congestion. • Provide sufficient lighting at night within 	ESS 1 and 4	MPWT, DPWTs; PTRI and Contractor / (for trainings) / During Construction and potentially during Maintenance

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>and in the vicinity of construction sites.</p> <ul style="list-style-type: none"> • Implement suitable safety measures to minimize risk of adverse interactions between construction works and traffic flows through provision of temporary signals or flag controls, adequate lighting, fencing, signage and road diversions. • Provide temporary accesses to properties and businesses affected by disruption to their permanent accesses. • Reinstate good quality permanent accesses following completion of construction. • Provide safe vehicle and pedestrian access around construction areas. • Provide adequate signage, barriers and flag persons for traffic control. • If necessary, traffic will be diverted for safe and smooth movement of vehicles to ensure smooth traffic flow and minimize accidents, traffic hold ups and congestion. • Temporary by-passes should be constructed and maintained (including dust control) during the construction period particularly at bridge crossings. Location of temporary bypasses shall be agreed with local authorities and such 		

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			sites shall be reinstated upon completion of works.		
Road Safety	All components including TA (supporting vehicles and motorbikes)	<ul style="list-style-type: none"> During construction, but mostly once road works are completed, improved roads could cause vehicles to travel faster and lead to road accidents. 	<ul style="list-style-type: none"> As part of the TMP, a road design should make safety a priority, such as by widening and sealing shoulders, where land is available, through better marking and signage, introducing traffic calming measures at critical locations, and measures to safeguard pedestrians' safety, including for women and children from local communities who use roads to travel to and from schools, markets, and hospitals. Road safety programs should be developed and delivered to road side community and other frequent road users (such as schools). Special attention to villagers travelling by foot along road, including women, and children should be delivered. Provide awareness raising in a language and form understood by ethnic groups. Safety crossings trainings for school children should be conducted, as well as riding/walking safely using road shoulders. Managerial (MPWT/WB) support of Road 	ESS 1 and 4	MPWT, DPWTs; PTRI and Contractor / During Design Stage, Construction and Maintenance /

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>Safety Agenda, in particular at the local level.</p> <ul style="list-style-type: none"> • Strengthening local enforcement mechanisms, such as additional support to local-level government to monitor road safety and implement road safety awareness activities. • Billboards and/or other awareness raising information (such as in radio-format). • Road Safety Plans. • Ongoing consultations and awareness raising of local communities in a language and form understood by all, including ethnic groups and other vulnerable people. 		
Disruption which may cause by the excavations/ digging for installation of side drains.	All components, except for TA.	<ul style="list-style-type: none"> • Limit/block access to shops, schools, hospitals, restaurants, etc, and lose of incomes. 	<ul style="list-style-type: none"> • Limit the activities to non-business hours (if possible) and complete the works soonest possible. A timeframe must be developed and consulted with affected parties before starting the works. • Provide appropriate temporary access (wood/steel platform) with handrails • Clear all construction material/equipment from the access path • At school, hospitals, provide traffic signs and flagmen to facilitate traffic 	ESS1, ESS4	Contractor / During Construction
Social Conflicts	All components,	<ul style="list-style-type: none"> • The presence of 	<ul style="list-style-type: none"> • Regularly inform in advance the local 	ESS 4	Contractor /

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
	except for TA.	workers could cause conflicts with local communities, including increased crime (or the perception of), and “followers” who may seek jobs and/or create additional pressures on the local community. There may also be concerns about Covid transmission from outsiders.	<p>officials and affected residents of the location and schedule of construction activities which may cause impacts on the environment and life of people.</p> <ul style="list-style-type: none"> • Locate construction camps away from communities (at least 500 m away) in order to avoid social conflict in using resources and basic amenities such as water supply and to avoid close contact between workers and the community (in particular children). • Maximize number of local people employed in construction and non-construction jobs. • Maximize goods and services sourced from local commercial enterprises. • Ongoing consultations and awareness raising of local communities. • Covid-19 awareness raising messages and prevention measures in line with government mandates 		During Construction
Land Acquisition, economic displacement and possible loss of access	All components, except for TA.	<ul style="list-style-type: none"> • Impacts to people having assets close to the road shoulder who may have to cut them or move them back. Impacts 	<ul style="list-style-type: none"> • MPWT to implement provisions in the Resettlement Policy Framework and prepare Resettlement Action Plans if needed (includes procedures, consultations, grievance redress, etc.) • Particular attention to be paid to women 	ESS 5	MPWT, DPWTs; PTRI and Contractor (for removal of assets and restoration at full replacement

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
to properties.		may be more pronounced for women and other vulnerable persons, including ethnic peoples.	<p>and other vulnerable persons.</p> <ul style="list-style-type: none"> • Include the RPF in bidding documents for the contractors. • If land acquisition affects ethnic minorities, RAPs should be prepared in line with the EGEF (see below) 		cost when applicable) / During Design Stage and Construction
Ethnic Groups	All components, except for TA.	<ul style="list-style-type: none"> • Land acquisition impacts on ethnic people are expected. There is also a risk they could be excluded from project benefits, including job opportunities. 	<ul style="list-style-type: none"> • If EGs in line with ESS7 are found in the project area, MPWT will need to ensure Ethnic Peoples Plans are prepared, following the guidelines in the EGEF. Adequate Social Assessments, meaningful consultations and FPIC, if applicable, would need to be conducted to ensure EGs are not negatively affected and can benefit from the project. 	ESS 7	MPWT, DPWT; PTRI; LFND and DDIS/ During Design Stage, Construction and Maintenance
Cultural and spiritual spaces	NR2W and Feeder roads.	<ul style="list-style-type: none"> • If road sections are close to temples, grave sites or other tangible or intangible cultural spaces, these could be impacted by construction. 	<ul style="list-style-type: none"> • MPWT would need to undertake screening to assess whether tangible or intangible cultural heritage is impacted in line with ESS8. • MPWT could consider ruling out road sections or prepare Cultural Heritage Management Plans (CHMP) to ensure impacts and mitigation measures are properly identified and assessed. The CHMP shall be prepared as a part of the site-specific ESIA/ESMP. The CHMP should have the following minimum 	ESS 8	MPWT , DPWT; PTRI and DDIS / During Design Stage and possibly Construction

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
			<p>content in line with ESS8:</p> <ul style="list-style-type: none"> a) A review of the legal and institutional framework applicable to cultural heritage; b) Roles and responsibilities of the different project and other interested parties, for example, the Borrower, contractors, project-affected people, and cultural heritage authorities; c) The steps to identify and manage cultural heritage throughout the project life cycle; d) Proposed mitigation measures to be undertaken; e) Steps for incorporating relevant requirements relating to cultural heritage into project procurement documents, including chance find procedures; f) Implementation schedule and budget; and g) Monitoring and reporting requirements. 		
Stakeholder Engagement and Grievances Redress	All components	<ul style="list-style-type: none"> • If stakeholders are not properly consulted, information is not disclosed and people are not informed about their rights, options for grievance redress or project timelines, there could be 	<ul style="list-style-type: none"> • MPWT needs to ensure provisions in the SEP are adequately followed by project planners and the contractors. • Include the SEP in bidding documents for the contractors. • Ensure the SEP, this ESMF, RPF, EGEF are disclosed and consulted on. • Ensure that future ESMPs, RAPs and EGEPs, if applicable, are disclosed and consulted on. • Ensure the Grievance Redress 	ESS10	MPWT, DPWTs; PTRI and Contractor / During Design Stage, Construction and Maintenance

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
		project delays, misunderstandings, conflict or loss of confidence in the community regarding the project.	Mechanism outlined in the SEP and this ESMF is shared and consulted with local communities, once road sections have been identified ensuring that the GRM is fully functional early on in the project, including regularly reporting on grievances		
Gender	All components TA (capacity building/ trainings to customs agents, agricultural activities, etc.)	<ul style="list-style-type: none"> • Women could face discrimination during TAs; construction jobs, may be physically or verbally abused by labourers and/or co-workers, may disproportionately suffer negative impacts from the project. • In some areas, women may have low levels of literacy and be unable to access project written materials • Downstream impacts arising from 	<ul style="list-style-type: none"> • Encouragement of women to participate on the TAs apply project jobs, including non-construction work if possible (such as cleaning or cooking services). • Trainings for workers, and separately for women, on SEA/SH, including mechanisms to report incidents (see ANNEX 9 and ANNEX 10). • Special attention to impacts to women related to SEA/SH • Ensuring women are included in the consultation process, including speaking to them separately if desirable. This may be particularly relevant when discussing issues like GBV but also in some ethnic groups where women may not be able to express their opinion if there are men. If consultations/ FGD are done with women, they should be also led by a female moderator if possible. 	ESS 4, 5, 7 and 10	MPWT, DPWTs; PTRI and Contractor / During Design Stage, Construction and Maintenance; and TA activities

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
		<p>TA type of activities which may not result in any direct environmental risks and impacts but can have downstream environmental implications (e.g. impact on water quality from extensive use of agrachemicals due to improved agricultural trade).</p>	<ul style="list-style-type: none"> • Ensuring women are included and properly assessed as part of Social Assessment on EPs, if applicable. • Ensure community women are part of trainings, in particular on Covid-19, SEA/SH, HIV/AIDS and road safety, and some of these may be done in women-only groups and led by women facilitators. • Ensure women have appropriate access to the grievance redress mechanism. • Ensure the GRM and other project materials such as on Covid prevention, SEA/SH, land acquisition, etc. are accessible for illiterate people, such as by having pictorial descriptions, and using various methods of communication, such as radio, messages/ videos on social media, or as appropriate and based on findings of the ESIA and the Social Assessment for ethnic groups, if applicable. 		
<p>Vulnerable Groups (such as those with a disability, female-headed households,</p>	<p>All components.</p>	<ul style="list-style-type: none"> • Risk of enhancing impoverishment of vulnerable groups to be economically displaced by the SEARECC, in case 	<ul style="list-style-type: none"> • Ensuring the needs of vulnerable groups are adequately addressed and implemented by the livelihood restoration plan. • Special attention to impacts to vulnerable persons in terms of land acquisition. 	<p>ESS1, 4, 5, 7 and 10</p>	<p>MPWT, DPWTs and PTRI and Contractor / During Design Stage, Construction and</p>

Type of Potential Impact	Project component	Description of Potential Risk and Impact	Potential Mitigation Measure	Ref. to WB ESS	Responsibility / Estimated Project Stage
the elderly, the poor, ethnic people)		<p>livelihood restoration are not adequately implemented.</p> <ul style="list-style-type: none"> • Vulnerable groups can be missed and excluded from the consultation process and may disproportionately suffer negative impacts from the project. They may also be targets for physical or verbal abuse from outsiders. • Vulnerable groups could experience greater negative risks from Covid-19. 	<ul style="list-style-type: none"> • Ensuring vulnerable persons are included in the consultation process, including speaking to them separately if desirable. • Ensuring vulnerable persons are included and properly assessed as part of Social Assessment on EPs, if applicable. • Ensure vulnerable persons are part of trainings, in particular on Covid-19, SEA/SH, HIV/AIDS and road safety. • Ensure vulnerable persons have access to the grievance redress mechanism. • Ensure the safety of all project personnel, local communities, concerned stakeholders, vulnerable groups and contractors, from being infected with COVID-19. Closely monitor COVID-19 developments in Lao PDR and strictly comply with requirements of the GOL and updated guidance issued by WHO. All measures to address COVID-19 related risks need to be in accordance with the local applicable laws and policies, especially those related to media and communication 		Maintenance; and TA activities

4.2 COVID-19 Response

245. Since March 2020, considering the outbreak of COVID-19 pandemic in neighbouring countries such as China, Thailand, Vietnam, and others, the GOL took strict actions to prevent infection within Lao PDR. Three policy and guideline were issued on 13 March 2020 to control COVID-19 transmission and infection i.e. (a) guideline on prevention of the transmission and infection of COVID-19 at international airport, land border, and transportation stations; (b) guideline on prevention of the transmission and infection of COVID-19 at suspected to be infected area or temporary quarantine center; and (c) guideline on prevention of the transmission and infection of COVID-19 at public place (hotel, guesthouse, offices, schools, and others). On 29 March 2020, the Prime Minister issue an Order on Reinforcement Measures on Containment, prevention and full response to the COVID-19 pandemic (No. 06/PM, Vientiane Capital). This policy orders the restriction of people travelling and allows GOL officers to work from home during 1-19 April 2020.

246. The World Health Organization (WHO) has issued technical guidance in dealing with COVID-19, including Risk Communication and Community Engagement, Action Plan Guidance Preparedness and Response; Risk Communication and Community engagement readiness and response; COVID-19 risk communication package for healthcare facilities; getting your workplace ready for COVID-19; and a guide to preventing and addressing the social stigma associated with COVID-19. These materials can be accessed on the WHO website: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance>.

247. General COVID-19 response guidelines and suggested hygienic measures and visualizations that could be used to create awareness by the SEARECC are provided in a technical note of the World Bank provided in ANNEX 13: COMMUNITY HEALTH AND SAFETY PLAN. COVID-19 measures are also covered in the project's Labor Management Procedures annexed to this ESMF in order to maintain a safe working environment for workers and for the community and minimize the risk of COVID-19 transmission. The LMP includes guidance on hygiene practices, use of PPE and ensuring sick workers can self-isolate and continue to be paid.

248. The project shall ensure the safety of all project personnel and local communities, and other concerned stakeholders from being infected with COVID-19. The Project shall closely monitor COVID-19 developments in Lao PDR and strictly comply with requirements of the GOL and updated guidance issued by WHO. All measures to address COVID-19 related risks need to be in accordance with the local applicable laws and policies, especially those related to media and communication. The SEARECC must follow the prevention procedure of the COVID-19 pandemic and the new update notification from the National Taskforce Committee for COVID-19 COVID19 measures as part of their contract, through explicitly mentioning it in bid

documents and contracts. of the Ministry of Health on the webpage: <https://www.covid19.gov.la/>.

249. The following general response measures shall be applied by the project and its contractors and sub-contractors:

- Periodically review COVID-19 spread situation in the project area, and the restrictions put in place by the GoL to contain virus spread;
- Review planned activities under the project, assess COVID-19 related risks such as transmission/ spreading of the virus (e.g. number of people in meetings, engagement/ consultation events etc.);
- Identify project activities for which meetings/ consultation/ engagement is critical and cannot be postponed without having significant impact on project timelines.
- Consider and implement viable means to ensure that project related results can be achieved, at the same time minimizing risks by applying appropriate hygienic measures.
- Ensure that all PCU members are aware of, as well as articulate and express their understandings on social behavior (social distancing) and respiratory hygiene practices, and that any events be preceded with the procedure of articulating such hygienic practices.
- Ensure the adequate availability of protective equipment/ gear and consumables, such as masks, hand sanitizer, soap;
- Raise awareness at all levels, including communities on COVID-19 health risks, as well as appropriate measures to limit transmission/ infections and enforce them in the project context. Use awareness materials developed by WHO or other organizations to be distributed during events and during visits in communities (examples provided below).
- Avoid larger public gatherings including public hearings, workshops and community meetings as much as possible in case of risks of COVID-19 transmission/ infections (depending on COVID-19 situation and measures imposed by GoL);
- If smaller meetings are permitted, conduct consultations in small-group sessions, such as focus group meetings. If not permitted, make all reasonable efforts to conduct meetings through online channels, including webex, zoom and skype;
- Diversify means of communication and rely more on social media and online channels. Where possible and appropriate, create dedicated online platforms and chatgroups appropriate for the purpose, based on the type and category of stakeholders;

- Where direct engagement with project affected people or beneficiaries is necessary, such as would be the case for Resettlement Action Plans or Indigenous Peoples Plans preparation and implementation, identify channels for direct communication with each affected household via a context specific combination of dedicated phone lines, WhatsApp and meetings with limited number of persons.
 - Special attention should be paid to vulnerable groups, including those from ethnic groups, elderly, sick and the poor who may suffer greater negative impacts from Covid transmission.

4.3 HIV-AIDS Prevention

250. While mobilized for work, the Contractor shall produce and conduct an HIV-AIDS Information, Education and Consultation Communication (IEC) campaign undertaken by a recognized service provider. The cost of the campaign shall be funded by the Contractor from the provisional sum provided in the bill-of-quantity.

251. The Contractor shall undertake such other measures as are specified in the Contract, including the LMP, to reduce the risk of the transfer of the HIV virus between and among the Contractor's personnel and the local community, to promote early diagnosis and to assist affected individuals. The Contractor shall not discriminate against people found to have HIV/AIDS as part of the campaign.

252. Prior to contractor mobilization, the contractor (and service provider as relevant) shall submit to the MPWT for approval an action plan that will indicate:

- a) The types and frequency of education activities to be done;
- b) The target groups (as a minimum to all the Contractor's employees, all Sub-Contractors and Consultants' employees, and all truck drivers and crew making deliveries to the project site for construction activities, as well as immediate local communities);
- c) Whether condoms shall be provided;
- d) Whether STI and HIV/AIDS screening, testing, diagnosis, counselling and referral to a dedicated national STI and HIV/AIDS program, (unless otherwise agreed) of all Site staff and labour shall be provided;
- e) Budget.

253. The IEC campaign shall be conducted while the Contractor is mobilized in accordance with the approved approach. It shall be addressed to all target groups identified concerning the risks, dangers and impact, and appropriate avoidance behaviour with respect to Sexually Transmitted Diseases (STD) and HIV/AIDS in particular. Specific engagement mechanisms may be needed to engage ethnic groups. This should be guided by findings in the ESIA and relevant Ethnic Groups Engagement Plan.

4.4 Cumulative Impacts Assessment

254. Cumulative impacts in this ESMF follow definition of the World Bank's ESF . The term cumulative impacts are defined as “the incremental impact of the project when added to impacts from other relevant past, present and reasonably foreseeable developments as well as unplanned but predictable activities enabled by the project that may occur later or at a different location. Cumulative impacts can result from individually minor but collectively significant activities taking place over a period of time”³⁹.

255. Cumulative Impact Assessment (CIA) is defined as the process of 1) analysing the potential impacts and risks of proposed developments in the context of the potential effects of other human activities and natural environment, and 2) proposing concrete measures to avoid, reduce or mitigate such cumulative impacts and risks to the extent possible.

256. At this stage of project preparation, a CIA has not been completed and needs to be undertaken during the ESIA stage once the scope of the project activities is better defined. When conducting the CIA, during the ESIA stage, the following steps should be taken:

- Determine the spatial and temporal boundaries,
- Identify valued environmental and social components (VESC) in consultation with affected communities and stakeholders,
- Identify all developments and external natural and social stressors affecting the VESCs.
- Determine the present conditions of VESCs and assess cumulative impacts and evaluate their significance over VESCs predicted conditions and design management and monitoring measures.

257. Determining the spatial and temporal boundaries: Based on consultation with the affected, interested stakeholders and responsible line agencies, the CIA will cover the whole 5 provinces of the SEARECC.

258. Identifying VECs: Consultations with affected, interested stakeholders and responsible line agencies suggested that key aspects of biophysical and social economic conditions within the project provinces should be covered for the CIA. These include the following:

- Forests and wildlife
- Water quality
- Land use
- Livelihoods

³⁹ The World Bank 2017

259. Identifying all developments and external natural and social stressors affecting the VESCs: According to the Ministerial Instruction on Environmental and Social Impact Assessment of Investment Projects and Activities (2013):

*“The Project Owner shall conduct the **cumulative impact assessment** in addition to the normal Environmental and Social Impact Assessment **in case** any Investment Projects and Activities are predicted to cause social and environmental impact cumulatively with other Investment Projects and Activities located in the adjacent areas, provided that such cumulative impact assessment shall be conducted pursuant to the relevant technical guidelines”*

260. Based on this instruction, major current and planned developments in the 5 provinces are: the China-Laos Railway and national highways from Vientiane Capital to Luangnamtha Province.

261. Individually, the SEARECC components, speed railway and highway would already bring about significant positive and negative impacts on the VESCs above (Forests and wildlife, Water quality, Land use, and Livelihoods). Cumulatively, if improperly managed, these developments would pose greater decline in forests and wildlife, water quality, land use and livelihoods of people in the 5 provinces as well as elsewhere in the country, especially along the high-speed railway and highway.

262. The importance of understanding the cumulative environmental and social impacts from multiple projects, actions, or activities, or even from the same actions over an extended period of time, located in the same geographic region or affecting the same resource has been acknowledged for decades. In some cases, the most ecologically devastating environmental effects and subsequent social consequences may result not from the direct effects of a particular action, project, or activity but from the combination of existing stresses and the individually minor effects of multiple actions over time.

263. Management of cumulative impacts ESIA to be undertaken by the SEARECC will include CIA. Management of cumulative impacts will apply mitigation hierarchy: avoid, minimize, mitigate or compensate. Responsibilities for implementing the recommendations to address each cumulative impact will be included in the CIA, part of the full ESIA stage.

4.4.1 Valued Environmental and Social Components (VECs)

264. As outlined in the IFC Good Practice Handbook for Cumulative Impact Assessment and Management (IFC, 2013), it is unrealistic to think that every environmental and social receptor can be subject to cumulative impacts and appropriately factored into a CIA. Accordingly, it is best to focus on Valued Environmental and Social Components (VECs), which are defined as:

265. “Environmental and social attributes that are considered to be important in assessing risks”; they may be:

- Physical features, habitats, wildlife populations (e.g., biodiversity),

- Ecosystem services,
- Natural processes (e.g., water and nutrient cycles, microclimate),
- Social conditions (e.g., health, economics), or
- Cultural aspects (e.g., traditional spiritual ceremonies).”

266. Based on pre-feasibility studies conducted for the project and available secondary information of the NR2 West, BCF, feeder roads and TAs, the following VECs have been identified for further consideration in the CIA, part of the ESIA.

- **Socio-Economic Development:** The improvement of the NR2 will result in a multiplier effect generating spin-off economic opportunities in the Project region. However, the Project may add further pressure on existing infrastructure, land use, water quality (during construction) and health and safety when considered in the context of cumulative development in the five provinces. The SEARECC project aims to improve the domestic and regional road network connectivity and logistics facilities, with associated policy reforms for increased economic activities along selected transport corridors in Northern Lao PDR. Starting with the improvement of domestic connectivity in Lao PDR, trade facilitation, border crossing control management with Vietnam and Thailand, and agriculture productivity, the proposed project will help to attract more investment, boost more cross border trade, and generate more employment in the northern part of Lao PDR. National Road 2 (NR2) is a main transport corridor that connects Lao PDR with Vietnam and Thailand and cuts across the Lao-China railway and expressway, which are both under construction. While the rail is starting operation in December 2021, and limited information may be available on any potential impacts, its operation and the cumulative impacts as a result of this project, the rail, and developments in the broader corridor, should be considered by the CIA.
- **Water Quality and Water Resource Use:** The most significant potential water quality impact during the construction of the Project is likely to be associated with erosion of disturbed land surfaces and sediment run off into nearby surface water bodies resulting in increases in water turbidity, particularly along the Nam Beng, Nam Phak, and Nam Ou rivers. Cumulative impacts on water quality and water use in relation to other existing or planned developments such as dams, railways, and others will also need to be considered.
- **Land Acquisition** The Project will result in some land acquisition as part of the road widening, though this is being minimized by the extent of project design. Nevertheless, cumulative impacts associated with land use / acquisition should be considered in relation to other developments in the region. The World Bank will only fund the NR2W section and European Investment Bank (EIB) will fund for NR2E which would then mean

improvement of the whole corridor and the issue of having a common approach particularly for compensation should be considered (which can be done by MPWT agreeing to the same approach for both road sections).

- **Transportation and Accessibility:** The Project will result in the construction and upgrade the entire NR2W section (considering EIB's funding for NR2E and the railway becoming operational). This will result in significant positive impacts on accessibility due to improved infrastructure. Moreover, long-term cumulative benefits associated with road upgrades include increased accessibility for local communities and increase in agricultural perspective which is partly from project (TA work) and also the railway and improvement of the NR2 corridor. On the other hand, cumulative impacts likely to be associated with the Project from a transportation perspective include the potential for increased accidents due to increased heavy vehicle traffic volumes along NR2 and relevant roads passing through local villages. Cumulative impacts associated with transportation and accessibility along the NR2 will need to be considered in the ESIA.
- **Terrestrial and Aquatic Biodiversity:** There are a number of existing and proposed projects in the three provinces associated with the Project with impacts on biodiversity values, including both hydropower and mining projects. All projects will require the requisition and subsequent impacts on terrestrial and aquatic habitats for project activities. The NR2 improvement project is unlikely to contribute to direct impacts on biodiversity because the majority of habitats situated directly along the NR2 have been previously cleared and modified and construction works follow the existing road alignment. Nevertheless, indirect impacts and cumulative impacts on biodiversity should be further considered in the CIA.
- **Forest Resource Use:** Given the majority of the proposed NR2 project will be implemented in the existing alignment, the project is not expected to have a significant impact on forest resource use of local communities. With appropriate management mitigation measures employed during the Project, the impact of the Project on the forest resource use in the local region is therefore expected to be low. Nevertheless, the potential cumulative impact as a result of other developments in the area should be further considered in the CIA.
- **Energy and Greenhouse Gas Emissions:** The Project will add to direct and indirect greenhouse gas emissions associated with the potential increased number of vehicles along the NR2. Further study on energy and greenhouse gas emissions will be conducted during the CIA.
- **Air Quality and Noise:** The Project is expected to generate significant dust and noise during construction and operations and therefore potential cumulative impacts in combination with current and future transport

behaviours should be considered. In addition, the major increase in the number of heavy vehicles along the NR2 will generate significant air (i.e. dust and vehicle emissions) and noise emissions adding to cumulative air quality and noise impacts for nearby sensitive receptors. Cumulative impacts on community health associated with air quality and noise impacts in key / susceptible receptors should also be considered by the CIA.

- **Archaeology and Cultural Heritage:** Based on available information, most sites of natural and / or cultural significance are likely to lie outside the proposed NR2 alignment disturbance and are not expected to be directly impacted by construction and operation. However, due to the sensitivity of this issue for stakeholders potential direct and indirect cumulative impacts should be considered in the CIA.
- **Gender Based Violence and Human Trafficking:** The rail and the rehabilitation of the road corridor is expected to increase the economic activity in Lao, in particular in the Northern provinces, including the five provinces covered by the project. This increased economic activity is likely to bring positive impacts to the Lao population, but could potentially also bring negative impacts, such as an increased in sex (or other human) trafficking, prostitution and Gender Based Violence, which need to be considered in the CIA.
- **Pollution and Waste:** Increased economic activity as a result of an improved road and new rail corridor may lead to higher amounts of waste in the Northern provinces as more, and potentially cheaper, goods become available and potentially more people travel or pass through the region. This may cause increased solid waste, including plastic waste, impact wastewater, and cause air pollution. These aspects, including the waste management systems available in the province and their capacity to handle increased waste, should be considered by the CIA.

4.5 Transboundary Impacts

267. With the drive-through and interviews with local stakeholders, a number of potential transboundary impacts are identified. These are presented in Table 4-2.

268. The project's full Environmental and Social Impact Assessment (ESIA) will consider potentially significant project-related transboundary and global risks and impacts, such as impacts from effluents and emissions, increased use or contamination of international water- ways, emissions of short- and long-lived climate pollutants⁴⁰, climate change mitigation, adaptation and resilience issues, and

⁴⁰ This includes all greenhouse gases (GHGs) and black carbon (BC).

impacts on threatened or depleted migratory species and their habitats. Site-specific management plans will be prepared to manage identified impacts, including indirect, cumulative and transboundary impacts. PTRI, MPWT and DWPT are to ensure adequate resources (human and finance) for the implementation of impact mitigation and management plan and this should be highlighted in the ESIA.

Table 4-2: Potential Transboundary Impacts

Type of Potential Impact	Project component	Description of Potential Impact	Potential Mitigation Measure	Reference to WB ESS	Responsibility /Estimated Project Stage
Road user safety	NR2 West	Potential accident during construction and operation due to a lack of road safety management measures	Safe road design and construction including safety signage and speed limits. Enforce requirements for Project staff to obey speed limits and other road laws. Develop and implement TMP by contractors	ESS2, 4	DPWTs / Construction, Operation
Pedestrian paths design	NR2 West	Potential road accident with pedestrians especially in settlement / school areas due to a lack of or inadequate road sidewalks.	Ensure light coverage for safety of pedestrians are adequate. The design of pedestrian crossings should consider expectations for people with difficulties to walk (ramps to be provided where possible)	ESS2, 4	DWPTs/ Construction, Operation
Community health and safety	NR2 West	Changed road conditions during construction impacting on efficiency of travel modes and potential road safety	Develop and implement Traffic Management Plans (TMPs) during pre-construction and construction by contractors including installation of traffic signs for operation in consultation with the DOR and MOPS. Conduct early consultation with affected communities during construction to allow planning for potential changes in trip patterns. Ensure appropriate signage is	ESS2, 4	DPWTs, MOPS, Contractors / Construction, Operation

Type of Potential Impact	Project component	Description of Potential Impact	Potential Mitigation Measure	Reference to WB ESS	Responsibility /Estimated Project Stage
			installed regarding diversions or alternative access routes.		
Community Health and Safety	NR2 West and TA (which may include some purchase of vehicles and motorbikes)	With the increased of cross border vehicle and heavy trucks using feeder roads, it usually destroys local road infrastructure. MPWT should bring this to the attention of the contracted construction companies.	Feeder road maintenance is part of contractual obligation to the contractor, they are expected to maintain these feeder roads that are damaged by their construction vehicles, and this will be clearly indicated in the signed contract as part of this project. Road conditions "before" civil works commences shall be recorded by supervision engineer (E&S specialist) to record. This approach will help the project to understand level of impacts. In addition, road conditions "after" construction finish needs to be recorded as well. the level of impacts then can be determined. Ensure that contractors contract include provision to mend or fix local roads that got impacted by the project.	ESS4	MPWT/DPWTs / Construction, Operation
Land Use and Livelihoods	Border Crossing Facilities	Adverse impacts on community forest use due to forest land loss / reduced accessibility	Minimisation of Project Footprint, Development and implementation of in-migration management strategy, Staff prohibitions on	ESS6	DPWTs / MAF; PTRI, and Construction

Type of Potential Impact	Project component	Description of Potential Impact	Potential Mitigation Measure	Reference to WB ESS	Responsibility /Estimated Project Stage
		and increasing demand on both timber and NTFPs as a result of in-migration and increased accessibility of forest areas.	collection of forest resources, Restrictions on access to Project Development Area, education and awareness programs, Implementation of compensation measures, Monitoring of in-migration and community health.		
Biology	Feeder Roads	Improved logistics and cross border connectivity could promote illegal trades of timber and wildlife products from nearby forest/protected areas.	Strengthening the implementation of regulations and guidelines on illegal trade of timber and wildlife products. Support to implement of multilateral and bilateral Land Transport Cross Border Agreements. Enhance ICT for border clearance.	ESS6	MoF, MAF, MOIC / Operation
Pollution	NR2W, Feeder Roads, BCFs, and Consolidation Facilities	Operation of BCFs, Dry Port, Consolidation Facilities may increase domestic waste and waste water from new business, tourists and import-export of goods and products	Design of facilities shall have adequate and sufficient sanitary facilities for the increased users that may be occurred due the the new facilities and improved road connectivity. Seek funding to improve the district landfill and solid waste management for districts.	ESS 3,4	MPWT, MoF, MAF, MOIC / Design Stage and Operation
GHG	Dry Ports / Consolidation Facilities	Promote effective logistics management and modal shift from	Introduce effective and efficient logistics and cargo management.	ESS3	MoF, MAF, MOIC / Operation

Type of Potential Impact	Project component	Description of Potential Impact	Potential Mitigation Measure	Reference to WB ESS	Responsibility /Estimated Project Stage
		road to rail transport of goods and commodities, resulting in reduced use of fuel and thus air emissions. Use of railways between seaports and dry ports reduces environmental externalities associated with road transport such as emissions, noise, accidents, and traffic congestion on road.			
Employment	All components, except for TA.	Creation of new employment and plausible inward migration from neighbouring countries.	Minimize labour influx as much as possible promoting local recruitment Strictly comply with Labour Law. The Labour Law (2013) establishes limitations for both local and foreign workers in Laos on the hours of work and overtime, and provides for weekly rest, sick leave and leave entitlements, with special provisions for pregnant women. It also includes	ESS2	MPWT/PTRI

Type of Potential Impact	Project component	Description of Potential Impact	Potential Mitigation Measure	Reference to WB ESS	Responsibility /Estimated Project Stage
			a clause on compulsory social security for employees in accordance with the Social Security Law (2013).		
Communities	BCF at Thai Border	Potential noise and vibration from construction of BCF for communities of the Thai Border as the BCF to be developed is located close to the border of the two countries with communities on the Thai side.	<p>The following general measures shall be applied to limit impacts from noise and vibrations:</p> <p>All noise and vibration generating construction equipment shall be operated and maintained to minimize noise emissions, including using appropriate sound dampening equipment and avoiding unnecessary revving and idling of vehicles:</p> <p>Construction equipment and vehicles will be subjected to regular inspections to check noise emissions and noise control equipment.</p> <p>Stationary noise sources will be positioned as far as practicable from dwellings of the other side of the border.</p> <p>The construction works should be assigned only during the daytime, particularly the activities that</p>	ESS 1, 3 and 4	MPWT/PTRI and Contractors.

Type of Potential Impact	Project component	Description of Potential Impact	Potential Mitigation Measure	Reference to WB ESS	Responsibility /Estimated Project Stage
			<p>generate loud noise. High noise activities, such as blasting, if any, will be carried out only within the hours of 6 AM to 7 PM, and residents of near the border should be informed of these activities.</p> <p>For some activities which are necessary to be done in the night-time, only the activity with a minimum noise level may be allowed; and</p>		
Human Trafficking	NR2, Feeder Roads	Improved access, increased the risks of human-trafficking.	<p>Coordination with the Ministry of Public Security and its vertical line as well as NGOs working in the areas of human-trafficking at local levels.</p> <p>Awareness raising for workers.</p>	ESS1 and 4	MPWT/PTRI and Contractors.
Forest and Wildlife	NR2, Feeder Roads	Increased access to natural resources, induced illegal trade of timber and wildlife.	<p>The project shall not finance road improvement that could provide access to critical habitats such as wildlife sanctuaries and protected areas or may cause deforestation.</p> <p>Strictly enforcing the forestry law (2019) and wildlife and aquatic life law (2007).</p>	ESS 1 and 6	MPWT/PTRI and Contractors.

5 ENVIRONMENT AND SOCIAL MANAGEMENT PROCEDURES

269. The purpose of the ESMF is to manage potential adverse impacts by establishing a guidance document that will inform MPWT etc. of the agreed sets of environmental and social procedures and measures for the project. The ESMF is also a guidance document which outlines the necessary process for conducting future, site-specific, ESIA, ESMPs, and other relevant plans once road sections are known.

270. As an overarching guideline document, the ESMF seeks to ensure that:

- SEARECC sub-projects consider potential environmental and social issues, especially for different populations who would be directly impacted (positively or adversely) by the sub- projects;
- SEARECC sub-projects consider socio-cultural and gender sensitivities and environmental issues prevailing in areas where the proposed sub-projects would be implemented;
- During project formulation and design, adverse environmental and social impacts may arise during construction and operational phases, and appropriate mitigation/enhancement measures need to be designed with a monitoring plan developed to track implementation of site-specific instruments (ESMPs, RAPs, EGEPs);
- Environmental and social management instruments such as ESMP, RAP or EGEP are suitably prepared and followed;
- The contents of the project's Stakeholder Engagement Plan (including its provisions on grievance mechanisms) are applied for all the SEARECC sub-projects;
- Environment and social instruments are compliant with the World Bank ESF as well as national legislation;
- Project design takes into consideration the guidance in this ESMF and the mitigation hierarchy for environment and social impacts;
- Screening mechanism is determined for ES risks and impacts once road sections are identified;
- Procedures and responsibilities for the development of site-specific ESMPs are established.
- Outlines implementation arrangements and responsibilities as well as funding to prepare and implement the ESMF, ESMP, RAP and EGEP.

5.1 Technical Assistance and Project Management

271. The SEARECC project will also support institutional and operational capacity in agricultural development, transport sector, and investment management at national and provincial levels which will be led by the Department of Agriculture (DOA), Ministry of Agriculture and Forestry (MAF). The scope of this sub-component is mainly grouping into 2 parts: a) Support on agricultural trade and SPS Management and b) Support on Multi-Model Transport that will strengthen the capacity of MAF, Ministry of Health (MOH), Provincial Agriculture and Forestry Offices (PAFOs), District Agriculture and Forestry Offices (DAFOs), and border checkpoints for compliance of SPS requirements and reduce trade barriers in the targeted provinces and districts. In addition, the Department of Planning and Cooperation of MPWT will take lead in project management that will provide technical and operational assistance for strengthening E&S capacity, the day-to-day management, monitoring and evaluation of the Project, and the carrying out of technical and financial audits which includes technical support for compliance monitoring for environmental and social aspects from EDPD/PTRI.

5.2 Screening, Approval and Scoping

272. Environmental and social screening is designed to identify and document potential impacts arising from proposed sub-projects and advise on the appropriate next risk assessment and management processes and documentation to be undertaken. The environmental and social screening informs decision-makers about the need to implement measures or actions which avoid, minimize, mitigate or compensate for adverse impacts. Sub-projects are categorized according to the screening procedure depending on the type, location, sensitivity and scale of the project and the nature and magnitude of their potential environmental and social impacts. A sub-project may be deemed to have minor, moderate, substantial or high-risk impacts. This should be decided by MPWT together with the World Bank.

273. A negative list of activities has been established (see Annex 1) for most of the project components, including feeder roads, consolidation facilities, and dry ports technical assistance. Figure 5-1 presents ESMF procedures on approval and scoping and E&S plans. Specific requirements for specific components are provided below:

- NR2: The decision on which parts will be made by FS and ESIA together with MPWT and WB. ESIA will basically include the screening and also the preparation for needed documents.
- Feeder roads: MPWT and WB have done some accessibility analysis to understand the impact of road rehabilitation. The aim will be to focus on roads most likely to yield high-economic return based on agriculture activities. There will be a list of roads based on (i) the accessibility study (ii) MPWT provincial road management system (iii) requests from provincial authority. These will be assessed by the full FS/ESIA which will come with a shortlist of roads. A negative list criteria – i.e. type of

feeder roads that will not be eligible is proposed (Please see ANNEX 1 for the proposed negative list). Then basically MPWT would have a short list of roads from the FS, and when they chose the road section, the first thing will be to check it against the negative list criteria. If triggers negative list (for example, has significant resettlement) then it gets dropped. If not, goes to the next step of screening for E&S risks.

- **BCF:** Also being looked at by the FS/ESIA which will determine whether parking facilities are feasible in the Vietnam border and land acquisition needed, and what can be done in Thai border.
- **Consolidation Facilities:** Also being looked at by FS/ESIA and also should have a negative criteria list and approach like for feeder roads. ANNEX 1 provides the suggested negative list.
- **Dry Ports TA:** TA only but scoping and screening could also have negative lists that guide MPWT in choosing dry port locations in Oudomxay and Luangprabang. ANNEX 1 provides the suggested negative list.
- **Other TA:** This includes institutional strengthening, capacity building, etc. While soft activities, they should consider potential risk of excluding people, sexual abuse, Covid transmission, waste management of goods, etc. and so they should screen for these risks when activities are selected.

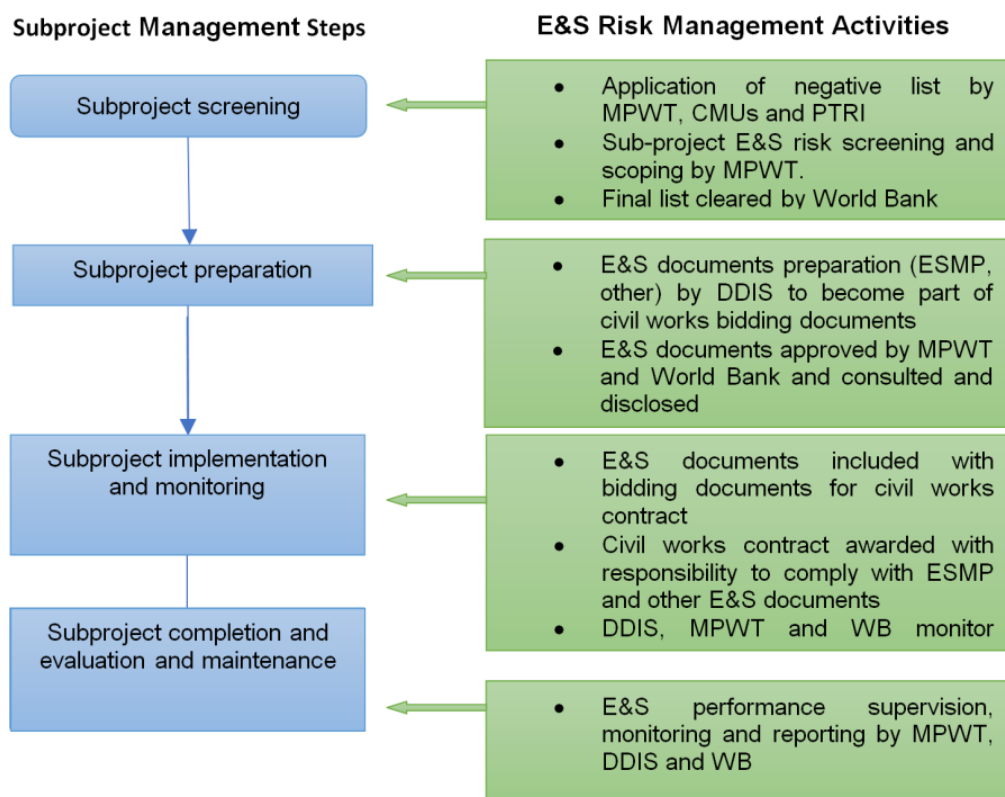


Figure 5-1 ESMF Procedures on Approval, Scoping and E&S Plans

5.3 Preparation of ESIA and Site-Specific Environment and Social Management Plans (ESMPs)

274. Once locations for each subproject have been identified, site-specific ESMPs will be required and prepared. ESMPs will be prepared as part of the tasks of the consultants that will prepare the ESIA. The ESMPs will establish the environmental and social standard and compliance mechanisms and serve as the contractual basis for supervision and enforcement of good environmental and social practice during sub-project civil works. The ESMPs should be guided by this ESMF as well as the ESIA, including the potential impacts and mitigation measures, which should be further detailed to mitigate risks and impacts within specific locations and specific civil work activities or amended as needed, including by breaking them down into impacts/mitigation during pre-construction, construction, operations and maintenance. Once contractors are in place, they will be responsible for preparing their own site specific C-ESMPs.

275. The environmental and social analysis, design and preparation of an ESMP for each subproject must be conducted in close coordination with the feasibility and engineering design. The ESMP should be read together with other documents that may be required, such as Resettlement Action Plans (RAP) and/or Ethnic Groups Engagement Plan (EGEP), as the RAP and EGEP may be part of the set of management plans to mitigate social impacts, if required. The RAP and EGEP should follow the guidance outlined in the existing Resettlement Policy Framework (RPF) and Ethnic Groups Engagement Framework (EGEF) that have been prepared by MPWT during project preparation. Stakeholder engagement should follow the parameters outlined in the project's Stakeholder Engagement Plan (SEP), and ensuring the SEP is updated. MPWT will make sure that the ESMPs (and other ESF tools if required) for each subproject are consulted and disclosed prior to bidding. RAPs need to be implemented prior to construction works. MPWT will also ensure that a grievance mechanism is in place during the entire project process to address any concern or suggestion for improvement coming from the stakeholders at local or national level.

5.4 Information Required in ESIA and ESMPs

276. As has been mentioned, the MPWT shall prepare an Environmental and Social Impact Assessment (ESIA) to identify and assess the potential environmental and social impacts of a proposed project, evaluate alternatives, and design appropriate mitigation, management, and monitoring measures. ESIA/ESMP will be required for each subproject, and site specific RAPs and EGEPs will be prepared when required. The ESIA will include an ESMP that will provide measures to be taken during the project's pre-construction, construction and operation phases. The ESIA and ESMP(s) should include inter alia the contents included in ESS1 – Annex 1. Environmental and Social Assessment of the WB's ESF ("D. Indicative outline of

ESIA” and “E. Indicative Outline of ESMP”) which are available on WB’s website⁴¹. In preparing the ESIA, the Consultant shall carefully review E&S requirements of the GOL, WB ESF and EIB E&S policies and prepare ESIA that comply with requirements of GOL and donors in a streamline manner to avoid unnecessary repetition. The MPWT/DOR scope of work includes preparing IEE for submission to the PONRE/GOL for clearance and ECC issuance.

277. Main objective of the ESIA study is to identify existing baseline and assess potential environmental and social impacts. As a result, the Project’s ESMP will mitigate the potential negative impacts of the proposed project on local communities and local environment including enhancing potential positive impacts when possible. ToRs for studies on dry ports, truck terminals etc. will include the need to assess and address social risks and impacts. Such facilities, to be identified at the full feasibility stage (expected in 2022), may require land acquisition for the facility and/or access roads and (temporary) construction camps, as well as water supply, electricity, and internet. The SEARECC will ensure that TORs include tasks and responsibilities around identifying and planning for land acquisition needs and that any land acquisition is done in line with this RPF and WB ESS5 standards, including following the principle of trying to avoid land acquisition as much as possible. Please refer to ANNEX 17: Terms of Reference for the Feasibility Study and Environment and Social Impact Assessment (ESIA). The ESMP should ensure adequate coordination with other documents including, RAPs and EGEPs and the SEP.

278. The ESMP shall include:

- a) A social and environmental baseline assessment with available information concerning the general population distribution, concentrations of ethnic peoples if applicable, concentrations of low-income communities if applicable, areas of significant ROW encroachment, sensitive and/or critical natural habitats, major rivers and waterways, recorded cultural heritage sites, and any other potentially sensitive areas, based on recent census, official data and information garnered from civil society organizations as well as detailed site visits, for the proposed road section (this may be, if relevant, a summary from the ESIA);
- b) Identification of all physical, environmental and social risks or impacts along the road;
- c) Identification of mitigation measures for all impacts identified, by kilometres along the alignment, including on SEA/SH and road safety;
- d) The environment and/or social instrument in which the mitigation measures will be included (i.e., RAP, EGEP, construction specifications, bidding documents, SEP, etc.);

⁴¹https://www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-standards?cq_ck=1522164538151#ess1

- e) Agency responsible for implementation, including capacity needs training necessary;
- f) Timing for implementation of the mitigation measure (before construction, during construction, during planning, etc.);
- g) Sources of funding for implementing the mitigation measure.

279. The ESMP should also identify specific community participation mechanisms, guided by the project's Stakeholder Engagement Plan, to address environment and social issues, as well as a detailed Grievance Redress Mechanism to deal with stakeholder's complaints or concerns.

280. The objectives of the ESMP will be to:

- a) Identify management mechanisms to deal with environmental and social impacts identified in the ESIA, including working together with project planners to ensure road designs can address these impacts;
- b) Ensure that road engineers and technicians can find solutions for any problems arising during road construction or maintenance activities; and
- c) Ensure that project affected and interested stakeholders have necessary project information, are consulted and engaged, and have a mechanism to submit grievances.

281. The requirements of the ESMP, and this ESMF, and MPWT's commitment to implement the mitigation measures are included in the Environment and Social Commitment Plan (ESCP). ANNEX 4: Outline for Environment and Social Management Plan (ESMP).

5.5 Responsibilities for Preparation and Bidding Document

282. MPWT will have overall responsibility for the preparation of the full ESIA and site-specific ESMPs, and any other document required (RAPs or EGEPs for example), and all documents will need to be cleared by the World Bank, consulted on and publicly disclosed in local language (and English) and included as part of bidding documents for civil works contractors. Contractors need to prepare site specific C-ESMP, based on the ESMP. Contractor would be in charge of implementation of the mitigation measures during construction while supervising engineer for implementing of monitoring plan.

283. These documents will be prepared by MPWT/DPWTs with technical support from PTRI. Therefore, this ESMF, and the RPF, EGEF, and SEP, should be part of bidding documents for the ESIA consultant. Meanwhile, the ESIA and prepared plans (ESMPs, RAPs, EGEP, SEP), should be part of bidding documents for construction contractors.

5.6 Responsibilities for Supervision and Monitoring on ESMP Implementation

284. MPWT/DWPTs with technical support from PTRI will have overall responsibility for supervising contractors (and their subcontractors if applicable) conducting the civil works for identified project in their implementation and compliance with the C-ESMPs once these are prepared. In this task, MPWT will be assisted by PTRI/EDPD, who will be responsible for training the DPWTs/ESMWGs and providing needing assistance, as further detailed in the sections below. Figure 5-2 shows the ESMP process.

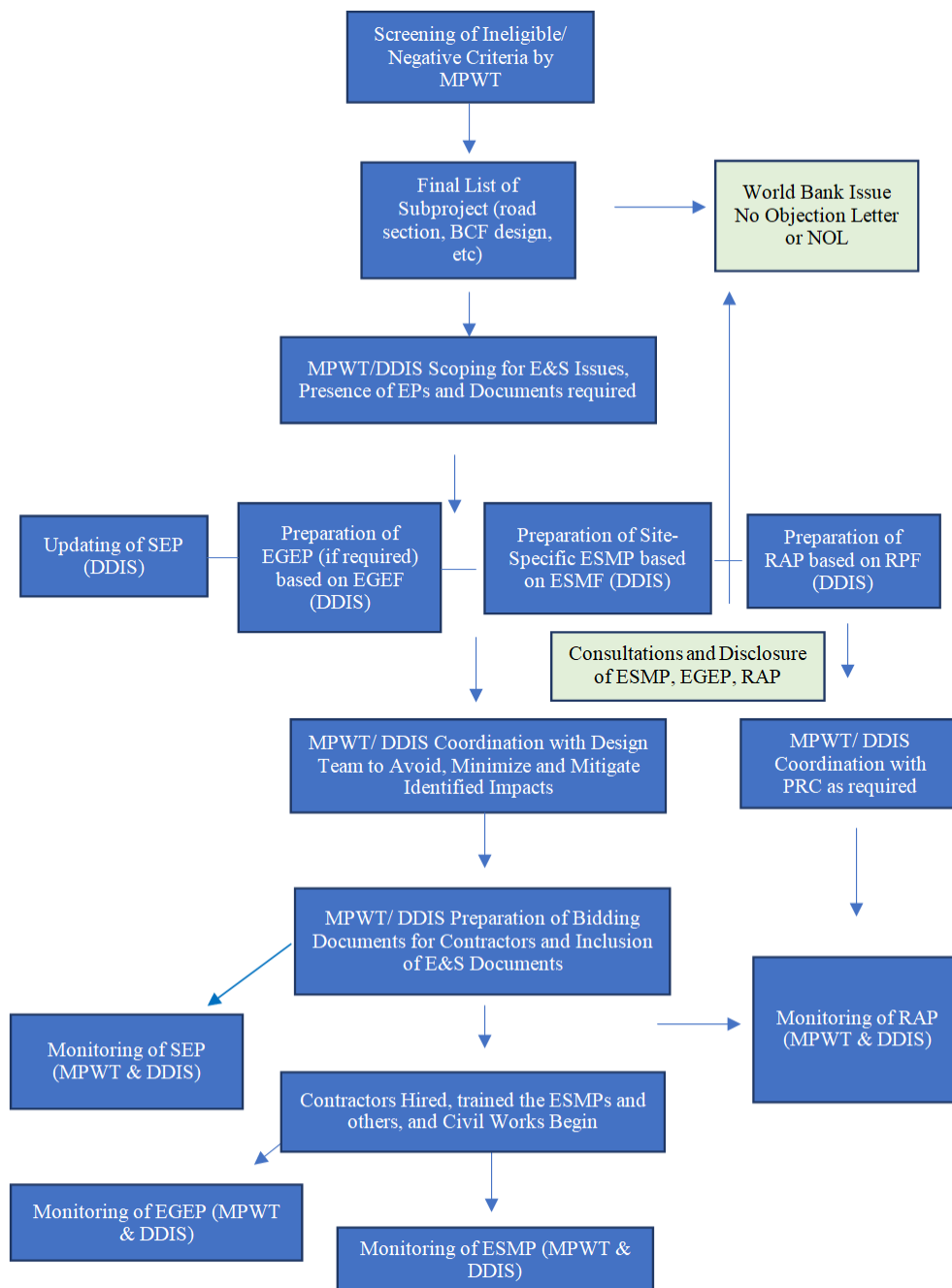


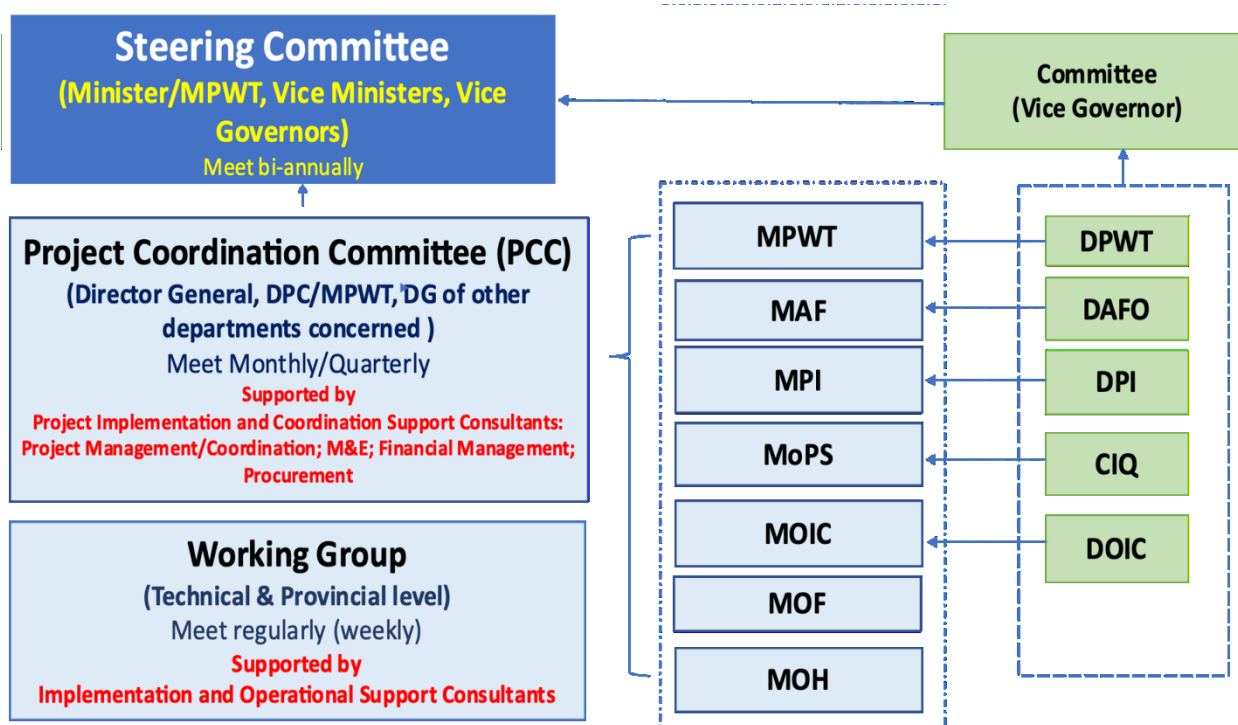
Figure 5-2 ESMP Process

6 INSTITUTIONAL ARRANGEMENTS

6.1 Overall Project Management

285. The Southeast Asia Regional Economic Corridor and Connectivity Project (SEARECC) will be implemented through the government administration systems, with support from a team of implementation support consultants. However, to enhance coordination among agencies involved in the project implementation, the following mechanisms are to be established.

- (i) **A multi-sectoral Project Steering Committee (PSC)**, chaired by the Minister of Ministry of Public Works and Transport (MPWT) and consists of Vice Ministers of Ministry of Agriculture and Forestry (MAF), Ministry of Health, Ministry of Industry and Commerce, Ministry of Finance, Ministry of Foreign Affairs, Ministry of Planning and Investment, Ministry of Public Security and Vice Governors of Oudomxay, Luang Namtha, Luang Prabang, Phongsaly and Xayabouly provinces as members, will be responsible for overseeing the overall project implementation and meet twice a year to solve any policy issues and implementation issues that could not be solved by implementing agencies and PCC.
- (ii) **A Project Coordination Committee (PCC)**, chaired by the Director-General of Department of Planning and Cooperation (DPC)/MPWT and consists of Director General/Deputy Director-General of the sectoral and provincial implementing agency, will be responsible for overall project management including, manage, facilitate and coordinate the project implementation and monitoring at the working level and serve as a secretary to the steering committee. PCC, with support from DPC/MPWT, PCC's secretariat, will meet monthly basis to follow up and resolve issues related to project implementation and multi-agencies coordination. The PCC will be supported by a team of project implementation and coordination support consultants, including Project management/coordination, M&E, Financial Management specialist, procurement specialist and E&S Consultants.
- (iii) **A Technical Working Group** at component/sub A component level and in each project province will be established. The Group will be led by the Director or Deputy Director of the division of leading agencies and will meet regularly (weekly). An implementation and operational support consultant will be hired to support the Working Groups, and or each component/sub-component as required.



6.1.1 Ministry of Public Works and Transport (MPWT)

286. The Ministry of Public Works and Transport (MPWT) through the Department of Planning and Cooperation (DPC) will take the lead in implementation and work with government at national, provincial, district, and village level. Sectoral implementing agencies include: (a) Ministry of Agriculture and Forestry (MAF) responsible for institutional and operational capacity development in agricultural value chains; (b) Customs Department, of the Ministry of Finance (MOF), and the Department of Import and Export of the Ministry, of Industry and Commerce (MOIC), will be responsible for implementing Customs and trade facilitation activities through the National Trade Facilitation Committee (NTFC) and Provincial Trade Facilitation Committee (PTFC); (c) Ministry of Planning and Investment (MPI) will be responsible for Public Private Partnerships (PPP) and strengthening provincial capacity on management of private sector investments; and (d) Ministry of Public Security (MOPS) will oversee border facility management and security, immigration and border crossings, with relevant provincial authorities, working on the border facility management, management of private sector investment, and ensure consistency between national regulations and local practices of border facility operation.

287. The SEARECC will be implemented using existing government structure. Table 6-1 presents responsible agencies and key functions for ESMF, SEP and ESCP implementation. While the MPWT will be assuming the overall responsibility for implementing the project, the Department of Planning and Cooperation (DPC) under the ministry will be responsible for overall project management and coordination to ensure that the implementation report of the Project comprises a section on ESF implementation. The following are the responsible Ministry and Departments of each Components to ensure compliance to implementation of E&S instruments:

- Component 1: Department of Road (DOR), MPWT
- C2.1 & C2.2: Department of Transport (DOT), MPWT
- C2.3: Trade Facilitation Secretariat, MOIC
- C3.1: Department of Agriculture (DOA), MAF
- C3.2: Department of Planning and Cooperation (DPC), MPWT
- C3.3: Department of Investment Promotion (DIP), MPI
- C4: Department of Planning and Cooperation (DPC), MPWT

6.1.2 Environmental and Social Instruments Implementation and Management

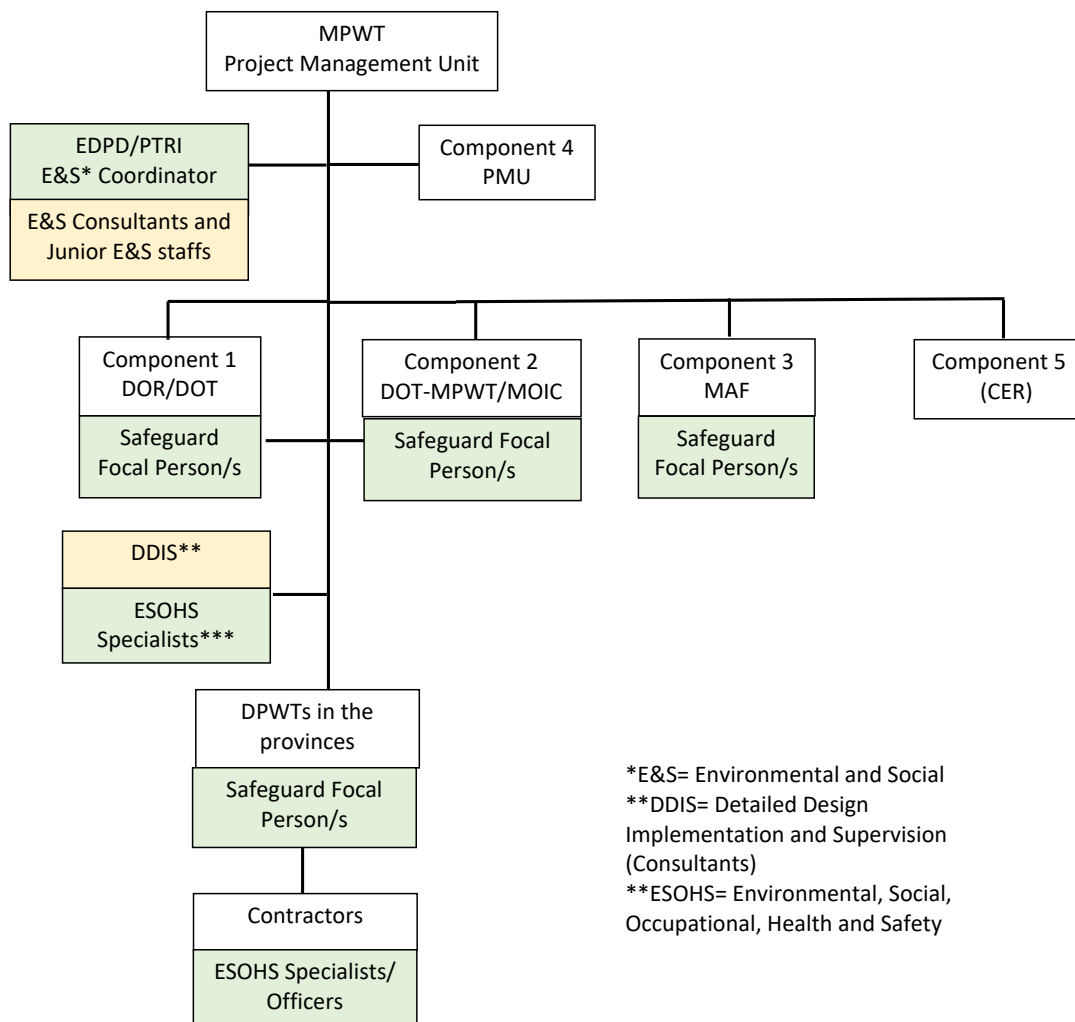


Figure 6-1 E&S Implementation and Management

288. The EDPD/PTRI will work in close coordination with and provide technical support to the Component Management Units of MPWT; and the provincial DPWTs

who will be actually planning and implementing the project on the ground, including environmental and social instruments. EDPD/PTRI will be tasked with overall supervision and monitoring of the implementation of environmental and social measures. EDPD/PTRI shall manage the GRM for CMUs under MPWT and other CMUs of other ministries shall manage their respective GRMs, described in Section 8. This is where the E&S Unit sits.

289. MPWT with the technical support from EDPD/PTRI will be responsible for ensuring that E&S requirements are mainstreamed in maintenance planning, design and pre-construction works including tendering and contracting process. At subproject level, DPWTs are responsible for planning and implementation of E&S activities including including the implementation and management of the GRM. The DPWTs of the Project provinces will assign E&S focal persons to be responsible for compliance with environment and social standards of the project activities. The DPWTs and the E&S Monitoring Working Groups (ESMWGs) will be responsible to carry out subproject E&S impact screening, the required E&S planning activities and develop the necessary E&S plans. The E&S plans will be submitted to EDPD/PTRI, who will review and approve all the ESF documents (ESMP/Alignment Sheet, EGEP, SEP, RAPs) of the subprojects. All the documents will be kept in the project files for possible WB review. For subprojects require IEE, DPWTs assisted by qualified consultant of the MPWT with the assistance of EDPD/PTRI will prepare an IEE report. DPWTs and ESMWGs will take the lead in the consultation of local authorities and community during the IEE report preparation and securing approval. If an IEE report is not required, DPWTs and ESMWGs will take the lead in the implementation of the activities in close consultation with PONRE/DONRE.

290. The DPWTs with the technical support from PTRI will be responsible for implementation of the subproject ESMP, EGEP, SEP and/or RAPs including the day-to-day supervision of contractors through the Construction Supervision Consultant (DDIS) and/or filed engineers.

291. All civil works and construction will be under MPWT.

6.1.3 EDPD/PTRI

292. The EDPD/PTRI will lead E&S supervision and monitoring at the project level, including six month and annual monitoring and preparation of the six month and annual E&S monitoring report to be submitted to WB for review.

Table 6-1 Key responsibilities for ESMF implementation

Subproject cycle	MPWTs and EDPD/PTRI	DPWTs and CMUs
<ul style="list-style-type: none"> • Program activity screening and selection; and E&S screening 	<ul style="list-style-type: none"> • EDPD/PTRI and DPWTs • Prepare an annual work plan for the subproject to be approved by MPWT. • EDPD/PTRI: • Advice other stakeholders of environmental and social 	<ul style="list-style-type: none"> • Screen subproject for eligibility against negative list provided in the ESMF (ANNEX 1). • For eligible subproject, screen subproject for key E&S issues and actions

	<p>procedures.</p> <ul style="list-style-type: none"> Review and approve the concept note/idea and screening forms and advise applicants regarding the nature and content of the ESF documents and measures to be prepared. 	<p>(ANNEX 2), including screening for the presence of ethnic groups in line with ESS7 and the likely need that land acquisition and resettlement is needed, as part of the annual work plan during the subproject selection stage. Results of the screening form will be attached to the proposed subprojects to be included in the annual work plan.</p>
<ul style="list-style-type: none"> ESF preparation 	<ul style="list-style-type: none"> EDPD/PTRI: Advise MPWT on E&S issues, as needed, and provide required training and assistance. The MPWT will hire and mobilize a consulting firm to prepare the ESIA, ESMP, EGEP, RAP and IEE . 	<ul style="list-style-type: none"> DWPTs and CMUs of other ministries to undertake E&S preparation actions as required, such as consultations with local communities and/or collection of data. Design E&S measures and prepare documents, such as an ESMP (including LMP), EGEP, RAP, etc. as agreed with EDPD/PTRI. If applicable, disclose draft E&S documents with the subproject proposal to affected communities prior to final review of proposal by the EDPD/PTRI. Update the project's SEP as required, including the GRM
<ul style="list-style-type: none"> ESF review and approval 	<ul style="list-style-type: none"> EDPD/PTRI: Review and approve all ESF documents (ESMP with LMP, EGEP, SEP, RAP/ ARAP) of subproject) for compliance with EMSF, RPF, SEP and EGPF. Assess the adequacy and feasibility of the ESF assessment and consultation process. If needed, request further steps. Assess the adequacy and feasibility of the ESF measures and documents. If needed, request appropriate changes to these and reassess prior to final approval. 	<ul style="list-style-type: none"> Submit subproject proposal with E&S measures and documents as agreed. If requested by the EDPD/PTRI takes additional steps to meet ESMF and ESF provisions. Re-submit proposal with revised E&S measures and documents, as needed. All national and local legislation and regulations will be complied with. Prepare an action plan as needed if the subproject is likely to have some impacts on PA and/or PFA. For subprojects require IEE, DPWT assisted by

	<ul style="list-style-type: none"> • As applicable, publicly disclose E&S related information on the website after subproject approval. • For subprojects require IEE, review and comment on the IEE report prepared by the consultant before the final report is submitted to PONRE for review and approval. 	<ul style="list-style-type: none"> • qualified consultant will prepare an IEE report. • Disclose final ESF documents, as required to affected communities.
<ul style="list-style-type: none"> • Implementation 	<ul style="list-style-type: none"> • (DDIS)Consultants • Responsible for day-to-day supervision of Contractor performance and implementation support to DPWT and EDPD/PTRI during the implementation of the SEARECC including ensuring full compliance with the ESS measures as required by the WB and GOL • EDPD/PTRI: • Supervise and review ESF documents and issues during subproject implementation. If needed, request changes to E&S measures. • Provide regular progress reporting and preparation and support to regular monitoring missions. • Maintaining the GRM database and reporting on the GRM. MPWT: • Ensure that appropriate ESCOP, LMP and CoC have been incorporated into the bidding and contract documents and that the contractors are aware of t obligations and agreed that it is part of the subproject cost. 	<ul style="list-style-type: none"> • Ensure effective implementation of E&S activities of the subproject. • Monitor and document the implementation of E&S measures. • When ethnic groups (identified in line with ESS7) are affected, include them in participatory monitoring and evaluation exercises. • Conduct E&S implementation completion review and prepare E&S implementation completion reports.
<ul style="list-style-type: none"> • Internal and External Monitoring 	<ul style="list-style-type: none"> • EDPD/PTRI: • Ensure inclusion and review of E&S issues and outcomes in mid-term and final subproject evaluation and reporting, including concerning any lessons learned on the sustainability of each subproject. • Conduct review of the subproject E&S 	<ul style="list-style-type: none"> • Evaluate the implementation and outcomes of E&S measures. • When ethnic groups (identified in line with ESS7) are affected, include them in participatory evaluation exercises.

	<p>implementation completion reports and confirm compliance of the agreed ESMF</p> <ul style="list-style-type: none"> • Conduct an independent technical audit of the implementation performance of both environmental and social measures in close coordination with PONRE/DONRE. The technical audit report will be presented to the WB. 	
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293. E&S clearance: EDPD/PTRI will review and approve all the ESF documents (provincial ESMP with LMP, Alignment Sheet, SEP, EGEP, ARAPs) of the subprojects and will also prepare an annual work plan for E&S activities to be approved by MPWT. All the E&S risk management instruments prepared during project implementation stage will be submitted to WB for prior review before commencement of civil works. As required by Laos ESIA regulation for road maintenance projects, Initial Environmental Examination (IEE) will be prepared by qualified consultant during the full ESIA stage and conduct consultation as required by GoL. DPWTs/ESMWGs and EDPD/PTRI will review and comment on the IEE report prepared by the consultant before the final report is submitted to PONRE for review and approval.

294. E&S risk management implementation, monitoring, and reporting: DPWTs responsible for execution of the subprojects and will be responsible for implementation and day-to-day supervision and monthly monitoring of ESMP (and LMP), SEP, EGEP, RAPs and/or ARAPs. Periodic supervision, monitoring, and reporting (Bi-annually and annually) will be conducted by EDPD/PTRI in close cooperation with DoR and/or other agencies as needed. The WB will conduct E&S supervision and monitoring during project implementation.

6.1.4 Provincial Department of MPWT (DPWT)

295. DPWTs will be responsible for overseeing the implementation of the subproject ESMP (and LMP), SEP, EGEP, and/or RAPs including the day-to-day supervision of contractors through the Construction Supervision Consultant (DDIS) and/or field engineers and E&S Consultants.

296. The EDPD/PTRI will lead E&S supervision and monitoring at the project level, including six month and annual monitoring and preparation of the six month and annual ESF monitoring report to be submitted to WB for review.

297. DPWTs and the ESMWGs will be responsible for carrying out monthly monitoring of contractors and implementation of other E&S measures including preparation of E&S monthly monitoring report to be submitted to EDPD/PTRI. The EDPD/PTRI will be responsible for providing E&S training to DPWT staff, ensuring effective mainstreaming of E&S requirements into the road development project

cycle, and undertaking research activities including updating the ESOM in close consultation with MoNRE and other agencies. The EDPD/PTRI, and DPWTs/ESMWGs will be responsible for keeping proper documentations for possible review by the WB.

298. Given that road development will remain to be priority for the country development and that implementation of PPP modality in road sector is relatively new in Lao PDR, it is necessary to build capacity of MPWT and EDPD/PTRI to work closely with the provinces and key agencies of MoNRE (DOE and DPC), DOF of MAF, and the Ministry of Planning and Investment (MPI) so that investment and E&S activity could be coordinated timely and effectively. EDPD/PTRI will establish a working group on road works to facilitate effective coordination and cooperation among key agencies (at national and local levels) on E&S for medium and large-scale road projects (road rehabilitation, improvement, and upgrading). The working group will also be responsible for overseeing the planning and implementation of the case studies as well as other capacity building activities aiming to ensure effective integration of E&S measures into road development project cycles including those to be implemented by the private sector.

6.1.5 Provincial Resettlement Committee (PRC)

299. Further planning and implementation of the Project will be undertaken through consultation with, and advice from, provincial and district government agencies, through the Provincial Resettlement Committee (PRC). The EDPD/PTRI will provide technical support in establishing PRCs in each of the provinces. The main function of the PRC is to represent the interest of the PAPs and stakeholders in dealing with project impacts and mitigation measures. The PRC will appoint a management and an operational unit to be responsible for the overall process of resettlement and compensation. The PRC will meet regularly, and will have an inaugural meeting at least one month before the start of the Project and will operate during the construction of the subprojects and for up to two years after completion of construction activities (to monitor impacts and take action where necessary). The minutes of meetings and activities of PRC will be incorporated into overall Project internal and external monitoring. The responsibilities of PRC will be as follows:

- Coordination of relevant Government organizations with MPWT, DPWT and PTRI to ensure that ARAP/RAP is properly implemented;
- Review and provide comments on valuation of land and assets (crops, production, replacement values, etc.) for compensation for APs/AHs
- Organization of provincial and district level meetings and consultations as required; Monitoring and auditing funds that are earmarked for ARAP/RAP and EGEP implementation; and
- Participation in resolution of, and follow through, of claims or complaints lodged via the established grievance redress procedure.

6.1.6 Component Management Units (CMUs) of other Ministries

300. This ESMF applies to all project components, thus all CMUs are responsible for ESF implementation and compliance. All CMUs shall assign a E&S focal person/s at the provincial level to ensure proper implementation of LMP, Code of Conduct, SEP and preparation of EGEP, if necessary. This includes regular monitoring and reporting to the PMU of the project.

301. The CMUs of other ministries shall also establish their respective GRMs in the provinces that would follow the procedures indicated in the LMP and EGEP.

302. All CMUs will submit monitoring report of ES implementation to the PMU of MPWT.

6.1.7 Consultants

303. The Detailed Design Implementation and Supervision (DDIS), which include environmental and social specialists, shall be responsible for day-to-day supervision of Contractor performance and implementation support to DPWTs and EDPD/PTRI during the implementation of the SEARECC including ensuring full compliance with the ESS measures as required by the WB and GOL. The DDIS will be required to have a E&S Team Leader, international and national E&S specialists, as well as, as required, additional specialists such as on Land Acquisition and Resettlement, Labour Management, OHS, SEA/SH and gender (though some may be covered by the same specialist). The tasks include, but not limited to, the followings:

- i) Review and recommend for approval of the detailed designs as well as the C-ESMP to be prepared and submitted by the contractor (including any adjustments, compliance with design standards and international best-practice in terms of climate resilience, recommendations on road safety from road safety audits, ESS measures especially those related to safety of workers and local communities, etc.) in line with the Project ESMP (and LMP), RAP, SEP, and EGEP approved by WB and GOL;
- ii) Capacity building of the Client E&S staff;
- iii) Monitor works progress, compliance with minimum requirement of technical specifications of the works and quality control, as well as ensuring compliance with C-ESMP and other ESS requirements during construction and maintenance works;
- iv) Monitor compliance with service levels of the O&M activities from start up till the end of the Assignment, including providing advice to MPWT on technical issues, contract management, and E&S activities;
- v) Supervise and monitor the implementation of mitigation measures to reduce potential negative impacts on local environment and local people during construction and maintenance services as required by the WB and GOL, including review, approve, and monitor the C-ESMP to be prepared and implemented by Contractor. Special consideration will be given to ensure

effective implementation of the ESHS measures to prevent and address occupational and community health and safety issues of workers and local communities and compliance with the Code of Conduct (COC) related to SEA, GBV, VAC, and the campaigns related to HIV/AIDs awareness, Covid-19 prevention and road safety;

- vi) Strengthen the capacity of DoR/MPWT to implement and monitor OPBRC contracts and climate resilient roads including those related to ESS measures;
- vii) Arrange management meetings, site inspections and other jobs conferences in liaison with the OPBRC Contractor;
- viii) Engage external service from a certified iRAP (international Road Assessment Programme) consultant to perform baseline and post-construction assessments and star ratings for the Project Road;
- ix) Other tasks as necessary in the project implementation. More details please TOR of DDIS (or ISWS).

304. DDIS shall be responsible for conducting the instrument monitoring and will engage external service from a certified laboratory for air quality, noise and water quality, as and when required. During the O&M phase, DDIS will be responsible for the monitoring; after the expiry of their contract, PTRI will be responsible for this task. The monitoring shall be carried out in compliance with best international practices. The location and number of monitoring sites as well as frequency of monitoring can be adjusted as required.

305. The DDIS shall prepare the following reports:

- i) **Inception Report** (maximum length of 15 pages, excluding annexes). The Inception Report shall include a work plan for the assignment, team composition, challenges anticipated and comments to the TOR, if any. List of people met and minutes of meetings shall be provided in Annexes, if any. The Implementation Work Plan for RAP, ESMP, SEP and EGEP shall include content described in TOR. The draft Inception Report and Implementation Work plan for RAP and EGEP shall be submitted to PMU and ESD/PTRI and the WB within two weeks after the date of contract signing. The final Inception Report and the implementation Work Plan shall be submitted within one week after receipt of approval from the PMU and EDPD/PTRI and the WB.
- ii) **Monthly Progress Reports**: The Consultants shall prepare a concise monthly progress report, in a format to be agreed with DoR/MPWT. These reports will be sent to DoR/MPWT within one week of the end of the month. Such reports shall summarize the activities of the Consultants including those related to ESS activities, the progress of the OPBRC, all contract variations and design changes, the status of Contractor claims (if any), brief descriptions of the technical and contractual problems being

encountered (and solutions recommended) progress and issues related to the implementation of the ESS activities, including grievance redress, and other relevant information.

- iii) **Quarterly Reports:** The Consultants shall prepare a comprehensive quarterly report summarizing all activities including financial and ESS aspects of the OPBRC, at the end of each quarter (not later than the 14th day of next quarter), and at other times for the Periodic Report when considered necessary by either the Consultants or DoR/MPWT because of delays in the construction works or the occurrence of technical or contractual difficulties. The quarterly report shall also summarize the performance of the Consultant's staff in implementing their monitoring supervision responsibilities. In addition, the report will also include progress and issues related to the implementation of E&S measures, as well as works' compliance with WB requirements. The report will include reporting on the GRM.
- iv) **Accident Reports:** Reports of the circumstances of any significant accident occurring on the sites shall be promptly informed to DoR/MPWT, DPWT, and EDPD/PTRI within 24 hours. Specific reports related to the incident will be prepared and submitted as required by the WB. The consultant will also conduct root cause analysis, make recommendations to avoid future incidence, as well as monitor and audit implementation of agreed recommendations.
- v) The Consultants shall ensure the immediate reporting to MPWT, DPWT, and EDPD/PTRI of complaints related to SEA/SH and/or child abuse, any pollution incident/accident, any fatality and/or bodily harm affecting Project (including contractor) staff or project affected people, any public opposition, and the issuance of any notice or fine for breach of environmental, labour, health or safety laws and regulation.
- vi) **Environmental and Social Monitoring Reports (semi-annual and annual):** In close consultation with EDPD/PTRI, the Consultants shall prepare and submit to the MPWT, WB and other financiers (within 14 days after the end of the period) a consolidated semi-annual and annual monitoring report summarizing all environmental and social activities (ESMP, RAPs, EGEP, SEP, etc.) including progress and records on GRM and other aspects related to road safety, workers OHS, employment, community health and safety, etc. The report shall also summarize the performance of the Consultant's staff in implementing their supervision responsibilities. AP implementation and/or other monitoring reports may also be required during the Assignment as requested by the GOL and/or WB. These reports will include reporting on the GRM.
- vii) **RAP, ESMP, EGEP and SEP Completion Report.** The draft Completion Report shall be submitted to PMU and ESD/PTRI and the Financiers within

two weeks after the completion of the project. The final version shall be submitted within two weeks after receipt of approval from PMU and ESD/PTRI and the Financiers. The reports shall be supported by evidence of compensation, minutes of the important meetings, key technical notes and summary of grievances received and addressed. The consultant will submit 5 packages of deliverables listed above to PMU and ESD/PTRI in both Lao and English languages in hard and electronic copy. One package will be forwarded to WB. No works will be authorized before the relevant E & S instrument has been approved by the MPWT and the World Bank.

6.1.8 Contractor

306. The Contractor shall appoint a full time National Environmental and Social Manager (ESM) (assisted by an appropriate number of E&S supervisors) to be a member of the construction management team based on site for the duration of the contract.

307. Key responsibilities of the Contractor (through the ESMP) are as follows:

- Preparing the C-ESMP, including LMP, for approval by the Engineer prior to the Contractors taking possession of the construction site (see below).
- Ensuring the C-ESMP is implemented effectively throughout the construction period.
- Coordinating community relations issues through acting as the Contractor's community relations focal point (proactive community consultation, complaints investigation and grievance resolution).
- Establishing and maintaining site records of:
 - Weekly site inspections using checklists based on the C-ESMP ;
 - Accidents/incidents including root cause analysis and resolution activities;
 - Waste manifests;
 - Non-compliance notifications issued by the Engineer;
 - Corrective action plans issued to the Engineer in response to non-compliance notices;
 - Community relations activities including maintaining complaints register;
- Preparing monitoring reports (Monthly, including weekly checklists));
- Routine reporting of C-ESMP compliance and community liaison activities;
- Adhoc reporting to the Engineer of environmental^[1] incidents/spillages including actions taken to resolve issues; and

- Provide daily toolbox training at the construction camp and also at construction sites. The Contractor will keep a record of all monthly training and toolbox training undertaken.
- Provide training on OHS, SEA/SH, STD/HIV, COVID-19, etc.

308. Following approval of the C-ESMP, the Contractor will be required to attend a series of meetings with the DDIS and/or Field Engineers to ensure that all compliance conditions and procedures are clearly understood and actions can be implemented on the ground. As part of the day-to-day supervision of works, DDIS/Field Engineers are also responsible for day-to-day supervision and monitoring of compliance of the C-ESMP and report the results in the progress report. The Contractor will be responsible for ensuring that all sub-contractors abide by the conditions of the Site Specific Environmental and Social Management Plan (C-ESMP).

309. Since this is a Output and Performance-Based Contracts (OPBRC), the contractors will be responsible for implementation of the mitigation measure during the first 3 year's construction phase as well as the following 7 year's operations and maintenance (O&M) while the DDIS and/or field engineer will be responsible for day-to-day monitoring of the C-ESMP implementation and ensure compliance. The implementation cost of the C-ESMP will be part of the OPBRC cost while that for RAP, GAP, SEP and EGEP will be financed by GOL. Some of the activities outlined in the SEP and EGEP, for example, using translators to communicate with local EG communities will also need to be implemented by the Contractor when performing these tasks. As such, a small part of the cost (for translation during community outreach) may need to be borne by the contractor. The ESMF requirements described in this ESMP⁴² as well as GOL requirements/ conditions during approval of the Initial Impacts Examination (IEE) and issuance of the Environment and Compliance Certificate (ECC) will be considered during the preparation and approval of the C-ESMP and its sub plans.

6.2 Ministry of Agriculture and Forestry (MAF)

310. MAF will be responsible for managing animal and plants product trade, ensuring trades are compliant with export and import SPS requirements. MAF is required to issue a Certificates for plant and animals product exports and dispatches plant and animal quarantine staff to border checkpoints and local border crossings for border inspection and clearance of plants and animal products. They will ensure that no Wildlife and Timber Trafficking along the border crossing.

⁴² Attachment 2b (road safety), Attachment 5 (issues and mitigation and the Alignment Sheet, Attachment 6 (ESCOP), Attachment 7 (COC), Attachment 8 (accident report form), Attachment 9 (GRM), Attachment 10 (Contingency Planning for Response to COVID-19), Attachment 11 (Summary of first Consultation Meetings), and Attachment 12 (Minutes of Meeting on draft ESMP with list of participants and Photos).

6.3 Northern Agritech

311. The Northern Agritech Center located at the Xay district, Oudomxay province, the center of the five target provinces and the National Road # 2 corridor. The center will be responsible in providing technical and operational support to agricultural trade promotion and in SPS management, especially promoting market access compliance with SPS requirements of China, Vietnam, and Thailand. This regional laboratory will serve for conducting surveillance (insect pest, animal disease and food poisoning) and addressing sanitary and phytosanitary standards issues for selected agricultural exports.

6.4 Ministry of Health (MOH)

312. MOH will manage international trade in processed and semi-processed agri-food, ensuring that they are safe to consume, free of toxic residue contamination. Its Bureau of Food and Drug Inspection (BFDI) and Food and Drug Quality Control Center (FDQCC) are responsible for issuing necessary quality certificates for export of processed food products in compliance with SPS requirements. They are also responsible for the establishment and implementing activities in one-stop crisis centers to provide emergency services and long-term physical and emotional treatment for women and children who are victims of violence at no cost, and provide health education to families and pre-primary school children, especially those who are victims of physical, emotional and sexual violence including guidance on HIV/AIDS and COVID19 infectoin prevention.

6.5 Ministry of Public Security (MOPS)

313. MOPS will oversee border facility management and security, immigration and border crossings, with relevant provincial authorities, working on the border facility that will avoid Migrant Smuggling and Human Trafficking; Illicit Drugs and Drug Precursors. The MOPS will also ensure traffic and compliance on rules and regulations on road safety along the NR2. The MOPS is also responsible for monitoring and identifying offenders in order to initiate case proceedings and investigations into violence against women and children (VAW/C).

6.6 Capacity Assessment and Needs

314. At the national level MPWT, MAF, MOIC and MPI have experience working with World Bank financed projects, but only limited experience of implementing environmental and social (E&S) risk management under the Environmental and Social Framework (ESF). Participating local government departments are known to have institutional capacity constraints and current systems for E&S risk management are weak. Building social risk management capacity for land acquisition and stakeholder engagement is included in the project through various ways, including formal as well as informal training, as part of the capacity building program under Component 3 and the TA support for project management under Component 4. Among the key agencies involved in ESMF implementation, EDPD/PTRI is the only

agency with enough E&S capacity and staffing to oversee the implementation of ESF instrument for the project. Given the restructuring of MPWT since 2016, roles and responsibility of MPWT agencies and DPWT have been modified over time and EDPD/PTRI is now the lead agency responsible for environment and social as well as prevention of natural disaster risk for MPWT. Currently, EDPD/PTRI has seven staff fully responsible for environment and social and natural disaster prevention related tasks. Of these seven staffs, there are 3 senior members who are highly knowledgeable, experienced and committed to the implementation of the Environmental and Social Operational Manual (developed in 2009 and modified in 2017 and later 2019) – they also have solid experience using WB ESF instruments.

315. A Capacity Needs Assessment has been carried out, as part of the preparation of the Environmental and Social Management Framework (ESMF). The result of this assessment is summarized below.

Table 6-2 Institutional Capacity Needs in Implementing E&S Instrument

Implementing Agencies and Institutions	Capacity Gaps
MPWT	<ul style="list-style-type: none"> • Implementation of the ESF instruments • Proper monitoring E&S compliance, including reporting • Lack of database or MIS related to grievances reporting
Department of Roads-MPWT	<ul style="list-style-type: none"> • Limited knowledge on Gender-Based Violence • Proper monitoring E&S compliance, including reporting • Proper implementation of Traffic Management plan and Road Safety measures • Monitoring and Evaluation
Department of Transport-MPWT	<ul style="list-style-type: none"> • Current Road Safety Standards • Monitoring and Evaluation
Department of Planning and Cooperation-MPWT	<ul style="list-style-type: none"> • Monitoring and Evaluation of E&S compliance for reporting
MOIC	<ul style="list-style-type: none"> • Implementation of the ESF instruments • Limited knowledge on of Gender-Based Violence, • Monitoring and Evaluation
MAF	<ul style="list-style-type: none"> • Implementation of the ESF instruments • Gender-Based Violence • Handling and Recording grievances related to labour/workers and ethnic groups • Monitoring and Evaluation
Northern Agritech Center	<ul style="list-style-type: none"> • Implementation of the ESF instruments • No qualified staff knowledgeable to handle and operate laboratory instruments and equipment for testing. These includes proper handling of waste/chemical or disposal management of used laboratory equipment and chemicals. • Monitoring and Evaluation

Implementing Agencies and Institutions	Capacity Gaps
MPI	<ul style="list-style-type: none"> Monitoring and Evaluation
MONRE	<ul style="list-style-type: none"> Implementation of the new ESF instruments Monitoring and Evaluation
MOPS	<ul style="list-style-type: none"> Implementation of the new ESF instruments Proper implementation of Traffic Management plan and Road Safety measures Handling issues related to SEA/SH and VAC including human trafficking and smuggling COVID-19 Response
EDPD/PTRI	<ul style="list-style-type: none"> Implementation of the new ESF instruments Monitoring and Evaluation

316. Table 6-3 below summarizes the proposed trainings and workshops for the SEARECC key personnel and other stakeholders needed to strengthen capacity.

Table 6-3 Proposed E&S Trainings and Workshops

No.	Trainings and Workshops	Target Participants
1	Introduction to World Bank ESF	PMU and CMUs Key Personnel and E&S focal persons in the provinces
2	Overview of ESMF, RPF and EGEF and implementing LMP and SEP	PMU and CMUs Key Personnel; E&S focal persons in the provinces; and Contractors
4	Orientation on OCHS and LMP	DPWTs, MAF, Agritech and Contractors
5	ESMP/ RAP, EGEP, ECOP, LMP Preparation and Monitoring	MPWT, DPWTs and Contractors
6	SEA/SH and VAC and HIV/AIDS Awareness	PMU and CMUs Key Personnel; E&S focal persons in the provinces; and Contractors
7	GRM Reporting and Monitoring	All PMU and CMUs Key Personnel and E&S focal persons in the provinces

7 CONSULTATION AND STAKEHOLDER ENGAGEMENT

317. The objectives of the Stakeholder Engagement Plan are to:

- Offer opportunities for stakeholders to raise their concerns and submit their opinions, to incorporate this into the project when possible, and to provide this feedback to stakeholders.
- Create avenues for complaints handling and grievance management.
- Create opportunities for information sharing and disclosure.
- Foster strong project community relationships.

- Ensure meaningful consultation and the consideration of stakeholder's expectations and concerns into the implementation arrangements for the programme, including feedback on environmental and social mitigation measures and their implementation.

318. In order to achieve this, the Project shall:

- Provide meaningful information in a format and language that is readily understandable.
- Provide information in advance of consultation activities when possible.
- Disseminate information in a manner and location easy for stakeholders to access it.
- Establish a two-way dialogue that gives the Project and stakeholders the opportunity to exchange views and information, and have issues heard and addressed.
- Ensure inclusiveness in representation of views, including those of women, the elderly, people living with a disability, ethnic peoples, and other vulnerable people, as necessary.
- Ensure any obstacles to participation that are identified are removed so that views of different stakeholders can be obtained.
- Ensure there are clear mechanisms for responding to people's concerns, suggestions, and/or grievances.
- Incorporate feedback of stakeholders into project design, and report back to stakeholders.
- Monitor stakeholder engagement activities and include project stakeholders in monitoring to the extent possible.
- Incorporate stakeholder engagement as part of the Project management responsibilities of the MPWT, and ensure staff, especially the Environment and Social Officers (ESOs) are equipped with specific responsibilities and budget.

319. The Project will engage stakeholders at various stages: during the initial design of road improvement, detailed design, prior to civil works commencing and during, and post-civil works. Engagement will vary in each stage of the project life. More details on stakeholder engagement please see the Stakeholder Engagement Plan as a stand-alone document. The SEP will be dynamic and flexible to changes throughout the project life. The SEP should be read together with other project documents (i.e., ESMF/ESMP, RPF/RAP, EGEF/EGEP and ESCP).

320. There will be several ways to engage with stakeholders and the Project shall choose the most appropriate method depending on the type of stakeholder and the goal of engagement. The project is expected to involve diverse groups of

stakeholders from national to village levels, including local communities, government line agencies, mass organizations and the private sector.

321. Affected parties: Directly affected stakeholders include the following:

- 1) People living along the NR2W road corridor, near the BCFs and in selected feeder roads and/or consolidation facilities.
- 2) Farmers participating in agricultural activities connected to the NR2 corridor.
- 3) Land users along the NR2W corridor, near the BCFs and selected feeder roads and/or consolidation facilities.
- 4) Schools, health centers and cultural or religious centers that are on NR2W and/or selected feeder roads and may be impacted by construction disturbances or by land acquisition.
- 5) Ethnic peoples who may have collective attachment to the project area or who may be impacted by project activities.
- 6) Disadvantaged/vulnerable individuals/groups.
- 7) Local communities living in project areas.

322. Interested stakeholders: Relevant government departments at the national, provincial and district levels, involved in issues of environment, investment, development, research, data generation and education, including:

- 1) Ministry of Public Works and Transport (MPWT)
- 2) Ministry of Industry and Commerce (MOIC)
- 3) Ministry of Agriculture and Forestry (MAF)
- 4) Ministry of Finance (MOF)
- 5) Ministry of Public Security (MoPS)
- 6) Provincial Offices of Department of Public Works and Transport (DPWTs)
- 7) Ministry of Planning and Investment (MPI)
- 8) Ministry of Health and provincial and/or district-level departments
- 9) Ministry of Education and provincial and/or district-level departments
- 10) Department of Land (DOL)/Ministry of Natural Resources and Environment (MONRE).
- 11) Department of Environment (DoE), MONRE.
- 12) Department of Forestry (DoF), Ministry of Agriculture and Forestry (MAF)
- 13) Department of Water Resources (DWR), MONRE

- 14) Lao Front for National Development (LFND): Ethnicity issues.
 - 15) Lao Women's Union (LWU): Women issues.
 - 16) The National Commission for the Advancement of Women (NCAW) (GBV focus)
 - 17) Lao Statistical Bureau (LSB): Social Economic Data.
 - 18) National University of Laos (NUOL).
 - 19) Private investors who may be impacted, positively or negatively, by road improvement, BCFs or consolidation facilities (e.g., road construction companies, agribusiness, road transport companies, and infrastructure); and
 - 20) Government staff benefitting from the capacity building and government staff working at the border posts.
 - 21) Contractors in charge of civil works, and their staff
 - 22) Local media sources.
323. NGOs working on ethnic groups, children, and human trafficking
- 1) Gender and Development Association (GDA) (Local NGO).
 - 2) Save the Children International (International NGO).
 - 3) CARE International (International NGO).
 - 4) Wildlife Conservation Society (WCS).
 - 5) International Union for Conservation of Nature (IUCN).
 - 6) The Asia Foundation (TAF).
 - 7) Plan International.
 - 8) Helvetas
 - 9) Association Development Women Legal Education (ADWLE)
324. Disadvantaged/vulnerable individuals or groups: Disadvantaged/ vulnerable individuals or groups includes 1) households below the poverty line established by the GoL, 2) households headed by elderly with no means of support; (3) female headed households, especially those below the poverty level; (4) households with a disabled member; and (5) Ethnic groups.
325. These people/groups are disadvantaged/vulnerable due to their significantly less ability to access and/or understand information about the project and its impacts compared to other groups due to physical, social, cultural constraints.
326. These categories of people will be given particular attention through targeted methods that will enable information sharing and understanding of the nature of

project activities and the anticipated positive and potential negative impacts of the project as well as their expectations. Specific meetings and focus groups as well as individual household visits with these groups of people with specific and tailored messages will be used in consideration of their existing challenges.

327. Ethnic groups in some part of the project provinces such as Phongsali do not speak Lao. While some EGEPs may speak Lao, their level of proficiency is low. Low literacy level of these groups is another disadvantage. While project information can be provided in written, these groups of people may still have difficulty in reading and understanding. These groups of people will be provided with translation into the relevant ethnic language or local dialects, sign language, large and readable print; choosing accessible venues for events; providing transportation for people in remote areas to the nearest meeting; having small, focused meetings where vulnerable stakeholders are more comfortable asking questions or raising concerns; considering women-only meetings led by female moderators. Interested stakeholders, especially organizations active in the project area, working with vulnerable people/groups such as persons with disability or medical providers (who more aware of these marginalized groups and how best to communicate with them) should be contacted for communication assistance with the vulnerable groups.

7.1 Consultations during Project Preparation

328. During project preparation, initial consultations were carried out with local level stakeholders in September-October 2021 to gather data for the Pre-ESIA section of this report and inform the identification of risks/impacts and potential mitigation measures. The project ESF instruments (ESMF, SEP, EGEF, RPF and ESCP) were disclosed on November 15 (including Lao translations of the Executive Summaries) and a virtual consultation was held with national level stakeholders on 29 November 2021; provincial level stakeholders on 30 November 2021; and, districts and village levels on 01 and 03 December 2021. Feedback, recommendations, and concerns raised during the consultations were used to refine the identification of potential risks, and impacts (both positive and adverse), validate key assumptions and improve risk mitigation measures proposed in the ESMF. These processes were also used to ensure that the ESMF is known to stakeholders. A summary documenting each of these meetings, including date, number of participants, main results is included as annex to the project's Stakeholder Engagement Plan (SEP).

329. Key points of discussion (including responses) from the consultations vary between stakeholders, but cross-cutting questions can be summarized as follows.

- What are your thoughts on this project?
- What are the project risks and impacts on the environment and society (both positive and negative)?
- Do you think the mitigation measures and ESF tools that have been prepared are sufficient and appropriate to address the impacts of the project?

330. The SEP includes full details of the consultations carried out during project preparation, including concerns/comments and should be read together with this ESMF. All stakeholders welcomed the Project, and questions and concerns can be summarized as:

- Ensuring no impact to local environment, including National Protected Areas, Local Conservation Areas and waterways
- Reduce the impact from dust or noise to residents during construction
- Provide road safety training at local villages, including school, to raise awareness regarding increased risk of traffic accidents during and after construction periods
- Ensure that payment of compensation is explained in detail and distributed fairly, while also assisting families on how to financially manage compensation received from the project
- Follow all Lao Law and Guidelines as well as World Bank and other Standards from other international funding agencies
- Provide adequate training for locals regarding awareness and prevention of human trafficking
- Provide a waste management system at the BCF and local villages
- Establish environmental and social guidelines prior to any construction and ensure that contractors follow these guidelines
- When conducting site work or interviews with local ethnic groups, ensure there is an available translator present

7.2 Consultations during Project Implementation

331. Stakeholders will be kept informed as the project develops, including reporting on project environmental and social performance and implementation of the stakeholder engagement plan and grievance mechanism. The SEARECC shall report quarterly to the public before and during construction when the public may experience more impacts and annually during implementation. Consultations on specific activities shall be undertaken. In addition to written reports submitted to relevant departments/offices, reporting shall be undertaken in the form of meetings/workshops at provincial, district and village levels, involving presentation and discussion. Table 7-1 **Error! Reference source not found.** provides an indicative timeline of implementation based on the SEP.

Table 7-1 Indicative Timeline for Consultations during Project Implementation

Activity	Project Phase	Timeline	Responsibility	Target audience	Location
Detailing of subproject components and identification of impacts as part of the FS/ESIA, including the presence of EP following the EGEF and according to ESS7	Preparation/ Design	Starting early 2022	MPWT and consultants	Relevant provincial, departments, district offices, village authorities, affected peoples, including EP, and other stakeholders	Project Provinces
Detailed measurement of land acquisition impacts. Preparation of Detailed Resettlement Plans, consultations with affected people, etc.	Implementation: Detailed Design	TBD	Contractor (for design), MPWT, Resettlement Committee (RCs), DPWT	Relevant provincial, departments, district offices, village authorities, affected peoples, including EP.	Affected villages.
Works commence, implementation of Detailed RAP ahead of civil works (i.e., delivery of entitlements), hiring of local workers, trainings on gender, trainings for contractors and staff, road safety, etc.	Implementation: Civil Works	TBD	RCs (for land acquisition), DPWT, Contractor,	Relevant provincial, departments, district offices, village authorities, affected peoples, including EP.	Affected villages.
If land acquisition impacts, detailed measurement, and preparation of Detailed RAPs.	Implementation: Detailed Design	TBD	MPWT, RCs, and consultants.	Relevant provincial, departments, district offices, village authorities, affected peoples, including EP.	Affected villages.
Disclosure of ESMP and RAPs if applicable	Implementation: Detailed Design	TBD	MPWT and consultants (and RCs if land acquisition)	Relevant provincial, departments, district offices, village authorities, affected peoples, including EP, and other stakeholders	Project Provinces
If applicable, preparation of Ethnic Group Engagement Plan and Social Assessment	If EGs are found, in line with WB ESS7.	TBD	DPWT with support from PTRI (additional EGEF consultant may also be needed)	Relevant provincial, departments, district offices, village authorities, affected peoples,	Affected villages.

Activity	Project Phase	Timeline	Responsibility	Target audience	Location
				including EP, and other stakeholders	
Works commence, implementation of Detailed RAP ahead of civil works (i.e., delivery of entitlements), hiring of local workers, trainings on gender, trainings for contractors and staff, etc. Delivery of EGEP if applicable.	Civil Works	TBD	Contractor, DPWT, Design and Supervision Consultants, RCs (if land acquisition)	Relevant provincial, departments, district offices, village authorities, affected peoples, including EP, and other stakeholders	Affected villages.

7.2.1 Reporting Back to Stakeholders

332. This is about how the “loop” is closed in terms of consultations. For instance, how will stakeholders be informed whether their inputs were incorporated? This should also come straight from the SEP.

333. The method of reporting back to stakeholders will depend on the stakeholder itself. There are essentially three main methods:

- For National-level stakeholders, an email and/or official letter will be sent after workshops on how comments/suggestions were considered;
- For local stakeholders, follow-up meetings/consultations will be conducted to let stakeholders know on how comments/suggestions were considered;
- For Ethnic Groups, if relevant, ongoing consultations in line with this SEP and the EGEF will ensure that their views are incorporated and that they are informed of this.

334. The consultation with the affected communities and other stakeholders shall be undertaken continuously throughout the construction phase. Consultation report of each consultation shall be prepared with minutes of meeting along with attendance records and the signatures of all participants in line with the SEP.

8 GRIEVANCE REDRESSAL MECHANISM

335. The Grievance Redressal Mechanism seeks to resolve concerns promptly, using an understandable process that is culturally appropriate and readily accessible at no cost. Grievances can be submitted if someone believes the Project is having a detrimental impact on the community, the environment, or on their quality of life. Stakeholders may also submit comments and suggestions.

336. The MPWT will be responsible for receiving and resolving in a fair, objective, and constructive manner, all concerns or complaints raised by project affected persons (PAPs). Their broad responsibilities of the grievance management include:

- Developing and publicizing the grievance management procedures.
- Receiving, reviewing, investigating, and keeping track of grievances.
- Adjudicating grievances.
- Monitoring and evaluating fulfilment of agreements achieved through the grievance mechanism.

337. For the interest of all parties concerned, the grievance mechanism is designed with the objective of solving disputes as soon as possible. A recommended timeframe for the resolution of a complaint should be sought within two weeks.

338. In the SEARECC it is envisaged there could be four types of grievances:

- Grievances relating to land acquisition, that follow the Resettlement Action Plan's GRM (detailed in the project's RPF/Draft RAPs).
- Grievances related to ethnic groups
- Grievances related to project implementation (including relating to environmental and social impacts, health, worker's camp, road safety, pollution and waste, etc.). Some of these may be specific to ethnic groups.
- Job-related disputes (detailed in the project's LMP).

8.1 Steps in Grievance Redress

339. Stakeholders will be consulted about this grievance mechanism during the stakeholder engagement process to ensure its accessibility and adequacy.

340. Grievances related to land acquisition will follow the procedures outlined in the RPF.

341. Grievances related to job disputes will follow the procedures outlined in the LMP.

342. All information about grievance procedures, grievance forms and responses will be available in English and Lao. In order to facilitate women and vulnerable people's access to the mechanism, they will be specifically consulted to ensure they are able to access the grievance mechanism. If ethnic groups are found in the project's sub-projects, the Social Assessment and EGEP will assess whether the existing GRM can be accessible and adequate to manage grievances from Ethnic People – including women and other vulnerable members – or whether adjustments need to be made.

343. Discussed below is the general GRM related to project implementation.

8.2 Steps in Submitting Grievances

344. Wherever possible, the project team will seek to resolve the complaint as soon as possible, and thus avoid escalation of issues. However, where a complaint cannot be readily resolved, then it must be escalated.

- **Stage 1:** The first level of complaint resolution, following traditional methods in Laos, should be the Village through its Village Mediation Unit (VMU) and/or Sub-district (*kum*) level who may be able to resolve issues on the spot. The VMU at the village level would comprise of representatives of ethnic group community leaders, and head of mediation unit or village elder persons. Complaints can be submitted in verbal or written forms. It is expected that some complainants such as ethnic minority or vulnerable individuals/households might not be able to write any complaints. Complainants may also retain the right to bypass the VMU procedure and as such can direct their grievance directly to the DWPTs. SEA/SH Grievances shall follow this process, but will require strict confidentiality. The project's

ESIA should explore approaches for grievances redress on these sensitive issues. Labour related grievances will follow a different pathway. In cases where grievance is related to a labour dispute, the grievance may be first submitted to the contractor and/or human resource staff of the contractor directly.

- **Stage 2:** In cases where grievances cannot be resolved on the spot, the second level of complaint people will be able to file grievances directly with the DPWT. People will have been informed of the DPWT contact information during consultations. The MPWT will be able to record the grievance and offer a solution within 15 days, consulting with the MPWT Project Manager and Director, as needed. This may include a visit to the project site by the MPWT, if necessary. There are no fees or charges levied for the lodgment and processing of grievances for level one or two.
- **Stage 3:** In cases where grievance still cannot be resolved, or not resolved to the satisfaction of the person making the complaint, the person has the right to submit a complaint to the MPWTs, as desired by the complainant. The Complainant could also decide to submit to complaint directly to the Courts. The complainant will bear the cost for these steps but will be reimbursed for their expenses by the SEARECC if their complaint is successful.

8.3 Recording Grievances

345. A focal point shall be established at central level, under the PMU for managing all aspects of the various GRM mechanisms.

346. Established and managed by the DWPTs and PRCs, a complaints register will be established as part of the project to record any concerns raised by any stakeholder during the implementation of the SEARECC Project. Any serious complaint (such as life-threatening, relating to GBV/SH or criminal) will be advised to the World Bank within 24 hours of receiving the complaint.

347. A summary list of complaints received, and their disposition, along with key statistics on the number of complaints and duration taken to close out, must be included in monthly E&S reports. The focal point at central level, under the PMU, shall be responsible for organizing this. Each record is allocated a unique number reflecting year and sequence of received complaint (for example 2021-01, 2021-02 etc.). Complaint records (letter, email, record of conversation) should be stored together, electronically (software to be determined by the focal point of the PMU) or in hard copy under the responsibility of the Project's.

348. Grievances will be recorded in a Grievance Logs (Please see Table 8-1). The log shall be applied at all levels: MPWT, DPWTs, RCs and villages.

349. This information shall include:

- Stakeholder name and contact details (if not anonymous).

- Details of the nature of the grievance.
- Date received, way it was responded to, and
- How it was submitted, acknowledged, responded to, and closed out.

350. Grievances can be submitted anonymously, or the aggrieved person can also request their name be kept confidential. Responsibility for the Grievance Log will be with the Project Management Unit (PMU)-MPWT and DPWTs in the provinces and RCs.

Table 8-1 Sample Grievance Log for the Project

Grievance Log								
Name of Complainant (or anonymous)	Sex (M/F)	Contact info	Date Received	Details of the nature of the grievance (Environmental impacts, social impacts, labour, health, SEA/SH, etc.)	To whom was grievance submitted	Actions to resolve grievance	Date grievance was settled (and what stage)	How was the response provided?

9 MONITORING AND REPORTING

351. Monitoring is the method of ensuring mitigation measures are being implemented in accordance with ESMF and ESCP, and are effective. Monthly, quarterly- and semi-annual monitoring reports will need to be undertaken in order to:

- Improve environmental and social management practices;
- Ensure the efficiency and quality of the environmental and social assessment processes;
- Establish evidence- and results-based environmental and social impact assessment; and
- Provide an opportunity to report the results of the implementation of mitigation measures in future ESMPs and other project related documents.

352. To ensure effective implementation of the ESMF requirements, the MPWT and CMUs will put in place the following monitoring and reporting system which includes both internal monitoring and reporting and external monitoring and reporting.

9.1 Internal Monitoring

353. The PMU-MPWT; CMUs and DWPTs with technical support from EDPD/PTRI will conduct monthly internal monitoring on the implementation of C-ESMPs, RAPs, EGEP and SEP to track compliance and adopt measures as necessary throughout

implementation of various components of the SEARECC Project. PTRI/MPWT and WB will review six-month monitoring reports. The DPWTs with technical support from EDPD/PTRI will prepare these reports. Compliance of ESMP and other applicable documents by the civil works contractor and/or responsible agencies will be monitored. Special attention will be given to the effectiveness of the ESMP/other plan implementation, ensuring that all mitigation measures are carried out. Please see Table 9-1 for the mitigation measures and Table 9-2 for examples of monitoring in ESMP, RAP, EGEP and SEP.

354. At subproject level, DWPT staff, together with local authorities and local communities will be responsible for monitoring the implementation of mitigation measures as approved in the ESMP and other applicable plans. Monitoring information together with other information collected from various stakeholders together with observations of project activities will be reported monthly to the DPWT using standard reporting forms⁴³. Monthly monitoring reports from DPWTs will include:

- List of consultations held, including locations and dates, name of participants and occupations.
- Main points arising from consultations including any agreements reached.
- Performance on GRM implementation including record of grievance applications and status of grievance addressed and pending.
- Monitoring data on environmental and social measures detailed in ESMPs and/or other applicable reports.
- Number of construction supervision reports that include assessment of contractor's compliance with E&S measures in accordance with ECoP and CoC, LMP, and OHS
- Number of trainings of community groups and workers in environmental and social issues (if any).

355. EDPD/PTRI in coordination with DPWTs will prepare a consolidated six-month monitoring reports from the provinces for PMU which in addition to the above data will include:

- Number of national, regional, and/or provincial staff and counterparts trained on ESF compliance.
- Number of ESMPs/other plans prepared and number cleared by WB.
- Number of technical recommendations provided during supervision and monitoring that has been implemented.

⁴³ The project will investigate the option of using ICT based reporting for ESF compliance.

356. These reports will be filed to permit easy retrieval and indicators will be incorporated into the Project M&E system.

357. Monitoring will also cover grievance redress, implementation of land acquisition activities in accordance with the RPF/RAP and EGEF/EGEP, and implementation of the SEP consultation and disclosure activities. Monitoring of environmental and other social impacts should focus on ensuring that all environmental and social mitigation measures are implemented as per the ESMP (including the LMP).

358. Data should be gender-disaggregated as much as possible. How and when monitoring indicators will be measured should be defined in the ESMP and other relevant plans. Monthly reports on monitoring should be provided by the PTRI/EDPD with the support of DPWTs/ESMWGs. A sample monitoring checklist for the ESMP is provided in ANNEX 5. Table 9-1 presents proposed monitoring measures. Table 9-2 provides example of the main ESMP impact/mitigation table.

359. Monitoring and evaluation of the social impacts should at least measure the following:

- Land Acquisition impacts and ensuring those affected by land acquisition have at least maintained their pre-project standard of living, as well as other related monitor indicators described in the RPF/RAPs;
- Impacts and benefit sharing with Ethnic Groups if applicable as per the EGEF/EGEP;
- Number of women working on road construction jobs and other Project non-construction jobs;
- Number of trainings provided to women and vulnerable groups, and the impacts of these trainings (i.e. whether knowledge on a topic was enhanced, on HIV/AIDS or Covid-19 for example);
- Number of trainings conducted with translation into relevant ethnic languages.
- Efficacy of the grievance redress mechanism (for the community and for workers);
- Efficacy of road safety measures;
- Incidence of GBV, SEAH/SH and VAC and whether community members feel grievance redress methods are appropriate;
- Age of workers and that all workers have contracts in place with adequate pay that is at least the minimum wage;
- Training provided to workers, use of PPE and other LMP related aspects

- Other monitoring indicators as may be described in the ESMP or other related project documents.

360. Meanwhile, monitoring of environmental impacts should focus on ensuring that all environmental mitigation measures are implemented as per the ESMP.

361. Data should be gender-disaggregated as much as possible. The ESMP will need to define how and when monitoring indicators will be measured. Monthly reports on monitoring should be provided by MPWT with the support of DDIS. A sample monitoring checklist is provided in ANNEX 5: Sample Monitoring Checklist.

Table 9-1: Proposed Monitoring Measures

Parameter to be Monitored	Location	Means of Monitoring	Schedule/Frequency	Responsible Agency for Monitoring
Completion of detailed design in accordance with ESMF (including LMP), RPF, EGEF and SEP requirements, including the preparation of required site-specific ESMPs, updating of the SEP, and RAPs and EGEPs as needed	Vientiane	Review of detailed design documentation	Prior to approval of detailed design	MPWT; DPWT; and PTRI
Implementation of all mitigation measures specified in the ESMP (based on guidance of those specific in the ESMF)	All project components	This will need to be defined in the ESMP but is expected to be conducted by conducting site visits to check contractor's facilities, environmental management practices, reviewing worker's contracts arrangements, conducting focus groups with women workers, conducting focus groups in the community to inquire about contractor-community relations, etc.	This will need to be defined in the ESMPs but some measures are expected to be conducted prior to the start of works (such as UXO assessment, establishment of GRM), while others will be throughout the construction period	DPWTs; PTRI and DDIS
Implementation of the SEP	All project components	As defined in the SEP	As defined in the SEP	DPWTs; CMUs, PTRI and DDIS

Parameter to be Monitored	Location	Means of Monitoring	Schedule/Frequency	Responsible Agency for Monitoring
Implementation of all mitigation measures specified in other project documents that may be required, such as RAPs and EGEPs	As required in specific project roads	As defined in RAPs or EGEPs	As defined in RAPs or EGEPs	DPWTs; CMU, PTRI and DDIS

Table 9-2: Example of Monitoring in Environment and Social Management Plan

Monitoring Plan			
Mitigation Measure being Monitored	Location	When	Who
Example: Watering of roads 2x per day to minimize dust	Province/District / Village/ Road Section.	Monthly – X Month	DPWTs'; PTRI and DDIS

9.2 External Monitoring

362. External Monitoring. An external monitoring of the implementation performance of both environmental and social measures will be conducted by Consultant/s to be hired by the project in close coordination with EDPD/PTRI, DPWTs, CMUs and PONRE/DONRE. Efforts will be made to invite representatives from local communities and mass organizations to participate in the process. The annual audit will assess subproject compliance with ESMF, specifically whether (i) the ESMF process, including RPF and EGPF (if relevant), is being correctly adhered to (ii) relevant mitigation measures have been identified and implemented effectively and (iii) the extent to which all stakeholder groups are involved in subproject implementation. The technical audit will also indicate whether any amendments are required in the ESMF approach to improve its effectiveness and ensure that the project investment ESMPs are developed/cleared and effectively implemented. The external monitoring report will be presented to the WB.

10 BUDGET

363. ESMF implementation cost will include the development of this ESMF, RPF, EGEF, ESCP and SEP, including staff costs, travel, consultation workshops, translation and trainings. The total indicative cost reviewed is estimated at USD2,252,800 (See Table 10-1) plus the costs of specific mitigation measures in the ESMPs, RAPs and EGEPs (if applicable). Funds will be sourced by a combination of

IDA and counterpart financing, from the project management component. This budget is indicative only and should be further refined during the preparation of site-specific ESMPs. Cost for conducting a detailed ESIA study, RAP, IEE and EGEP preparation and cost for compensation of affected households are not included in this budget. The cost for resettlement and compensation will be the responsibility of the Government of Laos (GOL). Also the cost of the implementation of E & S measures by the contractors will be under contractor's contracts. The cost for External Monitoring will be covered under the Project Management budget of MPWT. This will be estimated during the project appraisal after the number of affected households has been established in line with the provisions outlined in the RPF. See ANNEX 16: Details of Estimated ESMF Budget

Table 10-1 Estimated Budget for the ESMF Implementation

Item	Estimated Cost (to be updated in the ESMP)
1. Preparation of E&S instruments (ESMF, RPF, EGEF, SAP and ESCP)	346,000
2. Implementation, Internal Monitoring and Evaluation of ESMF (RAP, EGEP, ESMP, SEP)	1,587,000
2.1 Consultants and Supporting Staffs	722,000
2.2 Technical Support to Implement (RAPs, EGEPs, and ESMPs)	865,000
3. Procurement of Logistic Supports	115,000
4. Contingency (10%)	204,800
Total (USD)	2,252,800

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ANNEX 1: Ineligible/Negative Criteria List

To avoid adverse impacts on the environment and people, the following activities are explicitly excluded from project financing:

- New Roads, in Protected Areas or significant adverse biodiversity impacts
- Physical relocation and/or demolition of residential structures of households that affect more than 200 PAP or 50 PAH;
- Creation of adverse impacts on local people including ethnic groups that are not acceptable to them, even with the mitigation measures developed with their participation;
- Damage or loss to cultural property, including sites having archaeological (prehistoric), paleontological, historical, religious, cultural and unique natural values;
- Use of sub-project as an incentive and/or tool to support and/or implement involuntary resettlement of local people and village consolidation;
- Purchase of guns, chain saws, asbestos, dynamite, destructive hunting and fishing gear, and other investments detrimental to the environment;
- Purchase of pesticides, insecticides, herbicides and other dangerous chemicals exceeding the amount required to efficiently treat the infected area.
- Forestry operations, including logging, harvesting or processing of timber and non-timber forest products (NTFP). However, support to sustainable harvesting and processing of NTFPs is allowed if accompanied with a management plan for the sustainable use of the resources;
- Unsustainable exploitation of natural resources;
- Conversion or degradation of natural habitat;
- Production or trade in any product or activity deemed illegal under Lao PDR laws or regulations or international conventions and agreements, or subject to international bans;
- Labour and working conditions involving harmful, exploitative, involuntary or compulsory forms of labour, forced labor, child labor or significant occupational health and safety issues; and
- Trade in any products with businesses engaged in exploitative environmental and social behavior.
- Any actions in Luang Prabang Cultural Heritage Areas without authorization and/or adequate mitigation measures.
- Any works that would adversely impact the integrity or productivity of collectively owned EP land would be excluded. Works maybe undertaken adjacent to collectively owned EP land, but should not impact the integrity or it's productivity.

ANNEX 2: Environment & Social Screening and Scoping

This is essentially the screening checklist that agencies will use when projects have been identified and they need to assess what ESS are relevant and what ESF documents need to be prepared.

This form is to be used by MPWT to screen potential environmental and social impacts of a proposed road section, to determine the level of risk (high, substantial, moderate or low), which World Bank standards are relevant, and which E&S instrument(s) needs to be prepared.

Sub-project:	Province/ District/ Village/ PK
Date:	

Question	Answer (Yes/No /TBD)	Comments (if needed)	Action Required	World Bank ESS (ex.)	E&S Document Required (example)	Level of Risk ⁴⁴
Will the works require any households to move structures (include, houses, small shops, rice bins etc.) back from the road and/or to cut them?			If yes , need to complete Land Acquisition Screening Form (see RF) and follow guidelines in the RF	ESS5	RAP	
Will the works require the removal of trees (fruit or other trees)?				ESS1 and 5	RAP, ESMP	
Are there ethnic people living in the area?			If yes , need to complete EP Screening Form (see EGEF) and follow guidelines in the EGEF	ESS7	EGEP	
Are the works, located in or near a cultural/heritage area such as spirit			Check against Ineligible/ Negative list	ESS 7 ESS8	ESMP	

⁴⁴ High, Substantial, Moderate or Low

Question	Answer (Yes/No /TBD)	Comments (if needed)	Action Required	World Bank ESS (ex.)	E&S Document Required (example)	Level of Risk ⁴⁴
forest and temple?						
Are the works, located near or in a protected area (or a buffer zone of a protected area)?			Check against Ineligible/ Negative list	<i>ESS6</i>	<i>ESMP BMP</i>	
Are there endangered flora or fauna species in the area?			Check against Ineligible/ Negative list	<i>ESS1 and 6</i>	<i>ESMP BMP</i>	
Will the works require new borrow pits or quarries to be opened up?				<i>ESS1, 3 and 5</i>	<i>ESMP, RAP</i>	
Will the works be located near a river, stream or waterway?				<i>ESS1 and 3</i>	<i>ESMP</i>	
Will the works result in increases in, or changes to the type of, traffic using the road?				<i>ESS1 and 4</i>	<i>ESMP</i>	
Will any of the works require the use of toxic chemicals, herbicides, and/or explosives?				<i>ESS1 and 3</i>	<i>ESMP</i>	
Are there likely to be UXOs in the area?				<i>ESS1</i>	<i>ESMP</i>	
Will the works increase noise levels in the community (due to vehicles, works, etc.)?				<i>ESS1</i>	<i>ESMP</i>	
Would works required setting up a worker's camp? Otherwise, where are workers expected to live?				<i>ESS2, 4, 5</i>	<i>ESMP, RAP</i>	
Are works likely to cause significant negative impacts to air and/or water				<i>ESS3</i>	<i>ESMP</i>	

Question	Answer (Yes/No /TBD)	Comments (if needed)	Action Required	World Bank ESS (ex.)	E&S Document Required (example)	Level of Risk ⁴⁴
quality?						
Would any public facilities, such as schools, hospitals or pagodas be negatively affected by construction?				ESS 4, 5	ESMP RAP	
Is an influx of workers, from outside the community, expected?				ESS 2 and 4	ESMP LMP	
Would workers be Laotian?				ESS 2 and 4	ESMP LMP	
Would workers be foreigners?				ESS 2 and 4	ESMP LMP	
Would they create pressures on existing community services (water, electricity, health, recreation, others?)				ESS 2 and 4	ESMP LMP	
Is there a risk that children could be hired for project works?				ESS 2	ESMP LMP	
Is there a risk that HIV/AIDS and/or other sexually transmitted diseases may increase as a result of project works?				ESS 4	ESMP/ Community Health and Safety Plan	
Is there a risk of COVID-19 spread as a result of project works?				ESS 4	ESMP// Community Health and Safety Plan	
Is there a risk that SEA/SH and/or VAC may increase as a result of project works?				ESS 4	ESMP, SEA/SH Action Plan	
Is there a risk that traffic accidents and/or death may increase as a result of the project?				ESS 4	ESMP, Road Safety Plan	
Is there a risk that				ESS 4,	ESMP,	

Question	Answer (Yes/No /TBD)	Comments (if needed)	Action Required	World Bank ESS (ex.)	E&S Document Required (example)	Level of Risk ⁴⁴
women and other vulnerable groups may not benefit and/or be more adversely impacted by the project?				5, 7	SEP and RAP and EGEP if applicable, Gender Action Plan	
Is there a risk that women may be underpaid when compared to men when working on the project construction?				ESS 2	ESMP LMP Gender Action Plan	
Is there a possibility of employment in project works for the local community?				ESS 2	ESMP LMP	
Of local employment jobs, how many would be expected for women?				ESS 2	ESMP LMP Gender Action Plan	
Will skilled workers be available in local areas and/or other areas in Laos?				ESS 2	ESMP LMP	
Other information that may be relevant about the road section:						

ANNEX 3: Chance Find Procedures

The Project is not expected to yield archaeological, paleontological or cultural findings of any significance because infrastructure works will occur in the existing road alignment and ROW. However, there remains a possibility for (as yet undiscovered) sites of local cultural significance (i.e. sacred sites, cemeteries) and archaeological sites to exist with sub-project areas.

MPWT will ensure that the bidding and contract documentation for civil works contractors will include a clause on chance find procedures and includes the following measures:

- a) Stop construction activities in the area of the chance find;
- b) Delineate the discovered site or area;
- c) Secure the site to prevent any damage or loss of removable objects;
- d) Notify the supervisory Engineer who, in turn, will notify the responsible local authorities;
- e) Responsible local authorities would conduct a preliminary evaluation of the findings to be performed by archaeologists who will assess the significance and importance of the findings according to various criteria, including aesthetic, historic, scientific or research, social and economic values;
- f) Decisions on how to handle the finding shall be taken by the responsible authorities which could result in changes in layout, conservation, preservation, restoration and salvage;
- g) Implementation for the management of the finding communicated in writing;
and
- h) Construction work could resume only after permission is given from the responsible local authority concerning E&S of the heritage.

ANNEX 4: Outline for Environment and Social Management Plan (ESMP)

An ESMP consists of a set of mitigation, monitoring, and institutional measures to be taken during implementation and operation of a project to eliminate adverse environmental and social risks and impacts, offset them, or reduce them to acceptable levels. The ESMP also includes the measures and actions needed to implement these measures.

The ESMP will consist of:

- a) Brief Project description
- b) Overview of the Project location, including socioeconomic and environmental baseline information
- c) Legislative Framework (Lao laws and regulations, WB ESF and Gap Analysis)
- d) Identifying all anticipated adverse environmental and social impacts, including those involving indigenous people or involuntary resettlement (and making relevant links to RAPs and EGEPs), and any relevant direct, indirect or cumulative impact;
- e) Describing in detail each mitigation measure, including the type of impact to which it relates to, including Labour Management Procedures, Occupational Health and Safety Procedures, Community Health and Safety Plan, Child Labour Prevention Plan, Labour Influx Plan, Biodiversity Management Plan, Road Safety Plan, SEA/SH Plan and other plans that may be necessary (cultural heritage, biodiversity management, etc.)
- f) Monitoring objectives and the type of monitoring, with linkages to the impacts assessed, including a description of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements and monitoring and reporting procedures;
- g) Stakeholder Engagement, aligned with the project's SEP, and summary of consultations conducted on the ESMP;
- h) Description of the Grievance Redress Mechanism, including a specific Labour-GRM for workers and SEA/SH sensitive channels
- i) Description of institutional arrangements, identifying which party is responsible for carrying out the mitigation and monitoring measures (i.e. for operation, supervision, enforcement, monitoring, staff training, etc.), capacity assessment of the Borrower (MPWT) and a training plan for the MPWT/PTRI;
- j) Implementation Schedule and Cost Estimates, showing coordination with overall project implementation plans, costs and sources of funds.




Sample Table for ESMP

potential negative Impact	Environmental AND SOCIAL mitigation Measures	location	Estimated mitigation costs	Executin g Agency	Supervisin g / MONITORI NG Agency
DETAILED DESIGN/ PRE-CONSTRUCTION MOBILISATION STAGE					
CONSTRUCTION STAGE					
OPERATION AND MAINTENANCE STAGE					

ANNEX 5: Sample Monitoring Checklist

PROJECT COMPONENT:		LOCATION:	
DATE:		CONTRACTOR:	
PREPARED BY:		SUPERVISION :CONSULTANT	

Inspection Participants: (insert names and positions)

ESMP Items	Applies		Compliance			Issues	Status (R)/(O)	Action Required/Taken	Target/Actual Date
	Yes	No							
Mitigation & Management Measures: Construction Phase									
Mitigation measure from ESMP									
Mitigation & Management Measures: Operation and Maintenance Phase									

Compliant, Minor Non-Compliance, Significant Non-Compliance

Status: (R) Resolved Issues, (O) Ongoing Issues

ANNEX 6: Environmental and Social Codes of Practice for Construction Works

Generic contract clauses are provided to assist with environmental and social management works. These clauses are general and should be modified as needed. These clauses are intended to be included as requirements in the works contract and shall remain in force throughout the contract period.

Clause on ESMP

The Contractor is required to implement this ESMP. The Contractor is responsible for the implementation of construction and rehabilitation activities for the sites and for implementing the impact mitigation measures in the construction phase. The Contractor's approach shall be detailed in the Contractor's Management Plan.

The Contractor shall include a suitably qualified and experienced Environmental, Occupational Health and Safety Officer (and other staff or consultants as necessary) to be specifically responsible for preparation and regular update and supervision of the ESMP. The Environmental, Occupational Health and Safety Officer is responsible for the daily supervision and monitoring of the Contractors implementation of the Plan and compliance with the Project ESMP for the duration of the contract. The Contractor's approach to comply with the ESMP shall be approved by MPWT and DDIS prior to the Contractor's mobilization to the site.

The Contractor will be required to report on the implementation status of the ESMP to MPWT. The damages due to the violation of the stipulations by the Contractor shall be compensated and/or restored by the Contractor at his or her own expense. Performance will be monitored by MPWT and will be enforced by withholding of payments (refer to relevant clause in the bid documents).

Other Standard Clauses

Permits and Approvals

The contractor shall be responsible for ensuring that he or she requires all relevant legal approvals and permits r to commence works.

Site Security

The contractor shall be responsible for maintaining security over the construction site including the protection of stored materials and equipment. In the event of severe weather, the contractor shall secure the construction site and associated equipment in such a manner as to protect the site and adjacent areas from consequential damages. This includes the management of onsite, construction materials, construction and sanitary wastes, additional strengthening of erosion control and soil stabilization systems and other conditions resulting from contractor activities which may increase the potential for damages.

Liaising with local authorities and the public

Prior to the commencement of project and throughout the construction duration, the Contractor will work closely with the local authorities and other agencies to ensure full compliance with Government regulations and will also provide adequate information on the Project to the general public, especially those that may cause public safety, nuisance, and sensitive areas and the locations of storage and special handling areas. The Contractor will provide information and reporting telephone 'Hotline' staffed at all times during working hours. Information on this facility shall be prominently displayed on site hoardings.

Community relations

The Contractor will assign one community-relation personnel, who will be responsible for building relations with local community and to provide appropriate information and be the first line of response to resolve issues of concern. Contractor will take reasonable steps to engage with residents of ethnic minority backgrounds and residents with disabilities (or other priority groups as appropriate), who may be differentially affected by construction impacts.

The Contractor will ensure that local residents nearby the construction sites will be informed in advance of works taking place, including the estimated duration. In the case of work required in response to an emergency, local residents shall be advised as soon as reasonably practicable that emergency work is taking place. Potentially affected residents will also be notified of the Hotline number, which will operate during working hours. The Hotline will be maintained to handle enquiries regarding construction activities from the general public as well as to act as a first point of contact and information in the case of any emergency. All calls will be logged, together with the responses given and the callers' concerns action and a response provided promptly. The Hotline will be widely advertised and displayed on site signboards.

The Contractor will respond quickly to emergencies, complaints or other contacts made via the Hotline or any other recognized means and liaise closely with the emergency services, local authority officers and other agencies (based on established contacts) who may be involved in incidents or emergency situations.

The Contractor will manage the work sites, work camps, and workers in a way that is acceptable to local residents and will not create any social impacts due to workers. Any construction workers, office staff, Contractor's employees, or any other person related to the Project found violating the "*prohibitions*" activities listed in Section (1.5) below may be subject to disciplinary actions that can range from a simple reprimand to termination of his/her employment depending on the seriousness of the violation.

Prohibitions

The following activities are prohibited on or near the Project sites:

- Cutting of trees for any reason outside the approved construction area; Hunting, fishing, wildlife capture, or plant collection; Buying of wild animals for food; Having caged wild animals (especially birds) in camps; Poaching of any description; Explosive and chemical fishing; Disturbance to anything with architectural or historical value;
- Building of fires; Use of unapproved toxic materials, including lead-based paints, asbestos, etc.; Use of firearms (except authorized security guards); Use of alcohol by workers in office hours; Driving in an unsafe manner in local roads; and
- Washing cars or machinery in streams or creeks; Maintenance (change of oils and filters) of cars and equipment outside authorized areas; Creating nuisances and disturbances in or near communities; Disposing garbage in unauthorized places; Indiscriminate disposal of rubbish or construction wastes; Littering the site; Spillage of potential pollutants, such as petroleum products; Collection of firewood; Urinating or defecating outside the designated facilities; and Burning of wastes and/or cleared vegetation.

Discovery of Antiquities and Cultural Heritage

If, during the execution of the activities contained in this contract, any material is discovered onsite which may be considered of historical or cultural interest, such as evidence of prior settlements, native or historical activities, evidence of any existence on a site which may be of cultural significance, all work shall stop and the supervising contracting officer shall be notified immediately and the Chance Find Procedures followed. The area in which the material was discovered shall be secured, cordoned off, marked, and the evidence preserved for examination by the local archaeological or cultural authority. No item believed to be an artefact must be removed or disturbed by any of the workers. Work may resume, without penalty of prejudice to the contractor upon permission from the contracting officer with any restrictions offered to protect the site.

Worker Occupational Health and Safety

The contractor shall ensure that all workers operate within a safe environment. Sanitation facilities shall be provided for all site workers. All sanitary wastes generated as a result of project activities shall be managed in a manner approved by the contracting officer and the local authority responsible for public health. The contractor shall ensure that there are basic medical facilities on site and that there are staff trained in basic first aid. Workers must be provided with the necessary protective gear as per their specific tasks such as hard hats, overalls, gloves, goggles, boots, etc. The contractor shall provide the contracting officer with an occupational health and safety plan for approval prior to the commencement of site activities.

The contractor must ensure that all workers comply with Covid-19 measures in line with GoL mandates and that the use of Covid-19-related PPE is available and used

as necessary, including handwashing facilities and/or hand sanitizer. Appropriate posting of information within the site must be done to inform workers of key rules and regulations to follow.

Use and Management of Hazardous Materials, fuels, solvents and petroleum products

The use of any hazardous materials including pesticides, oils, fuels and petroleum products shall conform to the proper use recommendations of the product. Waste hazardous materials and their containers shall be disposed of in a manner approved by the contracting officer in accordance with State and/or national laws and the Project ESMP. A site management plan will be developed by the contractor if the operation involves the use of these materials to include estimated quantities to be consumed in the process, storage plans, spill control plans, and waste disposal practices to be followed. Any plans required shall be approved by the contracting officer.

Elements of the hazardous materials management shall include:

- Contractor must provide temporary storage on site of all hazardous or toxic substances in safe containers labeled with details of composition, properties and handling information;
- Hazardous substances shall be placed in a leak-proof container to prevent spillage and leaching; and
- Wastes shall be transported and disposed of in a manner outlined in the ESMP, and cleared by the CIU E&S Team compliant with national laws and policies and the ESMP.

Use and Management of Pesticides

Any use of pesticides shall be approved by the contracting officer and shall conform to the manufacturers' recommendations for use and application. Any person using pesticides shall demonstrate that they have read and understood these requirements and are capable of complying with the usage recommendations to the satisfaction of the contracting officer. All pesticides to be used shall conform to the list of acceptable pesticides that are not banned by the relevant local authority.

If termite treatment is to be utilized, ensure appropriate chemical management measures are implemented to prevent contamination of surrounding areas, and use only licensed and registered pest control professionals with training and knowledge of proper application methods and techniques.

Use of Explosives

No explosives shall be used on the Project.

Site Clearance and Borrow Pit Management Plan (SCBMP)

This plan aims to mitigate negative impacts due to excavation, site clearance, tree cutting in ROW, stockpiling, quarries, and borrow pits including the needs for revegetation and/or rehabilitation of the work sites.

Tree cannot be cut without approval from CFC/FE. The Contractor will use a quarry of materials according to the regulations and compensate by planting of trees in case of deforestation or tree felling. When possible, the Contractor should develop maintenance and reclamation plans, protect soil surfaces during construction and revegetate or physically stabilize eligible surfaces, preserve existing fauna and flora and preserve natural habitats along streams, steep slopes, and ecologically sensitive areas.

The materials required to be sourced locally for road construction include: Natural granular material for possible application as subbase; Borrow materials for embankment fill (typically obtained from nearby SEARECC alignment but from private owned/operate borrow areas in some cases); Quarry stone for production of aggregates for asphalt, crushed stone base, concrete and masonry works; and Sand for concrete and mortar. Locations of these materials have not been confirmed at this stage . It is expected that these sites will supply source materials to the closest section of the alignment to minimise the impact of transporting materials.

Commercial quarries and borrow pits approved by local environmental agencies should be used as much as possible. If non-commercial quarries and/or borrow pits are newly opened or expanded and used, in consultation with the DDIS, the Contractor will comply with the following requirements:

- Large-scale borrow pits or stockpiles will need site-specific measures that may go beyond those required in this ESCOP.
- All locations to be used must be previously identified in the approved construction specifications. Sensitive sites such as scenic spots, areas of natural habitat, areas near sensitive receptors, or areas near water should be avoided.
- When water pollution is expected, an open ditch will be built around the stockpile site to intercept wastewater.
- Stockpile topsoil when first opening a borrow pit and use it later to restore the area to near natural conditions.
- If needed, disposal sites will include a retaining wall.
- If the need for new sites arises during construction, they must be pre-approved by the responsible local authorities.
- If landowners are affected by use of their areas for stockpiles or borrow pits, they must be included in the project resettlement plan and proper agreement and record will be secured.

- For any stockpile, quarry, or borrow pit sites opened for this project should be used only for the project activities and it should not be used afterwards, unless it has been authorized by local authorities.
- If access/rescue roads are needed, actions to mitigate all negative impacts described in this ESCOP will also be applied. The alignment for each of these roads must be clearly determined with its impacts and mitigation measures.

Earth excavation and demolition materials

During site physical clearance, earth excavation must be carefully handled to reduce dust and possible obstruction and causing nuisance and health impacts to local residents. Excavation that affects existing traffic and public utilities (such as pipeline, water supply, and bridges) must be properly planned in consultation with local authority and informed to the residents in advance. All excavation materials and old road surface will be reused for dike/road construction and/or land filling at or nearby the work site. Demolition materials must be properly disposed-off. The Contractor must consult PMU/DOR and/or DDIS/FE on the final selection of disposal sites and methods.

To mitigate potential impacts of material excavation include: Potential UXO risk; Exposure of soil that has the potential to lead to increased erosion and discharge of sediment into waterways; Exposed faces and slopes that may be at risk of landslide or collapse; The dewatering of some areas within source sites has potential to impact on flow activation of potential plumes; Discharge of effluents from aggregate washing and crushing has potential to impact on water quality; and Increased noise, dust and vibrations in the local area surrounding the source sites. The Contractor will consult local authorities and communities on UXO risks at all borrow materials, quarry stone and sand site, a quick assessment is undertaken for each site to ensure that UXO risk and impacts on local community and local environment are low and appropriate actions will be made by contractor to mitigate these risks/impacts. If the area is considered high risks, the Contractor shall hire a qualified and authorized UXO firm for survey and clearance. Obtaining UXO Clearance certificate from the National Regulator Authority (NRA) is required before any start of civil works for each site. Each site should have a clear plan for mitigation of erosion and/or sedimentation measures including construction of drainage controls and sedimentation ponds, daily deployment and maintenance of sediment control devices such as silt fences and jute netting, and planning of quarrying operations to minimise long-term exposure of erosive materials. It is expected that each quarry will also have a rehabilitation plan for the closure of the site after the sourcing of materials.

Site Stabilization and Erosion Control

The Contractor shall implement measures at the site of operations to manage soil erosion through minimization of excavated area and time of exposure of excavated areas, preservation of existing ground cover to the extent possible, provision of

approved ground cover and the use of traps and filtration systems. Where excavations are made, contractor shall implement appropriate stabilizing techniques to prevent cave-in or landslide. Measures shall be approved by the contracting officer.

The contractor must ensure that appropriate erosion control measures such as silt fences are installed. Proper site drainage must be implemented. Any drain clogged by construction material or sediment must be unclogged as soon as possible to prevent overflow and flooding. The use of retaining structures and planting with deep rooted grasses to retain soil during and after works must be considered. The use of bio-engineering methods must be considered as a measure to reduce erosion and land slippage. All slopes and excavated areas must be monitored for movement.

The contractor will establish appropriate erosion and sediment control measures such as hay bales, sedimentation basins, and / or silt fences and traps to prevent sediment from moving off site and causing excessive turbidity in nearby streams, rivers and wetlands. Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies.

Protection of natural habitats.

The Contractor must observe the national and local regulations and policies related to protected areas/species, wildlife sanctuaries. No trees in nearby sensitive areas can be cut without obtaining prior agreement with the authorities. When possible, organize training courses to improve environmental protection awareness of the staff and local communities.

Noise Control

The contractor shall control noise emissions generated as a result of contracting activities to the extent possible. In the case of site locations where noise disturbance will be a concern, the contractor shall ensure that the equipment is in good working order with manufacturer supplied noise suppression (mufflers etc.) systems functioning and in good repair.

Where noise management is a concern, the contractor shall make reasonable efforts to schedule activities during normal working hours (between 7 am and 5 pm) and not conflicting with cultural festivals or related-activities. Where noise is likely to pose a risk to the surrounding community either by normal works or working outside of normal working hours or on weekends, the contractor shall inform the contracting officer and shall develop a public notification and noise management plan for approval by the contracting officer.

Care must be undertaken during the transportation of construction materials to and from the construction site; the spoil must be covered at all time. Fly-tipping will not be permitted. Loads must only be deposited at designated sites. The Contractor will be responsible for all the trucks delivering to, or exiting from, a worksite and will clean up all damage that may occur to public road and other public facilities. Care should be taken when loading or unloading vehicles or dismantling scaffolding or moving

materials to reduce impact noise. Loading or unloading bays may have to be housed in suitable acoustic enclosures.

Noisy plant or equipment including will be sited as far away as is practicable from noise sensitive buildings. The use of barriers, (e.g. soil mounds), site huts, acoustic sheds or partitions to deflect noise away from noise sensitive areas should be employed wherever practicable.

The Contractor will be obliged to comply with the vibration levels according to GOL standards. Due attention will be given to minimize human exposure (1 Hz to 80 Hz) and protection of damage to nearby structures.

Air Quality

The Contractor shall comply with the Project ESMP requirements for dust management.

The Contractor must make efforts to control dust, noise, and vibration levels from the site, as far as is reasonably practicable. Excessive noise/vibration generation activities must be in accordance with GOL standards. For critical areas, the Contractor may be required to conduct noise measurement in close consultation with the local residents and establish appropriate measures to control and manage noise level. Measures for reducing dust and other air pollution, noise, and vibration are provided as follows:

- Inform the residents: Prior to commencement of work at any site, the Contractor will be required to inform the local authority and residents regarding the construction plan and potential noise and vibration that may occur from the construction activities, including measures to reduce noise and vibration.
- Dust control: The Contractor will ensure that no burning of waste materials on site; adequate water supply is available on site; dry sweeping of large areas is not allowed; Cover all trucks carrying loose or potentially dusty materials (soil, mud, etc.) to and from construction site; Water or sprinkle the construction areas periodically, especially at site located near residential area; avoid overloaded of trucks; routinely clean public roads and access routes; Ensure vehicles working on site have exhausts positioned such that the risk of re-suspension of ground dust is minimized (exhausts should preferably point upwards), where reasonably practicable; Control driving speed on un-surfaced haul routes and work areas; Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overflowing during delivery; Mix large quantities of cement, grouts and other similar materials in designated areas; Store materials with the potential to produce dust away from site boundaries where reasonably practicable; Minimize the amount of excavated material held on site; Sheet, seal or damp down unavoidable stockpiles of excavated material held on site, where required;

Seal or re-vegetate completed earthworks as soon as reasonably practicable after completion.

Traffic Management

If construction activities should result in the disruption of area transportation services, including temporary loss of roadways, blockages due to deliveries and site related activities, the contractor shall provide the contracting officer with a traffic management plan including a description of the anticipated service disruptions, community information plan, and traffic control strategy to be implemented so as to minimize the impact to the surrounding community. This plan shall consider time of day for planned disruptions, and shall include consideration for alternative access routes, access to essential services such as medical, disaster evacuation, and other critical services. The plan shall be approved by the contracting officer.

Elements of the traffic management plan to be developed and implemented by contractor shall include:

- Alternative routes will be identified in the instance of extended road works or road blockages;
- Public notification of all disturbance to their normal routes;
- Signage, barriers and traffic diversions must be clearly visible, and the public warned of all potential hazards;
- Provision for safe passages and crossings for all pedestrians where construction traffic interferes with their normal route;
- Active traffic management by trained and visible staff at the site or along roadways as required to ensure safe and convenient passage for the vehicular and pedestrian public; and
- Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement. Measures may also need to be taken around school entry/exit times to ensure the safety of children.

Water Quality

The Contractor shall comply with the Project ESMP requirements for water quality. Under no circumstances shall the contractor permit the collection of standing water as a consequence of contractor activities to ensure that it does not create breeding grounds for any pests such as mosquitoes.

Management of Solid Wastes and Construction Debris

The contractor shall provide a solid waste management plan that conforms to the national solid waste management policies and regulations and the Project ESMP for approval by MPWT (see ANNEX 4). The site waste management plan shall include a description of waste handling procedures including collection, storage and disposal through the national waste management system. There will be no open burning of waste material and the contractor shall endeavor to recycle wastes as appropriate. Under no circumstances shall the contractor allow construction wastes to

accumulate so as to cause a nuisance or health risk due to the propagation of pests and disease vectors.

Management of Workers

The Contractor will implement the Labor Management Procedures (LMP) (ANNEX 7) and the Code of Conduct (see ANNEX 10 and ANNEX 11) to describe the expected behaviors of their project worker in relation to the local communities and their social sensitivities. This is to avoid creating demand for illegal sex work, avoid Gender-Based Violence and Violence Against Children, manage alcohol consumption and avoid the use of illegal substances, and abide by cultural and social norms of the host community. The Contractor is to ensure no children or persons under the age of 18 are hired to work in the project.

The Contractor is to ensure that all overseas project staff undergo a training on the Staff Code of Conduct. Gender based violence and HIV/AIDS and communicable disease awareness raising and resources shall also be provided to all workers. MPWT shall provide to the Contractor a list of approved service providers, which shall include recognized NGOs and others for conducting this training.

The Contractor is to stipulate the conditions under which visitors may attend the workers' accommodation, including curfews. The Contractor shall ensure that basic social/collective rest and recreation spaces and activities within the workers accommodation to help minimize the impact that the workers would have on the leisure and recreational facilities of the nearby communities. The Contractor must comply with the Labour Management Procedures (ANNEX 7).

As per guidelines in the ESMP, the Contractor must ensure that Worker's Camps are located at least 500m from nearby communities and schools (see ANNEX 11).

Monitoring and reporting Plan (MERP)

This plan aims to ensure that the mitigation measures are conducted timely and effectively. The Contractor will be required to submit the Contractor ESS monitoring report to DPWT and PONRE (with a copy to EDPD/PTRI) on every 25th of each month. The report can be submitted electronically as agreed.

Following approval of the C-ESMP, the Contractor will be required to attend a series of meetings with the DDIS and/or Field Engineers to ensure that all compliance conditions and procedures are clearly understood and actions can be implemented on the ground. As part of the day-to-day supervision of works, the DDIS/FE are also responsible for day-to-day supervision and monitoring of compliance of the C-ESMP and report the results in the progress report. The Contractor will be responsible for ensuring that all sub-contractors abide by the conditions of the Project-ESMP.

Quarterly Environmental Monitoring Report - in respect of compliance with C-ESMP will be submitted to the PMU/DOR and DPWT through the DDIS/Engineer (with a copy to EDPD/PTRI) on every 25th of each month. The report can be submitted electronically.

ANNEX 7: Labour Management Procedures

Instructions: Site- Specific ESMPs will update this information.

1) Labour Management Procedures (LMP) are mandated by WB ESS2 to identify the main labour requirements and risks associated with a project and to determine the resources necessary to address project labour issues. The LMP is a living document to be reviewed and updated throughout development and implementation of the project. The LMP applies to all project workers, irrespective of contracts being full-time, part-time, temporary or casual.

USE OF LABOUR IN THE PROJECT

2) The World Bank ESS2 defines four categories of project workers:

- **Direct workers** - people employed or engaged directly by the Borrower (including the project proponent and the project implementing agencies) to work specifically in relation to the project.
- **Contracted workers** - people employed or engaged through third parties to perform work related to core functions of the project, regardless of location. These could be either international or national workers.
- **Primary supply workers** - people employed or engaged by the Borrower's primary suppliers (primary supply workers).
- **Community workers** - people employed or engaged in providing community labour, generally voluntarily. There will be no community workers engaged on the Project.
- **Civil Servant**- those employed directly by the Government.

3) The project is expected to have the following type of workers:

Table 1. Expected Type of Workers

Category of worker	Estimated Number of Project Workers	Characteristics of Project Workers	Timing of Labour Requirements
Civil servant	TBD	Workers at MPWT in Vientiane, the Department of Public Works and Transport (DPWT), other ministries, District level staff in the 5 provinces. May also include staff from other line ministries.	Throughout the whole project cycle

Category of worker	Estimated Number of Project Workers	Characteristics of Project Workers	Timing of Labour Requirements
Contracted Workers	5-15 staff	DDIS E&S Specialist, DDIS design engineers as well as DDIS supervisors on site and other DDIS staff which may be contracted by DDIS. It is likely that DDIS staff will mostly be international. TA and other contracts will also be included.	Throughout the whole project cycle
Direct Worker	5-15 staff	Contractor team engaged to build road section.	Construction and maintenance
Contracted worker	TBD (for all roads) An estimate of 450 workers for NR2.	Contractor may sub-contract staff to work in construction, both skilled and unskilled staff. Contractor will be encouraged to hire locally and/or in Lao. Contractor will need unskilled workers and they will be encouraged to hire from the community (to avoid having migrant workers), including that 15% of unskilled workers are women.	Construction and maintenance
Supply workers	TBD	Companies/factories supplying materials for construction, in particular raw materials, such as soil, stone aggregates, cement, concrete cement, asphalt, etc.	Construction and potentially maintenance
Contracted workers	TBD	Civil society, NGO or consultant staff may be hired to deliver training activities such as HIV/AIDs or SEA/SH, or conduct additional assessments, ideally Lao and/or Lao-based.	Construction and potentially maintenance

The project will ensure that no workers of any type is under 18 years. There will be no community workers engaged on the Project.

ASSESSMENT OF KEY POTENTIAL LABOUR RISKS

4) The project will hire a range of workers for the overall delivery of the project. Construction workers are deemed to be the highest labour risk, both due to the informal nature of their work (usually short-term contracts) and their presence in the community, which can heighten risks of SEA/SH and VAC.

Table 2 : Key potential labour risks

Project Activity	Key Labour Risks
General project administration and implementation (hiring)	<ul style="list-style-type: none"> • Road travel to provinces (OHS) • Sedentary work (OHS) • Air travel (OHS)

Project Activity	Key Labour Risks
of consultants, monitoring and reporting, financial management, audits, E&S management, project coordination)	<ul style="list-style-type: none"> • Presence of foreign workers • Covid-19 transmission risks • SEA/SA risks for staff, in particular women
Design of project roads, including consultation activities and conducting surveys (if needed)	<ul style="list-style-type: none"> • Road travel to provinces (OHS) • Sedentary work (OHS) • SEA/SH and VAC when designers and/or project consultations close to communities • Presence of foreign workers • Covid-19 transmission risks
Construction works, including procuring materials for road works and other construction (consolidation facilities, BCF)	<ul style="list-style-type: none"> • Operating heavy machinery (OHS) • Traffic hazards (OHS) • Accidents or emergencies (OHS) • Risks of workplace accidents, particularly when operating construction equipment, when working at height on building construction, and when handling heavy equipment and materials • Risks from exposure to hazardous substances (dust, cement, chemicals used in construction etc.) • Risks associated with living conditions in site camps, which may include inadequate provision of water and sanitation as well as the risk that construction camps become locations for transmission of sexually transmitted diseases (STD) or expose workers to vector-transmitted diseases such as malaria and dengue and to risk of snakebites and insect stings • Potential risks from encountering UXOs during construction works • SH/SEA and VAC risks for workers and community • Spread of sexually-transmitted diseases • Unequal pay for men and women workers, in particular unskilled • Discrimination of women and other vulnerable persons, in particular for unskilled jobs • Pay below the minimum wage, in particular for unskilled jobs • Presence of migrant workers, in particular for unskilled job • Presence of foreign workers, both for skilled and

Project Activity	Key Labour Risks
	unskilled jobs <ul style="list-style-type: none"> • Indentured labour in supply chain • Child labour (in supply chain and contracted staff) • Covid-19 transmission risks
Delivering trainings for community	<ul style="list-style-type: none"> • SH/SEA and VAC to workers and community • Spread of sexually-transmitted diseases • Covid-19 transmission risks • Road travel to provinces (OHS)
Implementation of TA activities including trainings, meetings, workshops, etc.	<ul style="list-style-type: none"> • Road travel to provinces (OHS) • Sedentary work (OHS) • SH/SEA and VAC when designers and/or project consultations close to communities and/or within staff and/or participants in trainings • Presence of foreign workers • Covid-19 transmission risks

BRIEF OVERVIEW OF THE LABOUR LEGISLATION: TERMS AND CONDITIONS

5) The workers in Lao PDR are managed and protected under a relative comprehensive labour framework. The main laws relating to labour matters in Lao PDR are listed below:

- The Constitution of Lao PDR (2015) no. 63/NA dated December 8, 2015.
- Law on Social Security (Amended 2018) no. 54/NA, dated June 27, 2018.
- Law on Labour (Amended 2013) no. 43/NA, dated December 24, 2013.
- Law on Hygiene, Disease Prevention and Health Promotion (Amended 2011) no.08/NA, dated December 21, 2011.
- Law on Health Insurance (2018) no. 60/NA, dated December 13, 2018.
- Decree on the Ethics and Morals of Civil Servants no. 184/PM, dated June 26, 2019.
- Ministerial Agreement on Occupational Health and Safety in the Construction Site no. 3006/MLSW, dated August 21, 2013; and
- Guidelines on the Implementation of the Law on Social Security (Amended) no. 2751/MLSW, dated July 24, 2015.

The Constitution of Lao PDR (2015). Article 27 define that “The State and society attend to developing skilled labour, upgrading labour discipline, promoting vocational skills and occupations and protecting the legitimate rights and benefits of workers”.

Law on Labour (Amended 2013). The main law regulating employment relationships in Lao PDR is the Labour Law 2013. As indicated above, an amended Labour Law no. 43/NA was adopted on December 24, 2013 by the National

Assembly of Lao PDR. This law defines the principles, regulations and measures on administration, monitoring, labour skills development, recruitment, and labour protection in order to enhance the quality and productivity of work in society, so as to ensure the transformation to modernization and industrialization aimed at safeguarding the rights of employees and employers, as well as the legitimate interests and the continual improvement of their livelihoods, while contributing to the promotion of investment, national socio-economic development, and regional and international links. The law grants certain protections to groups of employees (including women, child, etc.) as presented in the followings:

- **Gender Equity.** Article 96 states that “Female employees have the right to employment and professions in every sector that do not conflict with the law, including production, business and management, and may participate in training, labour skills improvement and providing expertise. Female employees shall receive a salary or wages equal to that of male employees, excepting some forms of work that has negative effects upon the reproductive health of women, which must be protected in every case”.
- **Prevent Child Labour.** Article 101 states that “Employers may accept employees under the age of 18 years but not younger than 14 years; however, they are prohibited from working overtime. When necessary, the employer may accept and use youth employees under the age of fourteen, but not younger than twelve years, and must ensure the work is light work”; Article 102 lists the tasks prohibited for minor employees, it defined that “Cases wherein the use of youth employees is prohibited are including (i) work in activities, duties and locations that are unsafe, dangerous to the health of the body, psychology or mind; (ii) forced labour; (iii) work to repay debts; (iv) human trafficking; (v) trade or deception into the sex industry or solicitation of prostitution, photography or pornography; and (vi) trade or deception into the movement and production, transportation, possession of narcotics or addictive substances”.
- **Disabled Labourers.** Article 33 state that “promotion of occupational freedom, working from the home, and the hiring of disadvantaged persons, women, disabled persons, or the elderly”.

The Law on Labour in general is a comprehensive document that meets many of the ESS2 requirements. Table 3 presents a matrix of distance analysis showing correlation between main ESS2 criteria and the labour law.

Law on Social Security (Amended 2018). This law defines the principles, rules and provisions for the organization, implementation, management, monitoring, and inspection of social security affairs with a view to make it systematic, strengthened, and effective for better protecting rights and interests of employers and employees who contribute to the Social Security Fund, and receive social security benefits, as well as to assure livelihood improvement, social solidarity, and national socio-economic development.

Law on Health Insurance (2018). This law defines principles, regulations and measures concerning the management and utilization of the national health insurance scheme in an appropriate manner and in consistent with the rules of law to ensure the access to health care services of insured individuals, including all ethnic groups thoroughly and equitably. The law is aiming to promote healthy for all and improve labour force to contribute to the protection and development of the nation.

Table 3: GAP Analysis on the Law on Labour (Amended 2003) VS ESS-2 Requirement

ESS2 REQUIREMENT	LAW ON LABOUR	KEY GAPS	COMMENT	MEASURES
Terms and conditions of employment	An employment contract is an agreement between an employee and an employer or between an employee representative and an employer representative regarding conditions of work, salary or wages, welfare, and other policies (Article 75) Employment contracts may take two forms that includes verbal or written (Article 77)	No major gaps are noted. However, verbal form of contract is not a good practice and not formally recognized under ESS2 as it can be changed and violated by either parties (employer and employees) without any written evidence and official references.	-	Project direct workers will have clear terms and conditions of employment. Contractors to be required to comply with Labour Law provisions. The project will ensure that no workers of any type is under 18 years. There will be no community workers engaged on the Project.
Non-discrimination and equal opportunity	Operations based on an employment contract between the employee and the employer, ensuring both parties benefit without discrimination (Article 5) Obstructing employment or using direct or indirect force to make an employee stop work due to marital status, gender discrimination, or infection of HIV (141)	No major legislative gaps identified	No clear enforcement mechanism	Non-discrimination and equal opportunity to be applied to employment of project direct workers. Fair and non-discriminatory employment practices to be required for contracted workers. Where contractors hire workers from the beneficiary community, disadvantaged and vulnerable community members are to have equal access to opportunities.
Rights to organize	Section XIV Tripartite Organizations, that includes the labour administration agency, agencies representing employers, agencies representing	No major gap	Lao's trade unions are prominent in government organization but not	GRM will be available to workers, and can be used for example to submit complaints if workers are denied

ESS2 REQUIREMENT	LAW ON LABOUR	KEY GAPS	COMMENT	MEASURES
	employees and bargaining and collective labour contracts		common in other sectors	their right to organize
SEA/SH	Regulations in Laos exist to protect the rights of women, violence against women and children. However, this is not directly required in road projects.	No clear enforcement mechanism Lack of service providers	Cultural barriers may prevent reporting of SEA/SH. Lao Women's Union is an important counterpart given their role in the villages.	This ESMF provides guidelines on how to address the identification and mitigation measures associated with these issues. Specific guidelines will be provided in terms of Labor Management Procedures and Staff Code of Conduct (see Annexes 10-11).
Prevention / restriction of child labour	Employers may accept employees under the age of 18 years but not younger than 14 years; however, they are prohibited from working overtime. When necessary, the employer may accept and use youth employees under the age of 14, but not younger than 12 years, and must ensure the work is light work ⁴⁵ (Article 101) Cases wherein the use of youth employees is prohibited are including (i) work in activities, duties and locations that are unsafe, dangerous to the health of the body, psychology or mind; (ii) forced labour; (iii) work to repay debts; (iv) human trafficking; (v) trade or deception into the sex	ESS2 does not allow workers under 14 years (unless the national law specifies a higher age). Para 17-19 details specific requirements for workers under 18 years (and above 14/higher minimum age), including that they are not engaged in hazardous work or that the work interferes with a child's education, health or	Employment of children working in farming alongside with parents is culturally accepted.	The project will ensure that no workers of any type is under 18 years. Age of employees to be verified and monitored as part of contract supervision. Suppliers to certify non-use of child labour, with verification measures in high-risk sectors

⁴⁵ Light work refers to work that is not harmful to the child and does not interfere with a child's education, or her ability to benefit from education (that work will be only a few hours from time to time).

ESS2 REQUIREMENT	LAW ON LABOUR	KEY GAPS	COMMENT	MEASURES
	industry or solicitation of prostitution, photography or pornography; and (vi) trade or deception into the movement and production, transportation, possession of narcotics or addictive substances” (Article 102)	development. ILO ⁴⁶ (2014) notes that prohibitions on child labour apply only in formal employment, whereas most child workers work in non-formal agriculture		
Prevention of forced labour	Unauthorized use of forced labour (Article 59)	No gaps		Forced labour, including debt bondage, is prohibited in any form. Suppliers to certify non-use of forced labour, with verification measures in high-risk sectors Project to monitor and report within 48 hours including notification of any incident.
Grievance mechanism	Section XIII Resolution of labour disputes was not specifically mentioned for the mechanism. According to Article 148 - resolution of labour disputes will be undertaken according to the following methods: Compromise. Administrative resolutions. Resolution by the committee for labour dispute resolution;	The national legislation does not guarantee workers’ access to a grievance mechanism		Project to assign one ESS supporting staff for each DPWT to track and monitor the process of worker grievance mechanism. Project will evaluate and report on implementation of the mechanism.

⁴⁶ Lao PDR has ratified a total of 10 ILO Conventions, including five of the eight ILO Fundamental Conventions (C029 - Forced Labor Convention, C100 - Equal Remuneration Convention, C111 - Discrimination (Employment and Occupation) Convention, C138 - Minimum Age Convention, and C182 - Worst Forms of Child Labor Convention), one of four Governance Conventions (C144 - Tripartite Consultation (International Labor Standards) Convention) and four of 178 Technical Conventions (C004 - Night Work (Women) Convention, C006 - Night Work of Young Persons (Industry) Convention, C013 - White Lead (Painting) Convention, and C171 - Night Work Convention)

ESS2 REQUIREMENT	LAW ON LABOUR	KEY GAPS	COMMENT	MEASURES
	Court rulings; and Dispute resolution consistent with international protocols defined two			
Identification of potential hazards	Labour occupational health and safety is a joint activity between the employer and the employee in the assurance of occupational safety and health in the workplace, including risk assessment of the work environment, appropriate measures for reducing hazards and risks (Article 117) The employer must inspect and assess risks to safety and health within the labour unit and workplace regularly (Article 122)	Largely consistent	Enforcement of safety standards is weak, in the informal and construction sectors	The project has measures in place in the ESMF and future ESMPs with procedures to establish occupation, health, and safety risk assessment and mitigation measures
Provision of preventive and protective measures	Article 119 - Obligations of the employer for the protection of labour safety and health	No major gaps		Strategy built for direct project staff in Occupational, Health and Safety (OHS) Workplace safety measures for contract workers under the requirements on Environment, Social, Health and Safety (ESHS) as part of ESMPs
Training of workers and maintenance of training records	Not clearly listed safety training, are mentioned	Requirement for safety training is not clearly spelled out in the national law		ESMF and future ESMPs require adequate safety training for all staffs/workers
Documentation and reporting of occupational accidents,	Whenever an accident occurs within a labour unit that causes the employees to take time off work for four or more days, the employer must record the	ESS2 requires reporting procedures		All workplace health and safety incidents to be recorded in a register, as part of ESMPs. Minor incidents

ESS2 REQUIREMENT	LAW ON LABOUR	KEY GAPS	COMMENT	MEASURES
disease and incidents	cause of the accident in detail and report it to the Labour Administration Agency (Article 125)			and near misses should be reported to MPWT on a monthly basis; serious incidents should be reported immediately.
Emergency Preparedness	Not specifically mentioned	Emergency Preparedness response measure is not specifically mentioned in the national law		All worksites to have health and safety plan including emergency plans in line with the ESMF and future ESMPs
Remedies for adverse impacts	Employers need to maintain the workplace, safety systems, environment and atmosphere when working to ensure good conditions for the health of the employees; and provide appropriate facilitation of welfare for employees in the workplace (Article 119)	Largely consistent except the requirement for safety training and Emergency Preparedness response measure		All workers to be insured for occupational hazards including relating to Covid-19 transmission at the workplace

OVERVIEW OF THE LABOUR LEGISLATION: OCCUPATIONAL HEALTH AND SAFETY

6) The three key Lao labour legislations regarding OHS are the Law on Labour, Law on Hygiene, Disease Prevention and Health Promotion and Ministerial Agreement on Occupational Health and Safety in the Construction Site.

Labour Law which governs all different sectors and industries in Lao PDR enacts general regulations on the occupational health and safety at the workplaces and the regime on Labour accidents, occupational disease of employees. Under this law, the employers are required to implement measures to ensure OHS at the workplace, and the employees must comply with them. The main measures are as follow:

- Instill appropriate measures to ensure workplace health and safety for the employee working under its administration.
- Ensure the workplace, machinery, equipment, and procedures in the production of metals or chemicals and explosive materials in the labour unit are safe or do not pose a danger to the health of employees.
- Regularly inspect all safety measures and improve any that are inappropriate.
- Assess risks to employee health and safety at least once per year and then report to the Labour Administration Agency.
- Maintain the workplace, safety systems, environment and atmosphere when working to ensure good conditions for the health of the employees.
- Provide appropriate facilitation of welfare for employees in the workplace.
- Supply information, recommendations, training, and protection for employees so that they may undertake their work safely.
- Supply individual safety equipment to employees in full and in good condition according to international standards.
- Prohibit the use of addictive substances or drink, or any mind-altering substances in or around the workplace.
- Hold training on basic health and safety knowledge, protection from occupational diseases, namely HIV, for the employees at least once per year; and
- Appoint employees responsible for labour health and safety.

However, the labour law also provides responsibilities to employers if an employee is a victim of a workplace accident or an occupational disorder, as well as the rights and insurance packages to which the workers involved are entitled in these situations.

Law on Labour, Law on Hygiene, Disease Prevention and Health Promotion. This law seeks to assure occupational health and labour hygiene. It also provides

state management and rights and obligations of organizations and individuals in occupational safety and hygiene. Labour hygiene refers to maintaining and ensuring working conditions that protect the health of workers in the various sectors from diseases, toxic chemicals, and radioactive materials hazardous to the health or life of workers and people in the vicinity.

Employers shall provide safety equipment to workers, and shall ensure the hygiene of working premises, specifically employers shall provide premises with sufficient light and air circulation, the appropriate temperature, and levels of humidity, vibration, sound, smell, and dust that are within the defined standards provided under regulations.

Ministerial Agreement on Occupational Health and Safety in the Construction Site. Determining the criteria for the promotion and development of construction sites that meet the safety and health requirements of employees, create measures to the prevention of accidents and occupational diseases to protect the lives, properties of employees and employers were working at construction sites.

Hence, when a Lao employee employed in Lao PDR who has contributed to social insurance is injured or is ill or even dies during his or her jobs, all associated expenses, such as reimbursement for being unable to work, retraining and even lump payments for permanent impairments or death, are covered by the Social Insurance Fund of Lao PDR.

RESPONSIBLE STAFF

7) These following individuals/agencies are expected to work in the different aspects of the project.

Engagement and Management of Contractors/Subcontractors. The Ministry of Public Works and Transport is responsible for contractor engagement and compliance with contract conditions. The MPWT with the technical support from EDPD/PTRI who will hire Consultant to address all LMP aspects as part of procurement for works and consultancy/technical assistance activities. The MPWT and EDPD/PTRI shall be responsible for overseeing all aspects of implementation of the project, including compliance and contractor induction.

Meanwhile the Contractor is responsible for management of subcontractors in accordance with contract specific Labour Management Plans (LMP).

Labour and Working Conditions. Contractors will keep records in accordance with specifications set out in this LMP. The MPWT may at any time require records to ensure that labour conditions are met. MPWT will review records against actuals, at a minimum on a monthly basis, and can require immediate remedial actions if warranted. A summary of issues and remedial actions will be included in quarterly reports to the World Bank.

Training of Workers. Contractors are required to, at all times, have a qualified safety officer on board. If training is required, this will be the contractor's

responsibility. The safety officer will provide instructions to contractor staff. The contractor will be obligated to make staff available for any mandatory trainings required by MPWT, as specified by the contract.

Addressing Worker Grievances. The Contractors will be required to implement a Grievance Redress Mechanism (GRM) for workers which responds to the minimum requirements in this LMP. The MPWT will review records on a monthly basis. MPWT will keep abreast of GRM complaints, resolutions and reflect in quarterly reports to the World Bank.

Occupational, Health and Safety. Contractors must designate a minimum of one safety representative to ensure day-to-day compliance with specified safety measures and records of any incidents. Minor incidents and near misses should be reported to MPWT on a monthly basis; serious incidents should be reported immediately. Minor incidents should be reflected in the quarterly reports to the World Bank, and major issues should be flagged to the World Bank immediately.

MPWT and all workers will:

- Comply with Lao legislation, WB's ESS2 requirements and other applicable requirements which relate to OHS hazards (see ANNEX 8) including this LMP;
- Enable active participation in OHS risks elimination through promotion of appropriate skills, knowledge and attitudes towards hazards;
- Continually improving the OHS management system and performance;
- Communicate this policy statement to all persons working on the project with emphasis on individual OHS responsibilities; and
- Make this policy statement available to all interested parties.

Contractor's Safety Officer(s) will be responsible for:

- Identification of potential hazards to project workers, particularly those that may be life threatening;
- Provision of preventative and protective measures, including modification, substitution, or elimination of hazardous conditions or substances;
- Training of project workers and maintenance of training records;
- Documentation and reporting of incidents;
- Emergency prevention and preparedness and response arrangements to emergency situations; and
- Remedies for adverse impacts such as occupational injuries, deaths, disability and disease.

The **contractor(s)** will be required to:

- Develop and implement procedures to establish and maintain a safe working environment, including that workplaces, machinery, equipment and processes under their control are safe and without risk to health in line with OHS requirements and this LMP;
- Actively collaborate and consult with project workers in promoting understanding and methods for implementation of OHS requirements;
- Provide OHS training to all employees involved in works or site supervision;
- Provide laminated signs of relevant safe working procedures in a visible area on work sites, in English and local language as required;
- Provide PPE as suitable to the task and hazards of each worker, without cost to the worker, including Covid-19 related-PPE as necessary;
- Be responsible for implementing COVID19 measures as part of their contract, through explicitly mentioning it in bid documents and contracts.
- Hire a SEA/SH service provider to provide SEA/SH training to their workers.
- Appropriate accommodation in labour camps as per annex 11
- Put in place processes for project workers to report work situations that they believe are not safe or healthy and to remove themselves from situations they have reasonable justification to believe are unsafe;
- Confirm appropriate measures are in place for working in communities with known risk of conflict / violence;
- Ensure availability of first aid boxes in all work locations;
- Provide employees with access to toilets and potable drinking water; and
- Properly dispose of solid waste at designated permitted disposal/landfill sites.

8) Further to enforcing the compliance of environmental and social management, contractors will be responsible and liable for the safety of site equipment, labourers and daily workers attending to the construction site and safety of citizens for each subproject site, as mandatory measures.

POLICIES AND PROCEDURES

9) MPWT and EDPD/PTRI shall incorporate standardized environmental and social clauses in the tender documentation and contract documents in order for potential bidders to be aware of environmental and social performance requirements that shall be expected from them, are able to reflect that in their bids, and required to implement the clauses for the duration of the contract. MPWT will enforce compliance by contractors with these clauses.

10) As a core contractual requirement, the contractor is required to ensure all documentation related to environmental and social management, including the LMP,

is available for inspection at any time by the MPWT and EDPD/PTRI. The contractual arrangements with each project worker must be clearly defined. All environmental and social requirements will be included in the bidding documents and contracts.

11) All workers must be aware and sign the Manager's Code of Conduct (ANNEX 9) and/or the Individual Code of Conduct (ANNEX 10), as applicable.

Occupational Health and Safety (OHS)

12) OHS strategy will include specific measures to ensure the safety of workers travelling to remote sites, including (1) project cars to be driven by professional drivers only; (2) compulsory helmet use for drivers and passengers on project motorcycles at all times, and on private motorcycles when used for project-related tasks; (3) travel by motorcycle for project-related purposes to be in daylight hours only; and (4) measures to monitor, anticipate and avoid potential security risks while travelling, including liaison with local police and authorities and encouraging project workers to share any concerns they may have.

13) Project workers in remote areas will receive health and safety training including prevention of infection through contaminated food and/or water and/or through vector-borne diseases and avoidance of snakebites and insect stings. Site-specific risks will be assessed as part of the ESMP which will include plans for emergency evacuation and identification of emergency health facilities. If necessary, stocks of snakebite antivenom will be maintained at project sites, or availability otherwise ensured.

14) OHS strategy shall ensure to provide to a working environment that will protect the health and safety of all workers from the COVID19 virus. To prevent the spread or getting COVID, the OHS strategy will have to cover all required government health and safety measures (such as wearing masks, use of disinfectant, limiting social contacts) and take into account the latest COVID-safe guidelines mandated by the government and/or best practice in the country, in order to maintain a safe working environment for workers and for the community and minimize the risk of COVID-19 transmission. This should include hygiene practices, use of PPE and ensuring sick workers can self-isolate (if national regulations allow self-isolation). This will reduce risks associated with illness in the workers. The OHS strategy will cover commitments on supporting staff tested positive, e.g., providing continued pay during mandatory quarantine periods.

15) UXO risks will be assessed for all sites with the assistance of National Regulatory Authority for the UXO/Mine Action Sector in the Lao PDR (UXO-NRA) and appropriate risk mitigation measures adopted.

16) The Health and Safety specifications will include the following provisions:

- Ensuring workplace health and safety standards in full compliance with law of Lao PDR, at a minimum, and including (1) basic safety awareness training to be provided to all persons as a pre-condition for presence at an active construction site; (2) all vehicle drivers to have appropriate licenses, and all construction equipment operators to be trained including in safety procedures; (3) Safe management of the area around operating equipment (e.g. turning circle of excavators), including stationing a flag-person where necessary; (4) all workers on construction sites to be equipped with hard helmets, safety boots and protective gloves; (5) secure scaffolding and fixed ladders to be provided for work above ground level; (6) First aid equipment and facilities to be provided in accordance with the Labour Law; (8) at least one supervisory staff trained in safety procedures to be present at all times when construction work is in progress; and (9) adequate provision of hygiene facilities, resting areas etc.
- All workplace health and safety incidents to be properly recorded in a register which will be shared with the supervising engineer. The register should include (1) time and place of incident; (2) type of incident; (3) type of injury or other impact occurring, and number of workers affected; and (4) actions taken (first aid, evacuation etc.).
- All workers to be covered by insurance against occupational hazards, including Covid-19 contracted in the workplace.
- All work sites to have a health and safety plan including identification of potential hazards and actions to be taken in case of emergency, including location of accident and emergency facilities.
- Any on-site accommodation to be safe and hygienic, including provision of an adequate supply of potable water, washing facilities, sanitation, accommodation and cooking facilities. Location and layout of site camps to be agreed with construction supervisors and risk assessment conducted.
- Workers residing at site accommodation to receive training in preventing prevention of infection through contaminated food and / or water and or through vector-borne diseases; and in avoidance of sexually transmitted diseases.
- Fair and non-discriminatory employment practices. Where contractors hire workers from the beneficiary community, disadvantaged and vulnerable community members are to have equal access to opportunities. Where large numbers of community members are employed, childcare facilities to be provided.

- Employment of children under 18 is prohibited.
- Under no circumstances will contractors, suppliers or sub-contractors engage forced labour.
- An analysis on primary supplies is required, to ensure that no forced labour (including debt bondage labour) or child labour (except as permitted by the Labour Law) has been used in production of the materials.
- All employees to be aware of their rights under the Labour Law, including the right to organize;
- All employees to be informed of their rights to submit a grievance through the Project Worker Grievance Mechanism.

Additional guidelines on OHS can be found in ANNEX 8.

Age of Employment

17) For this project, the minimum age will be 18 years. This rule will apply for both national and international workers. Workers will be required to provide proof of their identify and age before commencing any works on site. The following age verification template will be applied.

Age Verification Template for Project Workers

To be completed for all project workers and attached to contracts

1. Worker's Age: _____

2. Sex of worker: _____

3. Requested for Proof of Age: Y N

4. If NO, provide reason:

5. If YES, type of documentation provided (circle all that apply and attach a copy):

- a) National ID Card
- b) Family Book
- c) Work Permit
- d) School report/testimony (from teacher, principal)
- e) Other (please describe)

6. Is there doubt about the authenticity of documents provided in Q5 or other signs that the worker is underage (under 18 years) or has provided false documentation?

a. If NO, no further verification is needed.

7. If YES, interviews to verify age will need to be conducted⁴⁷. Please describe result of interviews (who it was conducted with, age verification method, etc.).

8. Was age verified in the interview (i.e. worker is at or above age requirements of 18y or above)?

a. If YES, no further steps are needed.

b. If NO, the worker **cannot be hired**.

Terms and Conditions and Equal Opportunities

18) All terms and conditions as outlined in the World Bank Environmental and Social Framework (ESF) ESS2, paragraphs 10 to 15 apply to contracted workers. In addition,

- In line with national law, the maximum working hours are limited to 8 hours per day, 6 days a week.
- Employers shall guarantee that the workers shall have at least one resting day per week. The employers shall also make arrangements for the employees to take vacation according to law during Lao New Year and any other holidays prescribed by laws and regulations.
- Employment opportunities will be available to all. This includes equal pay for equal work, regardless whether the person performing the work is male or female.
- The wages paid by the employers to the workers shall not be lower than the local minimum wage of Lao PDR.

⁴⁷ Interviews should be conducted with parents, child, school official and/or local official.

- Provisions of the Labour Law must be followed, including maternity leave for females if applicable.
- 19) The labour contract shall be provided to workers writing and shall have the following provisions:
- a) The term of the labour contract;
 - b) Work content;
 - c) Labour protection and working conditions;
 - d) Remuneration for labour;
 - e) Labour discipline;
 - f) Conditions for termination of the labour contract;
 - g) Responsibility for breach of labour contract;
 - h) Individual Staff Code of Conduct;
 - i) Grievance Redress Mechanism.

Grievance Mechanism

20) There will be a specific Grievance Redress Mechanism (GRM) for project workers as per the process outlined below. This considers culturally appropriate ways of handling the concerns of direct and contracted workers. Processes for documenting complaints and concerns have been specified, including time commitments to resolve issues.

21) In addition, this GRM should be communicated to all relevant stakeholders (such as workers and the community) as part of project engagement. Special communications will be held with the vulnerable groups identified at each location.

22) All project workers will be informed of the Grievance Mechanism process as part of their contract and induction package.

23) The process for the Worker GRM is as follows:

- The first step is that the Aggrieved Person/Party may report their grievance in person, by phone, text message, mail or email (including anonymously if required) to the Contractor as the initial focal point for information and raising grievances. For complaints that were satisfactorily resolved by the Aggrieved Person/Party or Contractor, the incident and resultant resolution will be logged and reported to the MPWT/PTRI and concerned CMUs. SEA/SH Related Grievance Person/Party should also use this channel as the starting point for information and raising grievances. Alternatively, the SEA/SH party may choose to go to the service provider engaged by the contractor. The appropriateness of this should be explored by the ESIA and thereby refined.
- As a second step, where the Aggrieved Person/Party is not satisfied, the Contractor will refer the aggrieved party to the MPWT/PTRI. Grievances may

also be referred or reported to the MPWT Management if deemed suitable. The MPWT/PTRI endeavors to address and resolve the complaint and inform the Aggrieved Person/Party in two weeks or less. For complaints that were satisfactorily resolved by the MPWT/PTRI, the incident and resultant resolution will be logged by the MPWT/PTRI. Where the complaint has not been resolved, the MPWT/PTRI will refer to the Project Manager/Director for further action or resolution.

- As a third step, if the matter remains unresolved, or the Aggrieved Person/Party is not satisfied with the outcome, the MPWT PM/PD should refer the matter to the SEARECC Project Steering Committee for a resolution, which shall aim to resolve the grievance in three weeks or less. The MPWT/PTRI will log details of issue and resultant resolution status. SEA/SH Related Grievance Person/Party may choose use this channel or go to the service provider engaged by the contractor or as needed by the grievance person. Up until the third stage there will be no fees for the lodgement of grievances. However, if the complaint remains unresolved or the complainant is dissatisfied with the outcome proposed by the Project Steering Committee, the Aggrieved Person may refer the matter to the appropriate legal or judicial authority, at the complainant's own expense. A decision of the Court will be final.

24) Each grievance record should be allocated a unique number reflecting year and sequence of received complaint (for example 2021-01, 2021-02 etc.). Complaint records (letter, email, record of conversation) should be stored together, electronically or in hard copy. GRM Focal Point under PMU of MPWT/PTRI will be responsible for undertaking a regular (at least monthly) review of all grievances to analyze and respond to any common issues arising. The MPWT/PTRI is also responsible for oversight of the GRM and regular reporting the grievance status in regular project reports..

CONTRACTOR MANAGEMENT

25) The tendering process for contractors will require that contractors can demonstrate their labour management and OHS standards, which will be a factor in the assessment processes.

Contractual provisions will require that contractors:

- Prepare a C-ESMP in line with the ESMP and this LMP.
- Monitor, keep records and report on terms and conditions related to labour management;
- Provide workers with evidence of all payments made, including benefits and any valid deductions;
- Keep records regarding labour conditions and workers engaged under the Project, including contracts, registry of induction of workers including Code of Conduct, hours worked, remuneration and deductions (including overtime);

- Record safety incidents and corresponding Root Cause Analysis (lost time incidents, medical treatment cases), first aid cases, high potential near misses, and remedial and preventive activities required (for example, revised job safety analysis, new or different equipment, skills training, etc.);
- Report evidence that no child labour is involved, for instance by keeping employment records and/or proof of age checks when needed;
- Training/induction dates, number of trainees, and topics;
- Details of any worker grievances including occurrence date, grievance, and date submitted; actions taken and dates; resolution (if any) and date; and follow-up yet to be taken. Grievances listed should include those received since the preceding report and those that were unresolved at the time of that report;
- Sign the Manager's Code of Conduct (ANNEX 9) and/or the Individual Code of Conduct (ANNEX 10), as applicable and keep records and report on the CoC signing.

26) Monitoring and performance management of contractors will be the responsibility of MPWT and DDIS. MPWT/DDIS Labour Management Specialist will be responsible for oversight of labour management provisions as well as contract supervision.

PRIMARY SUPPLY CHAIN WORKERS

27) The Contractor shall be responsible for conducting due diligence on the primary supply workers (those providing key materials for road construction, in particular raw materials), to ensure there is no indentured/forced or child labour (as per the Labour Law 2013).

28) In conducting due diligence, the contractor (or contractor's staff) should:

- Inform the provider, that the Contractor will not engage a provider who has forced or child labourers;
- When possible, visit the company/factory, and conduct interviews with key personnel about their working conditions, as well as informal random interviews with workers;
- Conduct secondary due diligence, by asking information from others who may be familiar with the provider, to make sure there are no reported instances of forced or child labour;
- If necessary, and when possible, engage the Ministry of Labour and Welfare (MOLSW) to conduct checks on supplier to ensure no child labour or forced labour;
- Keep records of the information and include in reporting to MPWT.

CAPACITY BUILDING

29) While the provisions outlined in this LMP are mostly consistent with the requirements of the Labour Law 2013, with only limited additional provisions (for example, the Worker Grievance Redress Mechanism) to meet the requirements of ESS2, the LMP considerably exceeds actual practice in labour management in Lao PDR. Therefore, to ensure that project partner agencies, contractors and suppliers, and particularly local construction contractors, can meet these obligations, the project will develop and deliver trainings and simple awareness raising materials. This will be the responsibility of DDIS Labour Management Specialist.

30) Key project personnel who will require training include:

- Human resources staff or administration staff responsible for recruitment of direct project workers in MPWT;
- Procurement staff in MPWT;
- MPWT/PTRI;
- Relevant staff of the Ministry of Labour and Social Welfare.
- Provincial Department of Public Works and Transport (DPWT) staff;
- Relevant staff from other ministries benefiting from training activities, etc
- Management Focal Points in each project partner agency;
- Staff, consultants and consultants' staff acting as contract supervisors and responsible for monitoring compliance with the policy;
- Commune and village leaders.

31) MPWT/PTRI and DDIS shall develop and deliver a short training course for contractors and / or contractors site managers, explaining the obligations of the contractor as set out in the Health and Safety specifications. Supervising engineers are also to attend these courses. Courses will be delivered by DDIS and MPWT/PTRI.

32) MPWT/PTRI and DDIS will also prepare a simple booklet, in Lao language and with easy-to understand illustrations, explaining the requirements of the LMP as applicable to contracted workers in the project. The booklet will include details of the Worker Grievance Redress Mechanism. This booklet will be disseminated to all project direct workers and explained to them during induction training.

ANNEX 8: OHS Guidelines

The objective of this guideline is to provide guidance on the:

- Key principles involved in ensuring the health and safety of workers is protected;
- Preparation of Health and Safety plans

The key reference document for this Guideline is the World Bank Group's *Environmental, Health, and Safety (EHS) Guidelines* (April 2007)⁴⁸ and the World Bank's ESS 4.

1. Principles

Employers must take all reasonably practicable steps to protect the health and safety of workers and provide and maintain a safe and healthy working environment. The following key principles are relevant to maintaining worker health and safety:

1.1 Identification and assessment of hazards

Each employer must establish and maintain effective methods for:

- Systematically identifying existing and potential hazards to employees;
- Systematically identifying, at the earliest practicable time, new hazards to employees;
- Regularly assessing the extent to which a hazard poses a risk to employees.

1.2 Management of identified hazards

Each employer must apply prevention and control measures to control hazards which are identified and assessed as posing a threat to the safety, health or welfare of employees, and where practicable, the hazard shall be eliminated. The following preventive and protective measures must be implemented in order of priority:

- Eliminating the hazard by removing the activity from the work process;
- Controlling the hazard at its source through engineering controls;
- Minimizing the hazard through design of safe work systems;
- Providing appropriate personal protective equipment (PPE).

The application of prevention and control measures to occupational hazards should be based on comprehensive job safety analyses (JSA). The results of these analyses should be prioritized as part of an action plan based on the likelihood and severity of the consequence of exposure to the identified hazards.

1.3 Training and supervision

⁴⁸ www.ifc.org/ehsguidelines

Each employer must take all reasonably practicable steps to provide to employees (in appropriate languages) the necessary information, instruction, training and supervision to protect each employee's health and to manage emergencies that might reasonably be expected to arise in the course of work. Training and supervision includes the correct use of PPE and providing employees with appropriate incentives to use PPE.

1.4 General duty of employees

Each employee shall:

- Take all reasonable care to protect their own and fellow workers health and safety at the workplace and, as appropriate, other persons in the vicinity of the workplace;
- Use PPE and other safety equipment supplied as required; and
- Not use PPE or other safety equipment for any purpose not directly related to the work for which it is provided.

1.5 Protective clothing and equipment

Each employer shall:

- Provide, maintain and make accessible to employees the PPE necessary to avoid injury and damage to their health;
- Take all reasonably practicable steps to ensure that employees use that PPE in the circumstances for which it is provided; and
- Make provision at the workplace for PPE to be cleaned and securely stored without risk of damage when not required.

2. Design

Effective management of health and safety issues requires the inclusion of health and safety considerations during design processes in an organized, hierarchical manner that includes the following steps:

- Identifying project health and safety hazards and associated risks as early as possible in the project cycle including the incorporation of health and safety considerations into the worksite selection process and construction methodologies;
- Involving health and safety professionals who have the experience, competence, and training necessary to assess and manage health and safety risks;
- Understanding the likelihood and magnitude of health and safety risks, based on:
 - The nature of the project activities, such as whether the project will involve hazardous materials or processes;

- The potential consequences to workers if hazards are not adequately managed;
- Designing and implementing risk management strategies with the objective of reducing the risk to human health;
- Prioritising strategies that eliminate the cause of the hazard at its source by selecting less hazardous materials or processes that avoid the need for health and safety controls;
- When impact avoidance is not feasible, incorporating engineering and management controls to reduce or minimize the possibility and magnitude of undesired consequences;
- Preparing workers and nearby communities to respond to accidents, including providing technical resources to effectively and safely control such events, in particular relating to traffic;
- Improving health and safety performance through a combination of ongoing monitoring of facility performance and effective accountability.

3. Implementation

3.1 Documentation

A Health and Safety Plan must be prepared and approved prior to any works commencing on site. The H&S Plan must demonstrate the Contractor's understanding of how to manage safety and a commitment to providing a workplace that enables all work activities to be carried out safely. The H&S Plan must detail reasonably practicable measures to eliminate or minimise risks to the health, safety and welfare of workers, contractors, visitors, and anyone else who may be affected by the operations. The H&S Plan must be prepared in accordance with the World Bank's EH&S Guidelines and the relevant country health and safety legislation.

3.2 Training and Awareness

Provisions should be made to provide health and safety orientation training to all new employees to ensure they are apprised of the basic site rules of work at / on the site and of personal protection and preventing injury to fellow employees. Training should consist of basic hazard awareness, site-specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. Training should also include COVID-19 and HIV/AIDS awareness training.

Visitors are not permitted to access to areas where hazardous conditions or substances may be present, unless appropriately inducted.

3.3 Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) provides additional protection to workers exposed to workplace hazards in conjunction with other facility controls and safety systems.

PPE is considered to be a last resort that is above and beyond the other facility controls and provides the worker with an extra level of personal protection. The table below presents general examples of occupational hazards and types of PPE available for different purposes. Recommended measures for use of PPE in the workplace include:

- Active use of PPE if alternative technologies, work plans or procedures cannot eliminate, or sufficiently reduce, a hazard or exposure;
- Identification and provision of appropriate PPE that offers adequate protection to the worker, co-workers, and occasional visitors, without incurring unnecessary inconvenience to the individual;
- Proper maintenance of PPE, including cleaning when dirty and replacement when damaged or worn out. Proper use of PPE should be part of the recurrent training programs for Employees
- Selection of PPE should be based on the hazard and risk ranking described earlier in this section, and selected according to criteria on performance and testing established

Objective	Workplace Hazards	Suggested PPE
Eye and face protection	Flying particles, molten metal, liquid chemicals, gases or vapors, light radiation.	Safety Glasses with side-shields, protective shades, etc.
Head protection	Falling objects, inadequate height clearance, and overhead power cords.	Plastic Helmets with top and side impact protection.
Hearing protection	Noise, ultra-sound.	Hearing protectors (ear plugs or ear muffs).
Foot protection	Falling or rolling objects, pointed objects. Corrosive or hot liquids.	Safety shoes and boots for protection against moving & falling objects, liquids and chemicals.
Hand protection	Hazardous materials, cuts or lacerations, vibrations, extreme temperatures.	Gloves made of rubber or synthetic materials (Neoprene), leather, steel, insulating materials, etc.
Respiratory protection	Dust, fogs, fumes, mists, gases, smokes, vapors.	Facemasks with appropriate filters for dust removal and air purification (chemicals, mists, vapors and gases). Single or multi-gas personal monitors, if available.
	Transmission of Covid-19	As needed, facemasks, hand-washing facilities and/or hand sanitizers
	Oxygen deficiency	Portable or supplied air (fixed lines). On-site rescue equipment.
Body/leg protection	Extreme temperatures, hazardous materials, biological	Insulating clothing, body suits aprons etc. of appropriate

Objective	Workplace Hazards	Suggested PPE
	agents, cutting and laceration.	materials.

4. Monitoring

Occupational health and safety monitoring programs should verify the effectiveness of prevention and control strategies. The selected indicators should be representative of the most significant occupational, health, and safety hazards, and the implementation of prevention and control strategies. The occupational health and safety monitoring program should include:

- **Safety inspection, testing and calibration:** This should include regular inspection and testing of all safety features and hazard control measures focusing on engineering and personal protective features, work procedures, places of work, installations, equipment, and tools used. The inspection should verify that issued PPE continues to provide adequate protection and is being worn as required.
- **Surveillance of the working environment:** Employers should document compliance using an appropriate combination of portable and stationary sampling and monitoring instruments. Monitoring and analyses should be conducted according to internationally recognized methods and standards.
- **Surveillance of workers health:** When extraordinary protective measures are required (for example, against hazardous compounds), workers should be provided appropriate and relevant health surveillance prior to first exposure, and at regular intervals thereafter.
- **Training:** Training activities for employees and visitors should be adequately monitored and documented (curriculum, duration, and participants). Emergency exercises, including fire drills, should be documented adequately.
- **Accidents and Diseases monitoring.** The employer should establish procedures and systems for reporting and recording:
 - Occupational accidents and diseases
 - Dangerous occurrences and incidents

These systems should enable workers to report immediately to their immediate supervisor any situation they believe presents a serious danger to life or health. Each month, the contractor shall supply data on trainings delivered, safety incidents prevented and any accidents to the Client's Consulting Engineer for reporting to the MPWT. These data are to also include incidents related to any sub-contractors working directly, or indirectly, for the Contractor.

The MPWT and DDIS shall be notified of any incident in accordance with the standards below:

Incident Severity Class	Incident Classification	Notification timeframe
Class 1	Fatality	As soon as possible
	Notifiable Injury, Illness or Incident	As soon as possible
Class 2	Lost Time Injury	As soon as practicable but within 48 hours
	Medical Treatment	Within 72 hours

All Class 1 and Class 2 health and safety incidents must be formally investigated and reported to the MPWT and DDIS through an investigation report. This report shall be based on a sufficient level of investigation by the Contractor so that all the essential factors are recorded. Lessons learnt must be identified and communicated promptly. All findings must have substantive documentation. As a minimum the investigation report must include:

- Date and location of incident;
- Summary of events;
- Immediate cause of incident;
- Underlying cause of incident;
- Root cause of incident;
- Immediate action taken;
- Human factors;
- Outcome of incident, e.g. severity of harm caused, injury, damage;
- Corrective actions with clearly defined timelines and people responsible for implementation;
- Recommendations for further improvement.

ANNEX 9: Manager's Code of Conduct

Instructions: This Code of Conduct should be included in bidding documents for the civil works contractor(s) and in their contracts once hired. This Code of Conduct should also be included in bidding documents, and the contracts, of consultancy companies such as for DDIS and other project consultants (such as FS/ESIA/TA). This Code of Conduct is to be signed by the main party (head or manager) in the Contractor/DDIS.

Manager's Code of Conduct

The contractor/DDIS is committed to ensuring that the project is implemented in such a way which minimizes any negative impacts on the local environment, communities, and its workers. This will be done by respecting the environmental, social, health and safety (ESHS) standards, and ensuring appropriate occupational health and safety (OHS) standards are met. The contractor/DDIS is also committed to creating and maintaining an environment where children under the age of 18 will be protected, and where sexual abuse and sexual harassment have no place. Improper actions towards children, Violence Against Children (VAC), sexual abuse/harassment, and/or acts of Gender Based Violence (GBV) will not be tolerated by any employee, sub-contractors, supplier, associate, or representative of the company.

Staff at all levels have a responsibility to uphold the contractor's/DDIS' commitment. Contractors/DDIS need to support and promote the implementation of the Code of Conduct. To that end, staff must adhere to this Code of Conduct and also to sign the Individual Code of Conduct. This commits them to supporting the implementation of the Contractor's Environmental and Social Management Plan, the OHS Management Plan, and developing systems that facilitate the implementation of the GBV Action Plan.

Staff, in particular Managers, need to maintain a safe workplace, as well as a GBV-free environment at the workplace and in the local community. Their responsibilities to achieve this include but are not limited to:

Implementation

- a. To ensure maximum effectiveness of the Code of Conduct:
 - (i) Prominently displaying the Code of Conduct in clear view at workers' camps, offices, and in public areas of the workspace. Examples of areas include waiting, rest and lobby areas of sites, canteen areas and health clinics.
 - (ii) Ensuring all posted and distributed copies of the Code of Conduct are translated into the appropriate language of use in the work site areas as well as for any international staff in their native language.
- b. Verbally and in writing explain the Code of Conduct to all staff, including in an initial training session.
- c. Ensure that:

- (i) All staff sign the 'Individual Code of Conduct', including acknowledgment that they have read and agree with the Code of Conduct.
 - (ii) Staff lists and signed copies of the Individual Code of Conduct are provided to the OHS Manager and the MPWT/PTRI.
 - (iii) Participate in training and ensure that staff also participate as outlined below.
 - (iv) Put in place a mechanism for staff to:
 - report concerns on ESHS or OHS compliance; and,
 - confidentially report SEA/SH incidents through the Grievance Redress Mechanism (GRM)
 - (v) Staff are encouraged to report suspected or actual ESHS, OHS, SEA/SH, VAC issues, emphasizing the staff's responsibility in compliance with applicable laws and to the best of your abilities, prevent perpetrators of sexual exploitation and abuse from being hired, re-hired or deployed. Use background and criminal reference checks for all employees nor ordinarily resident in the country where the works are taking place.
- d. Ensure that when engaging in partnership, sub-contractor, supplier or similar agreements, these agreements:
- (i) Incorporate the ESHS, OHS, SEA/SH, VAC Codes of Conduct as an attachment.
 - (ii) Include the appropriate language requiring such contracting entities and individuals, and their employees and volunteers, to comply with the Individual Codes of Conduct.
 - (iii) Expressly state that the failure of those entities or individuals, as appropriate, to ensure compliance with the ESHS and OHS standards, take preventive measures against SEA/SH and VAC, to investigate allegations thereof, or to take corrective actions when SEA/SH or VAC has occurred, shall not only constitute grounds for sanctions and penalties in accordance with the Individual Codes of Conduct but also termination of agreements to work on or supply the project.
- e. Provide support and resources to the E&S team to create and disseminate staff training and awareness-raising strategy on SEA/SH, VAC and other issues highlighted in the ESMP.
- f. Ensure that any SEA/SH or VAC complaint warranting Police action is reported to the Police, the client and the World Bank immediately.
- g. Report and act in accordance with the agreed response protocol any suspected or actual acts of SEA/SH or VAC.
- h. Ensure that any major ESHS or OHS incidents are reported to the client and the supervision engineer immediately, non-major issues in accordance with the agreed reporting protocol.
- i. Ensure that children under the age of 18 are not present at the construction site or engaged in any hazardous activities.

Training

- j. The managers are responsible to:
 - (i) Ensure that the OHS Management Plan is implemented, with suitable training required for all staff, including sub-contractors and suppliers; and,
 - (ii) Ensure that staff have a suitable understanding of the ESMP and are trained as appropriate to implement the Contractor's ESMP requirements.
- k. All managers are required to attend an induction manager training course prior to commencing work on site to ensure that they are familiar with their roles and responsibilities in upholding the SEA/SH and VAC elements of these Codes of Conduct. This training will be separate from the induction training course required of all employees and will provide managers with the necessary understanding and technical support needed to begin to develop the GBV Action Plan for addressing GBV issues.
- l. Managers are required to attend and assist with the project facilitated monthly training courses for all employees.
- m. Ensure that time is provided during work hours and that staff prior to commencing work on site attend the mandatory project facilitated induction training on:
 - (i) OHS and ESHS, and,
 - (ii) SEA/SH and VAC.
- n. During civil works, ensure that staff attend ongoing OHS and ESHS training, as well as the monthly mandatory refresher training course required of all employees on SEA/SH.

Response

- o. Managers will be required to take appropriate actions to address any ESHS or OHS incidents.
- p. Regarding SEA/SH:
 - (i) Maintain the confidentiality of all employees who report or (allegedly) perpetrate incidences of SEA/SH (unless a breach of confidentiality is required to protect persons or property from serious harm or where required by law).
 - (ii) If a manager develops concerns or suspicions regarding any form of GBV by one of his/her direct reports, or by an employee working for another contractor on the same work site, s/he is required to report the case using the GRM.
 - (iii) Once a sanction has been determined by the GRM, the relevant manager(s) is/are expected to be personally responsible for ensuring that the measure is effectively enforced, within a maximum timeframe of 14 days from the date on which the decision to sanction was made by the GRM.

- (iv) If a Manager has a conflict of interest due to personal or familial relationships with the survivor and/or perpetrator, he/she must notify the Company and the GRM. The Company will be required to appoint another manager without a conflict of interest to respond to complaints.
 - (v) Ensure that any SEA/SH issue warranting Police action is reported to the Police, the client and the World Bank immediately.
- q. Managers failing address ESHS or OHS incidents or failing to report or comply with the SEA/SH provisions may be subject to disciplinary measures, to be determined and enacted by the Company. Those measures may include:
- (i) Informal warning;
 - (ii) Formal warning;
 - (iii) Additional Training;
 - (iv) Loss of up to one week's salary;
 - (v) Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months;
 - (vi) Termination of employment.
- r. Ultimately, failure to effectively respond to ESHS, OHS, VAC and SEA/SH cases on the work site by the company's managers may provide grounds for legal actions by authorities.

I do hereby acknowledge that I have read the Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to ESHS, OHS, VAC and SEA/SH requirements. I understand that any action inconsistent with this Code of Conduct or failure to act mandated by this Code of Conduct may result in disciplinary action.

Signature: _____
Printed Name: _____
Title: _____
Date: _____

ANNEX 10: Individual Code of Conduct

Instructions: This Code of Conduct should be included in bidding documents for the civil works contractor(s) and in their contracts once hired. This Code of Conduct should also be included in bidding documents, and the contracts, of individual DDIS/other consultants.

I, _____, acknowledge that adhering to environmental, social, health and safety (ESHS) standards, following the project's occupational health and safety (OHS) requirements, and preventing Violence Against Children (VAC); and Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) are important.

The Contractor/DDIS considers that failure to follow ESHS and OHS standards, or to partake in activities constituting VAC or SEA/SH —be it on the work site, the work site surroundings, at workers' camps, or the surrounding communities—constitute acts of gross misconduct and are therefore grounds for sanctions, penalties or potential termination of employment. Prosecution by the Police of those who commit SEA/SH or VAC may be pursued if appropriate.

I agree that while working on the project I will:

- s. Consent to a background check in any place I have worked for more than six months.
- t. Attend and actively partake in training courses related to ESHS, OHS, VAC; SEA/SH as requested by my employer.
- u. Will wear my personal protective equipment (PPE) at all times when at the work site or engaged in project related activities.
- v. Take all practical steps to implement the contractor's environmental and social management plan (C-ESMP).
- w. Implement the OHS Management Plan.
- x. Adhere to a zero-alcohol policy during work activities, and refrain from the use of narcotics or other substances which can impair faculties at all times.
- y. Treat women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
- z. Not use language or behavior towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
- aa. Not sexually exploit or abuse project beneficiaries and members of the surrounding communities.
- bb. Not engage in sexual harassment of work personnel and staff—for instance, making unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature is prohibited: i.e. looking somebody up and down; kissing, howling or smacking sounds; hanging around somebody; whistling and catcalls; in some instances, giving personal gifts.

- cc. Not engage in sexual favors—for instance, making promises of favorable treatment (i.e. promotion), threats of unfavorable treatment (i.e. loss of job) or payments in kind or in cash, dependent on sexual acts—or other forms of humiliating, degrading or exploitative behavior.
- dd. Not use prostitution in any form at any time.
- ee. Not participate in sexual contact or activity with children under the age of 18—including grooming or contact through digital media. Mistaken belief regarding the age of a child is not a defense. Consent from the child is also not a defense or excuse.
- ff. Unless there is the full consent⁴⁹ by all parties involved, I will not have sexual interactions with members of the surrounding communities. This includes relationships involving the withholding or promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex (including prostitution). Such sexual activity is considered “non-consensual” within the scope of this Code.
- gg. Consider reporting through the GRM or to my manager any suspected or actual SEA/SH by a fellow worker, whether employed by my company or not, or any breaches of this Code of Conduct.

With respect to children under the age of 18:

- hh. Bring to the attention of my manager the presence of any children on the construction site or engaged in hazardous activities.
- ii. Wherever possible, ensure that another adult is present when working in the proximity of children.
- jj. Not invite unaccompanied children unrelated to my family into my home, unless they are at immediate risk of injury or in physical danger.
- kk. Not use any computers, mobile phones, video and digital cameras or any other medium to exploit or harass children or to access child pornography (see also “Use of children's images for work related purposes” below).
- ll. Refrain from physical punishment or discipline of children.
- mm. No hiring of children for any SEARECC project activity (no persons under the age of 18).
- nn. Comply with all relevant local legislation, including labour laws in relation to child labour and World Bank’s standards on child labour and minimum age.
- oo. Take appropriate caution when photographing or filming children (see x-bb below). Photos or films of children should generally not be taken in the SEARECC project, except in instances showing the benefits or impacts of road works, such as impacts to schools or school safety trainings.

Use of children's images for work related purposes

⁴⁹ **Consent** is defined as the informed choice underlying an individual’s free and voluntary intention, acceptance or agreement to do something. No consent can be found when such acceptance or agreement is obtained using threats, force or other forms of coercion, abduction, fraud, deception, or misrepresentation. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18, even if national legislation of the country into which the Code of Conduct is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense.

When photographing or filming a child for work related purposes, I must:

- pp. Before photographing or filming a child, assess and endeavor to comply with local traditions or restrictions for reproducing personal images.
- qq. Before photographing or filming a child, obtain informed consent from the child and a parent or guardian of the child. As part of this I must explain how the photograph or film will be used.
- rr. Ensure photographs, films, videos and DVDs present children in a dignified and respectful manner and not in a vulnerable or submissive manner. Children should be adequately clothed and not in poses that could be seen as sexually suggestive.
- ss. Ensure images are honest representations of the context and the facts.
- tt. Ensure file labels do not reveal identifying information about a child when sending images electronically.

Sanctions

I understand that if I breach this Individual Code of Conduct, my employer will take disciplinary action which could include:

- uu. Informal warning;
- vv. Formal warning;
- ww. Additional Training;
- xx. Loss of up to one week's salary;
- yy. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months;
- zz. Termination of employment;
- aaa. Report to the Police if warranted.

I understand that it is my responsibility to ensure that the environmental, social, health and safety standards are met. That I will adhere to the occupational health and safety management plan. That I will avoid actions or behaviors that could be construed as VAC or GBV. Any such actions will be a breach this Individual Code of Conduct. I do hereby acknowledge that I have read the foregoing Individual Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to ESHS, OHS, VAC, GBV and SEA/SH issues. I understand that any action inconsistent with this Individual Code of Conduct or failure to act mandated by this Individual Code of Conduct may result in disciplinary action and may affect my ongoing employment.

Signature: _____

Printed Name: _____

Title: _____

Date: _____

ANNEX 11: Guidelines for Worker's Camps

If relevant, these guidelines will help the contractor when setting up worker's camps.

GENERAL

The Workers Camp Management Plan will be compliant with the specific prescriptions of the ESMP.

WORKER RECRUITMENT

The Contractor is required to minimise the number of skilled workers that are recruited from overseas. No unskilled labour will be sourced from overseas. Local communities should be prioritized for unskilled labour, including a target of 15% female unskilled workers. The Contractor will maximise the number of skilled and unskilled workers that are recruited from the communities along the project site.

The Contractor will be required to provide justification for any skilled workers recruited from overseas and explain why this position cannot be filled locally/ in Laos.

WORKERS CAMP FACILITIES

All facilities in the Workers Camp must be complaint with the stipulations of the ESMP. The camp shall be provided with the following minimum facilities:

- Eating space and dormitories as required shall be constructed of suitable materials to provide a safe healthy environment for the workforce and which facilitate regular cleaning and the provision of ventilation and illumination.
- At least one water closet toilet, one urinal and one shower per 10 personnel engaged either permanently or temporarily on the project. Separate toilet and wash facilities shall be provided for male and female employees, including ensuring that toilets are available close to working sites/road sections where women are working.
- A sick bay and first aid station.
- Sewage collection facilities to allow for the treatment of black and grey wastewater discharge from toilets, wash rooms, showers, kitchens, laundry and the like. The management of all camp wastewater water shall be as prescribed in the ESMP.
- All camp facilities shall be maintained in a safe clean and or appropriate condition throughout the construction period.
- Throughout the period of the contract the employer, the engineer, or their representatives shall have uninterrupted access to and from the camp for the purpose of carrying out routine inspections of all buildings, facilities or installations of whatever nature to ensure compliance with this specification.
- Appropriate measures to be taken in line with GoL Covid-19 prevention and/or management guidelines.

WORKERS CAMP OPERATIONS

- The Contractor will be required to provide adequate provisions for the workers for the duration of the project so as not to be a burden on the food or water security of the surrounding communities. The Contractor will strive to hire local labour to provide cleaning and food services.
- All wastewater, solid waste, freshwater usage, noise levels, handling and storage of hazardous materials shall be as prescribed in the ESMP.

MANAGEMENT OF OFF DUTY WORKERS

- The Contractor will prepare ensure all staff sign and adhere to the Individual Code of Conduct to describe the expected behaviours of their project worker in relation to the local communities and their social sensitivities.
- The Contractor is to ensure that all overseas project staff, not already living in Lao PDR, undergo a cultural familiarisation session as part of their induction training. The purpose of this induction will be to introduce the project staff to the cultural sensitivities of the local communities and the expected behaviours of the staff in their interactions with these communities. This may also be necessary for Lao staff from other provinces working with ethnic minorities.
- The Contractor is to stipulate the conditions under which visitors may attend the workers camp. Strict visiting hours should be enforced and all visitors will be required to sign in and out of the workers camp. No overnight visitors will be allowed.
- The Contractor shall ensure that basic social/collective rest spaces are provided equipped with seating within the Workers Camp to help minimise the impact that the workers would have on the leisure and recreational facilities of the nearby communities. Provisions should also be made to provide the workers with an active recreation space within the camp.

WORKERS CAMP MANAGEMENT PLAN

If applicable, a Workers Camp Management Plan shall be submitted by the Contractor to MPWT. The Workers Camp Management Plan shall describe how this document and the ESMP shall be implemented in the following:

- Recruitment strategy
- Accommodation
- Canteen and dining areas
- Ablutions
- Water supply
- Wastewater management system
- Proposed power supply
- Code of Conduct for Workers
- Recreational/leisure facilities for workers
- Visitors to the Workers Camp
- Interactions with the local communities

ANNEX 12: SEA/SH Action Plan

Manifestations of SEA/SH/GBV include, but not limited to⁵⁰:

- Physical violence (such as slapping, kicking, hitting, or the use of weapons);
- Emotional abuse (such as systematic humiliation, controlling behavior, degrading treatment, insults, and threats);
- Sexual violence, which includes any form of non-consensual sexual contact, including rape;
- Early/forced marriage, which is the marriage of an individual against her or his will often occurring before the age of 18, also referred to as child marriage;
- Economic abuse and the denial of resources, services, and opportunities (such as restricting access to financial, health, educational, or other resources with the purpose of controlling or subjugating a person);
- Trafficking and abduction for exploitation; and,
- Intimate Partner Violence (IPV) perpetrated by a former or current partner, includes a range of acts of violence.

Challenges in addressing SEA/SH can be summarized as follows:

- a) High prevalence of gender-based violence against women, especially domestic and sexual violence and rape;
- b) Low rate of reporting among women who are victims of domestic violence;
- c) Limited training provided for law enforcement, public health officials and members of Village Mediation Committees on identifying all forms of gender-based violence against women and addressing individual cases in a gender-sensitive manner;
- d) Limited number of shelters for women and girl victims of gender-based violence, particularly domestic violence;
- e) There is a lack of effective coordination on SEA/SH at national and local levels.
- f) Accessibility and the quality of the services provided at the LWU and SEA/SH center is low.
- g) The police and judicial systems are unresponsive to survivors' needs.
- h) The informal medication system (VMU) is not survivor-centric and prioritizes family and community harmony over victim's rights, based on customary law, and do not involve the police.

⁵⁰ Good Practice Note, Addressing Gender Based Violence in Investment Project Financing involving Major Civil Works, 28 September 2018, The World Bank

- i) Prevention of child marriage and trafficking is low, and there is a growing concerns over the impact of foreign construction labour on sexual abuse and exploitation, and trafficking of girls to neighboring countries as brides.
- j) Sexual harassment as a concept is not widely understood and thus difficult to address.
- k) Lack of data on cases of gender-based violence against women that were investigated and lead to prosecution and on the sanctions imposed on perpetrators, disaggregated by age and relationship between victim and perpetrator.

The ESIA will need to consider this context when carrying out a more detailed assessment of service providers and GBV/SEA/SH risks as a result of the project, in particular so that it can provide realistic and effective mitigation measures for these issues. This may include more support and capacity building for the LWU, stakeholder engagement, strong codes of conduct for project workers (already including in the LMP part of this ESMF), and other avenues if needed.

In bidding documents and contracts, the Contractor will be required to implement the Labour Management Procedure (ANNEX 7: Labour Management Procedures, ANNEX 9: Manager's Code of Conduct, and ANNEX 10: Individual Code of Conduct) and Action Plan to Prevent Gender Based Violence (**Error! Reference source not found.**). The Contractor must arrange for trainings on SEA/SH and VAC/IEC campaign to be provided by a recognized agency or NGO. Likewise, the PMU shall raise awareness and reduce such risks within its organization as well. The cost of the campaign shall be funded by the Contractor from the provisional sum provided in the bill-of-quantity. The contractor shall ensure that at least one refresher and training for workers will be conducted each month to review materials provided.

Table 1 Actions to Address SEA/SH and VAC Risks

When	Action to Address SEA/SH and VAC Risks	Timing for Action	Who is Responsible for Action	Ongoing Risk Management
	Sensitize the IA (MPWT) as to the importance of addressing SEA/SH on the project, and the mechanisms that will be implemented.	Preparation. Implementation.	WB Task Team	WB Task team to monitor and provide additional guidance as necessary.
Project Identification/ Appraisal	The project's ESIA to include assessment of the underlying SEA/SH risks, using the SEA/SH and VAC risk assessment tool to provide guidance and keeping to safety and ethical considerations related to SEA/SH and VAC data collection.	Preparation. Implementation (before civil works commence)	MPWT & consultants for ESIA and ESMP. Contractor for Contractor's ESMP (CESMP) WB Task Team for SEA/SH Risk Assessment Tool	Ongoing review during implementation support missions. Update project ESMP and CESMP if risk situation changes.
	Map out SEA/SH and VAC prevention and response actors in project adjoining communities. This should incorporate an assessment of the capabilities of the service providers to provide quality survivor centered services including SEA/SH and VAC case management, acting as a victim advocate, providing referral services to link to other services not provided by the organization itself. This shall be part of the ESIA.	Preparation Implementation	MPWT & consultants in ESIA and ESMP Contractor for CESMP	Update mapping as appropriate.
	Have SEA/SH and VAC risks adequately reflected in all environment and social instruments (i.e., Project ESMP, CESMP). Include the SEA/SH and VAC mapping in these instruments.	Preparation Implementation (before civil works commence).	MPWT & consultants for ESIA and ESMP Contractor for CESMP	Ongoing review during implementation support missions. Update project ESMP and CESMP if risk situation changes.
	Develop a SEA/SH and VAC Action plan including the Accountability and Response Framework as part of the ESMP. The contractor/consultant's response to these requirements will be required to be reflected in their CESMP.	Preparation Implementation (before civil works commence)	MPWT & consultants Contractor for CESMP ESIA consultants	Ongoing review during implementation

When	Action to Address SEA/SH and VAC Risks	Timing for Action	Who is Responsible for Action	Ongoing Risk Management
	The ESIA should assess the potential for a SEA/SH provider to be engaged to carry out the action plan.	ESIA stage		
	Review the MPWT, CMUs and DPWT's capacity to prevent and respond to SEA/SH and VAC	Preparation. Implementation.	MPWT; CMUs and Consultants	Ongoing review during implementation support missions. Update project ESMP if risk situation changes.
	As part of the project's stakeholder consultations, those affected by the project should be properly informed of SEA/SH and VAC risks and project activities to get their feedback on project design and E&S issues. Consultations need to engage with a variety of stakeholders (political, cultural or religious leaders, health teams, local councils, social workers, women's organizations and groups working with children) and should occur at the start and continuously throughout the implementation of the project.	Consultations need to be continuous throughout the project cycle, not just during preparation.	MPWT; CMUs; DPWT Contractors	Monitoring of implementation of Stakeholder Engagement Plan. Ongoing consultations, particularly when CESMP is updated.
	The Stakeholder Engagement Plan of the project, which will be implemented over the life of the project to keep the local communities and other stakeholders informed about the project's activities, to specifically address SEA/SH and VAC related issues.	Consultations need to be continuous throughout the project cycle, not just during preparation.	MPWT and EDPD/PTRI	Monitoring of implementation of Stakeholder Engagement Plan. Ongoing consultations, particularly when CESMP is updated.
	Make certain the availability of an effective grievance redress mechanism (GRM) with multiple channels to initiate a complaint. It should have specific procedures for GBV including confidential reporting with safe and ethical documenting of SEA/SH and VAC cases. Parallel GRM outside of the project GRM may be warranted for substantial to high risk	Prior to contractor mobilizing.	MPWT; DPWTs and EDPD/PTRI	Ongoing monitoring and reporting on GRM to verify it is working as intended.

When	Action to Address SEA/SH and VAC Risks	Timing for Action	Who is Responsible for Action	Ongoing Risk Management
	situations. The GRM should be developed and informed by findings in the ESIA and other Social Assessments if relevant.			
Procurement	Clearly define the SEA/SH and VAC requirements and expectations in the bid documents.	Procurement.	MPWT and Procurement team and Consultants	Review by PMU and PTRI
	Based on the project's needs, the Bank's Standard Procurement Documents (SPDs), and the IA's policies and goals, define the requirements to be included in the bidding documents for a CoC which addresses SEA/SH and VAC (see Annexes 10 & 11)	Procurement.	MPWT and Procurement Consultant	Review by PMU and PTRI
	For National Competitive Bidding (NCB) procurement, consider integrating the ICB SPD requirements for addressing SEA/SH and VAC risks.	Procurement.	MPWT and Procurement Consultant	Review by PMU and PTRI
	The procurement documents should set out clearly how adequate SEA/SH and VAC costs will be paid for in the contract. This could be, for example, by including: (i) line items in bill of quantities for clearly defined GBV activities (such as preparation of relevant plans) or (ii) specified provisional sums for activities that cannot be defined in advance (such as for implementation of relevant plan/s, engaging SEA/SH and VAC service providers, if necessary)	Procurement.	MPWT' and Consultant	Review by PMU and PTRI
	Clearly explain and define the requirements of the Codes of Conduct to bidders before submission of the bids.	Procurement.	MPWT' Procurement Consultant	Review by PMU and PTRI
	Evaluate the contractor's SEA/SH and VAC response proposal in the CESMP and confirm prior to finalizing the contract the contractor's ability to meet the project's GBV requirements	Procurement.	MPWT and Consultants	Review by PMU and PTRI

When	Action to Address SEA/SH and VAC Risks	Timing for Action	Who is Responsible for Action	Ongoing Risk Management
Implementation	Review CESMP to verify that appropriate mitigation actions are included.	Implementation.	MPWT and EDPD/PTRI	Review by MPWT. Review by WB Task Team.
	Review that the GRM receives and processes complaints to ensure that the protocols are being followed in a timely manner, referring complaints to an established mechanism to review and address SEA/SH and VAC complaints.	Implementation.	WB Task Team. MPWT	Ongoing reporting. Monitoring of complaints and their resolution.
	Codes of Conduct signed and understood (ANNEX 10: Individual Code of Conduct and ANNEX 9: Manager's Code of Conduct.) Ensure requirements in CoCs are clearly understood by those signing. Have CoCs signed by all those with a physical presence at the project site. Train project-related staff on the behavior obligations under the CoCs. Disseminate CoCs (including visual illustrations) and discuss with employees and surrounding communities. Reporting on the actions taken as part of regular progress reports.	Initiated prior to contractor mobilization and continued during implementation.	Contractor, Consultant, MPWT.	Review of SEA/SH risks during project supervision (e.g., Mid-term Review) to assess any changes in risk. Supervision consultant reporting that CoCs are signed and that workers have been trained and understand their obligations. ⁵¹ Monitoring of GRM for SEA/SH complaints. Discussion at public consultations.
	Have project workers, PMU and CMU staff and local community undergo training on SEA/SH	Implementation.	Contractor, Consultant, MPWT, DPWTs	Ongoing reporting.
	Undertake regular M&E of progress on SEA/SH activities, including reassessment of risks as appropriate.	Implementation.	MPWT, Contractors, Consultants.	Monitoring of GRM. Ongoing reporting.
	Implement appropriate project-level activities to reduce SEA/SH risks prior to civil works commencing such as:	Prior to works commencing.	Contractor/ Supervision Consultant	Ongoing reporting. Reviews during implementation support missions.

⁵¹ Civil works supervision consultant's monthly reports should confirm all persons with physical presence at the project site have signed a CoC and been trained.

When	Action to Address SE/SH and VAC Risks	Timing for Action	Who is Responsible for Action	Ongoing Risk Management
	<p>Have separate, safe and easily accessible facilities for women and men working on the site. Locker rooms and/or latrines should be located in separate areas, well-lit and include the ability to be locked from the inside.</p> <p>Visibly display signs around the project site (if applicable) that signal to workers and the community that the project site is an area where GBV is prohibited.</p> <p>As appropriate, public spaces around the project grounds should be well-lit.</p>		WB Task Team.	

The services and support systems for survivors of SEA/SH are very limited in Lao, including the 5 provinces of this project. In the health sector, there are no protocols for responding to sexual violence, no support services and no investigative forensics. Although the LWU has established a counseling center to assist women and girl victims of physical or sexual abuses, this is at the central level, based in Vientiane Capital. With the support of the Asia Foundation (TAF), the first women's shelter was established in 2006, but this is in Vientiane Capital as well. These are important, but women in remote communities lack financial and geographical access. Basic services and those related to violence prevention and response are inaccessible or low quality. Few services are actively engaged in providing referrals to other support systems. Victims are largely left to seek additional help by their own. The lack of knowledge and other constraints to help-seeking result in their receiving less assistance than is available to them.⁵²

The ESIA will look in more detail at the options of service providers in the project provinces, and/or other potential options so that there are systems in place in case of SEA/SH cases – so they can be reported, acknowledged, investigated and victims well-supported without discrimination or harassment.

Government agencies responsible for GBV related issues include the following:

Government Agencies:

- **Sub-Commission for the Advancement of Women (Sub-CAW), at provincial, district and village levels:** not service providers but coordinators.
- **The Lao Women's Union (LWU):** providing preventative activities on violence against women (VAW); Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) and violence against children (VAC), protecting and supporting victims by offering counseling, health care, free legal support and victim witness protection during prosecution, providing safe temporary shelters, vocational training and reintegration through the women and child counseling and protection network and central, provincial, district and village level.
- **Local administration:** has the duty to participate, collaborate, and coordinate in preventing and combating violence against women and children, settlement and assistance for victims of violence.
- **The Lao Front for National Development:** has mainstream preventative measures, and elimination of VAW; SEA/SH and VAC into its strategy along its vertical line of command from central to provincial, district and village level.

⁵²Mia Hyun (2020)

- **The National Steering Committee on Anti Human Trafficking:** the Prevention and Anti-Trafficking Department within the General Department and the Prevention and Anti-Trafficking Divisions within provincial Police Departments.

International NGOs

- The Asia Foundation (AF): providing supporting clinics in Phongsaly, Oudomxay, and Xayaboury.

Local NGOs

- Gender and Development Association (GDA): has a broad network of national and international partner

ANNEX 13: Community Health and Safety Plan

Direct and contract workers, excluding the DPWTs, are expected to be assigned to the sub-project areas and villagers are likely to remain in villages that are far away from the district town during their field work. The risks and impacts of Community, Health and Safety (CHS) anticipated from their visit and stay in the villages include increased potential for infectious diseases, vector-borne diseases, soil, water and waste-related diseases, privacy effect and mental well-being. Because of this, proportionate and tailored provisions will be included in specific project Community Health and Safety Plans (CHSP) to be developed prior to any field activity being started. This plan will according to the World Bank's ESS4 – Community Health and Safety. This Standard addresses the need, with particular attention provided to vulnerable communities, to prevent or reduce the risks and impacts to community health and safety that occur from project-related activities.

1. Objectives

The Community, Health and Safety Plan aims to anticipate and prevent adverse health and safety effects from both routine and non-routine situations in the impacted local community during the life cycle in the project.

2. Responsibilities

The key entities responsible for implementing this CHSP are the MPWT and Contractors. Key responsibilities are as follows:

MPWT has roles and responsibilities to:

- Identifies and evaluates community health risks.
- Identifies mitigation strategies to resolve issues of community health which are impacted by production activities.
- Carries out inspections and audits to successfully enforce community health services.
- Collects, analyzes data, reports, and provides recommendations on initiatives to improve the performance and compliance of the community health programme.

EDPD/PTRI and CMUs has roles and responsibilities to:

- Prepare relevant CHS documentation and procedures.
- Responsible for ensuring safe behavior by project staff to ensure such that community safety is protected.
- Monitor the efficient implementation of CHS requirements.
- Participate and organize the CHS risk assessments.

- Investigates and analyzes community safety incidents when/if they occur and raises conclusions and remedial steps needed by management when necessary.
- Advise management of compliance and of conditions requiring attention; and
- Conduct regular CHS inspections; and
- Evaluate their effectiveness and suggests improvements where indicated.

All SEARECC Project staffs have roles and responsibilities to:

- Take all reasonable and practical steps to care for their own health and safety and avoid affecting the health and safety of coworkers and the public.
- Follow all instructions and use the equipment properly.
- Not interfere with any safety arrangements; and
- Report any circumstances which may not comply with the project's CHS management system.

3. Potential Risk Impact

ESS4 places a focus on community exposure to project risks and impacts. This includes risks related to road safety and risks related to security staff. ESS4 needs borrowers to tackle water-related, communicable, and non-communicable diseases that may emerge from project activities, including Covid-19 transmission. Knowing that the direct impacts of projects on environmental resources will affect community health and safety, ESS4 mandates borrowers to recognize and minimize these impacts. In initiatives concerning the distribution of services to populations, ESS4 allows borrowers to apply the principle of universal access when theoretically and financially possible.

Community Health and Safety

The SEARECC is committed to continuous efforts to identify and eliminate or manage the security risks associated with its activities and to continually enhance its health, protection, and environmental efficiency in general.

- Design and maintain facilities, establish management systems, provide training, and conduct operations in a manner that safeguards people and property.
- Respond quickly, effectively, and with care to emergencies or accidents resulting from its operations, cooperating with industry organizations and authorized government agencies.
- Comply with all applicable laws and regulations and apply responsible standards.
- Stress to all employees, contractors, and others working in its behalf their responsibility and accountability for safety performance on the job and encourage safe behavior off the job; and

- Undertake appropriate reviews and evaluations of its operations to measure progress and to ensure compliance with this safety policy.

Human Rights

The SEARECC Project is committed to safeguarding its personnel, facilities, and activities and upholding human rights. The strategy, procedures, and activities of the project embody the spirit and intent of the United Nations Universal Declaration of Human Rights (1948) and the spirit and intent of the ILO Declaration on Fundamental Principles and Rights at Work (International Labour Organization, 1998).

Infrastructure Design and Safety Construction Work

The SEARECC Project will apply the principle of universal access in the design and construction of facilities, rehabilitation of the NR2 and feeder roads. This will include:

- Consideration of universal access as part of the project design.
- Seeking of input from stakeholders, such as organizations representing disabled people.
- Explicitly incorporate into procurement documents considerations relating to universal access for disabled people.
- All facilities accessible to the public should be designed, constructed, and operated in full compliance with local building codes, local fire department regulations, local legal/insurance requirements, and in accordance with an internationally accepted life and fire safety (L&FS) standard; and
- Fire prevention addresses the identification of fire risks and ignition sources, and measures needed to limit fast fire and smoke development. New facilities will include fire suppression devices such as manual portable extinguishers and fire hose reels.

Safety of Services

To anticipate and mitigate the risks and impacts that such services can have on community health and safety, the SEARECC will develop and incorporate suitable quality management systems.

Traffic and Road Safety

To avoid and mitigate potential road safety hazards for road users and impacted neighborhoods, the project will commit to integrating physically and financially viable road safety initiatives into the project design and activities.

The SEARECC will set the road safety measures, including the restriction of speed in settlements and other areas in compliance with the speed limit rule, the requirement to wear a helmet when driving a motorbike, the prohibition of alcohol consumption while driving. That measure will be met under the Law on Land Traffic (2000) regulation and the Decree No 188 on Fines and Measures against Violators of Road Traffic Laws and Regulations (2007). Project stakeholders should

immediately dial emergency number #1623 in case of an accident (national coverage).

Ecosystem Services

The project's direct impact on ecosystem services could bring adverse health and safety risks and impacts on affected populations. This will be further explored in the ESIA. The strategy would identify possible risks and impacts of the project on ecosystem services that may be worsened by climate change. Those adverse impacts will be eliminated and, where they are necessary, practical mitigating steps will be adopted by the project.

Community Exposure to Health Issues

The SEARECC Project will avoid or minimize the potential for community exposure to waterborne, water-based, water-related, and vector-borne diseases, and communicable (including COVID-19) and non-communicable diseases that could result from project activities, considering differentiated exposure to and higher sensitivity of vulnerable groups. The project will take measures to avoid or minimize transmission of infectious diseases that may be associated with the increase of temporary project labour for construction work and the project staff who will stay with the local communities during the land survey period.

4. Risk and Mitigation Measures

Table 0-1 outlines the potential risks and impacts associated with community health and safety along with prevention and intervention steps to prevent or minimize these impacts. It also includes the monitoring necessary to determine the effectiveness of those actions.

Table 1 Risks and Impact Mitigation on the Community Health and Safety

Risk/Impacts	Mitigation Measures	Monitoring	Frequency
<ul style="list-style-type: none"> Increased roadway traffic and associated injury or accident to community members, Project employees or livestock resulting from Project-related transport and travel. 	<ul style="list-style-type: none"> Optimize road transport criteria through traffic management considerations (minimization of movement of vehicles etc.). Ensure drivers successfully complete the SEARECC driving safety requirements and possess a valid driver's license for Lao PDR. Implement speed limits for SEARECC and contractor vehicles that pass through the local community's area. Maintain the grievance procedure for the community; and Continue to raise 	Visual site inspection	Routine

Risk/Impacts	Mitigation Measures	Monitoring	Frequency
	awareness and educate project staff and contractors about road safety.		
<ul style="list-style-type: none"> Spills, leaks and other accidental releases from Project facilities or Project-related activities (transport) resulting in community safety - related risks and impacts (e.g., contamination of water supplies, soil contamination, etc.) 	<ul style="list-style-type: none"> Assess ability to substitute dangerous materials with safer alternatives.; and Establish an emergency preparedness plan to implement steps to prevent community-affected spills. 	Visual site inspection	In case of accident (Monthly)
<ul style="list-style-type: none"> Sexually transmitted diseases: potential for staff who staying in the community would provide incentives to increase the number of STDs, HIV/AIDs (staff entering and leaving the workplace may attract service and sex workers, creating conditions for increase in STDs) 	<ul style="list-style-type: none"> SEARECC prohibits any sexual exploitation and abuse and is committed to preventing it in any sites. The SEARECC will collaborate with other mass organization will also support the project conducting training at district and village level plus taking an active role both helping to minimize the risks through awareness-raising on SEA. Staff education to focus attention on the identification and treatment of curable STDs in SEARECC areas. 	Verification	Annual
<ul style="list-style-type: none"> The temporary population increased will be raised in unimproved sanitation, thereby increasing Malaria and dengue fever transmission by mosquito vectors. 	<ul style="list-style-type: none"> Provide training to workers regarding vector-borne disease and transmission. Provide information for training of workers in malaria awareness so they can take knowledge back to communities; and 	Verification	Annual
<ul style="list-style-type: none"> The project staff who will be working in the community or nearby areas. During the staff travelling to each community, it will be chance of getting and spreading COVID-19 to the local people. 	<ul style="list-style-type: none"> Make sure your workplaces are clean and hygienic. Physical distancing - avoiding body contact, including shaking hands, maintaining a distance of at least 1.5-2 m between staff and other people in the local community, and avoiding large gatherings. Promote regular and 	Visual site inspection	Routine

Risk/Impacts	Mitigation Measures	Monitoring	Frequency
	<p>thorough handwashing by staffs, contractors, and local communities.</p> <ul style="list-style-type: none"> • Consider whether a face-to-face meeting or event is needed; and • Have surgical masks available to offer every staff who is working in the local communities. 		
<ul style="list-style-type: none"> • Cultural group mixing in Project area could contribute to the cross-cultural violence. 	<ul style="list-style-type: none"> • Managing cross-cultural workplace issues; and • Educate staff on cultural sensitivity, violence, contraband, and harassment etc. • Respect for cultural traditions and festivals, including, for example, ceremonies for trees etc. if impacted by the project. 	Verification	Annual
<ul style="list-style-type: none"> • Limited access to support for victims of GBV; SH/SEA and VAC due to a lack of service providers 	<ul style="list-style-type: none"> • Support Women and Children's committees to campaign on GBV; SH/SEA and VAC and establish victim support network. Raise awareness of local authorities. ESIA to explore further service provider options 	Verification	Monthly
<ul style="list-style-type: none"> • Potential increased wildlife and NTFP exploitation due to easier access, impacting local biodiversity-ecosystem service. 	<ul style="list-style-type: none"> • Enhance risk management of significant conservation areas and support the local communities in sustainably managing their natural resources and/significant conservation areas. As following: <ul style="list-style-type: none"> • Awareness-raising for conservation of biodiversity; and • Provide a mechanism and supports to help the affected communities sustainably managed their natural resources. 	Visual site inspection	Monthly
<ul style="list-style-type: none"> • Depletion of water sources by inefficient or unsustainable use of the project staff/workers during staying within local communities. 	<ul style="list-style-type: none"> • Water resource consumption will require assessment in each location to ensure that it will not negatively impact existing users and/or ecosystem services. 	Visual site inspection	Monthly

Risks may include potential for sexual harassment or sexual exploitation and abuse (SEA), gender-based violence (GBV), and child violence (VAC). Regardless of this, the ESMF (and ESMPs considering the details of each project location) will provide environmental health and safety requirements (with particular attention to GBV), community engagement training, CHS guidance, GBV and VAC, and STD/HIV/AIDS prevention for all land registration teams, workers (civil servants and outsource workers / contractors) to ensure the success of the project. Code of Conduct (COC) will be included in the letter of MPWT employees and team appointments and contracts (for contract workers) in accordance with relevant national laws and laws to be adopted and applied in the project.

Due to the project’s geographic scope, a combination of health promotion/education and primary disease prevention is the most efficient and cost-effective method of managing potential impacts on community health. Therefore, a health promotion/education approach to the workforce may have a major effect or influence on attitudes and activities in local communities. This approach uses the Project staff in their home villages as peer health educators. Alternate solutions to community health threats may also be used if considered necessary.

This Note relates to during Coronavirus disease (COVID-19) outbreak period. It offers guidance to MPWT and other agencies of the SEARECC to avoid/minimize risks due to CORONA-19 (e.g., in the context of consultations, events, meetings, engagement with communities). Standard practice to prevent COVID-19 contagion - given the global concerns relevant to the COVID-19 pandemic, necessary information, and procedures for the prevention of COVID-19 will be extended to all communities working for the project. Some basic guidelines on the COVID-19 Infection Prevention and Control Protocol (IPCP) recommended by WHO is given below.

A. Hand washing and soap and water



B. Hand hygiene with Alcohol – Based Hand Rub (AHR)



C. Respiratory hygiene and cough

Respiratory hygiene and cough etiquette is a standard precaution that can be used for communities to avoid transmitting respiratory diseases to control respiratory secretions (e.g., coughing, sneezing, etc.).



Cover nose and mouth when coughing, sneezing with tissue or mask.

If no tissues are available, cough or sneeze into the inner elbow rather than hand.

Do not “spit” in environment (use tissue instead).

Dispose used tissue and/or masks in the nearest bin after use.



Avoid shaking hands when sick. Use «traditional greeting» instead.

Perform hand hygiene after contact with respiratory secretions.



D. Surgical mask

Put On

1. Secure ties or elastic bands at middle of head and neck
2. Fit flexible band to nose bridge
3. Fit snug to face and below chin



Put On



Take Off

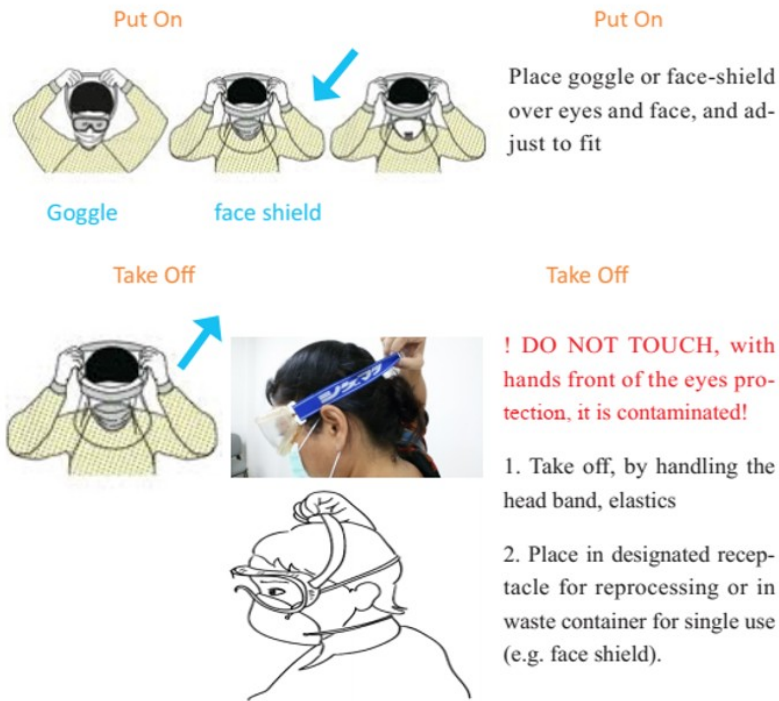


Take Off

! DO NOT TOUCH with hands the front of mask, it is contaminated!

1. Grasp ties or elastics and take off
2. Discard in waste container

E. Eye's protection (safety glass, goggles, or face shield)



5. CHS Implementation and Performance Monitoring

CHS Monitoring

- Monitoring of community health and safety is carried out to:
- Assess the effectiveness of mitigation actions and other actions/controls.
- Assess actual impacts against predicted impacts; and
- Assess compliance with applicable legal and other requirements.

The assessment process is structured to evaluate the degree of implementation of the mitigation measures described in table above, the magnitude of the impacts that have occurred, and to what magnitude the mitigation measures are successful in minimizing or moderating certain impacts. Evaluation carried out by the SEARECC project will include:

CHSP Reporting

Any community health or safety events that meet the incident reporting criteria must be reported as outlined in the Environmental and Social Management Plan, in compliance with the incident management protocol. Notwithstanding this reporting requirement, subsequent internal reports are also required. Any disease outbreak detected by community health monitoring systems will also be reported internally and as required externally. At the central stage, the SEARECC's Environmental and Social Team will produce monthly internal reports.

6. Training and Awareness

The SEARECC will ensure that the personnel responsible for carrying out the tasks and requirements contained in this Plan are competent based on education, training,

and experience. This plan requires substantial training from project activities for staff that may be exposed to hazards (health or safety). This training is considered part of the mitigation framework and is therefore not addressed in this document.

The Plan also requires training of the workforce, particularly in terms of managing communicable diseases. That training applies to all employees and contractors. Training sessions include:

- Common Standards of instruction for both security guards and security managers, including unique modules on the proper use of force and human rights protection.
- STD and HIV/AIDS prevention and awareness training for all staff, with extension to communities, as appropriate, through education and awareness campaigns.
- Driver training for all drivers of the project including speed limit training in urban areas, safe driving in rural areas and basic first aid;
- COVID-19 prevention training, and
- Awareness of vector transmitted diseases including malaria and dengue.

ANNEX 14: Biodiversity Management Plan Template

Once sections to be funded within NR2 West are identified and based on the outcome of ESIA, if biodiversity impacts are found a site specific management plan known as a Biodiversity Management Plan (BMP), will be prepared to manage identified impacts. An indicative content or template of the BMP in line with ESS6 is below.

(a) **Objectives** based on the findings of the biodiversity baseline part of the ESIA. These might include, for example, No Net Loss or Net Gain.

(b) **Activities** to be carried out, along with any specific project requirements needed to achieve the intended BMP objectives. BMP activities may include, for example, new or expanded protected areas; site-specific habitat restoration, enhancement, or improved management; community benefit-sharing; livelihood restoration activities (to mitigate any negative socioeconomic impacts from newly restricted access to natural resources, in accordance with ESS5); species-specific management interventions; monitoring of project implementation or biodiversity outcomes; or support for increased financial sustainability of conservation actions.

(c) **Project Requirements** that the implementing entities follow to achieve BMP objectives, such as biodiversity-related prohibitions or specific restrictions for civil works contractors and project workers. These may cover, for example, the clearing or burning of natural vegetation; off-road driving; hunting and fishing; wildlife capture and plant collection; purchase of bushmeat or other wildlife products; free-roaming pets (which can harm or conflict with wildlife); and/or firearms possession. Seasonal or time-of-day restrictions may also be needed to minimize adverse biodiversity impacts during construction or operation. Examples include (i) limiting blasting or other noisy activities to the hours of the day when wildlife are least active; (ii) timing of construction to prevent disturbance during the nesting season for birds of conservation interest; (iii) timing of reservoir flushing to avoid harming key fish-breeding activities; or (iv) curtailment of wind turbine operation during peak bird migration periods.

(d) An **Implementation Schedule** for the key BMP activities, taking into account the planned timing of construction and other project activities.

(e) **Institutional Responsibilities** for BMP implementation.

(f) **Cost Estimate** for BMP implementation, including up-front investment costs and long-term recurrent costs. The BMP also specifies the funding sources for plan implementation as well as recurrent operating costs.

The following template shall be used for biodiversity management plan (BMP).

Biodiversity Management Plan Template

Impact	Mitigation measure	Specific Action	Indicator and measurement	Response	Responsibility	Timeline

ANNEX 15: Contingency Emergency Response Component (CERC) Manual

Executive Summary

1. This document serves as the Emergency Response Manual (ERM) of the Southeast Asia Regional Economic Corridor and Connectivity Project (P176088). The Financing Agreement stipulates the preparation and submission of an Emergency Response Operations Manual (hereafter referred to as the Emergency Response Operations Manual - ERM) for the Contingency Emergency Response Component (CERC) as one of its conditions for implementation of said Component. It details (i) mechanism for activating the CERC; (ii) main instruments under the CERC; (iii) coordination and implementation arrangements; (iv) procurement, financial management and disbursement aspects; (v) compliance with ESF; and (vi) monitoring and evaluation.
2. This document is considered an annex to the Project Operation Manual (POM) of the SEARECC Project.
 - The specific activities to be financed by the funds reallocated to CERC are event and demand driven. The activities selected should be consistent with CERC's purpose to provide short-term bridge financing exclusively for the immediate recovery needs related to an eligible emergency. The contents of this CERC represent the framework by which CERC will be activated and by which the approved activities will be coordinated and implemented in accordance with World Bank and national policies and procedures as agreed with the World Bank. There is no limit to the number of times the CERC may be activated, but the framework described in this ERM should be followed for each activation. E&S instruments should be in place prior to CERC activation.

A -Background

1. The Lao PDR government has requested the World Bank for support preparation of the Southeast Asia Regional Economic Corridor and Connectivity Project (SEARECC), which includes the improvement of National Road 2 (NR2) and other activities along the corridor. The proposed Project aims to improve the domestic and regional road network connectivity and logistics facilities, with associated policy reforms for increased economic activities along selected transport corridors in Northern Lao PDR. Starting with the improvement of domestic connectivity in Lao PDR, trade facilitation, border crossing control management with Vietnam and Thailand, and agriculture productivity, the proposed project will help to attract more investment, boost more cross border trade, and generate more employment in the northern part of Lao PDR.
2. The Project has four components, including the CERC (Component 4). This component will provide an immediate response to an eligible crisis or emergency, as

needed. In the event of an eligible crisis or emergency, the World Bank to re-allocate project funds to support emergency response and recovery.

3. The CERC will support the immediate response to an eligible crisis or emergency, as needed. Eligible expenditures may include critical goods, services and works to quickly restore livelihoods and lifeline infrastructure.

3. In an event of eligible crisis or emergency (as per paragraph 9 below), the GoL may submit a request to reallocate uncommitted and undisbursed funds to the CERC. The use of such resources will be subject to Bank non-objection.

B - Mechanism for Activating CERC

4. Four conditions should be met for requesting the CERC activation (equivalent to disbursement conditions for the CERC). These are:

a. The GoL has determined that an Eligible Crisis or Emergency has occurred and has submitted to the World Bank a request to include the proposed activities in the Emergency Response Part in order to respond to said crisis or emergency, and the World Bank has agreed with such determination, accepted said request and notified the GoL thereof;

b. The GoL has ensured that all ESF instruments required for said activities have been prepared and disclosed, and the GoL has ensured that any actions which are required to be taken under said instruments have been implemented, all in accordance with the provisions of **Section XXXX Schedule XXXX of the Financing Agreement;**

c. The entities in charge of coordinating and implementing the Emergency Response Part have adequate staff and resources, in accordance with the provisions of **Section XXX schedule XXX** of the Financing Agreement, for the purposes of said activities; and

d. The GoL has adopted the ERM, in form and substance acceptable to the World Bank, and the provisions of the ERM remain – or have been updated in accordance with the provisions of **Section XXX Schedule XXXXX of** the Financing Agreement so as to be – appropriate for the inclusion and implementation of the Emergency Response Part. It is noted that this condition is being fulfilled with this document.

5. An Eligible Crisis or Emergency is defined by the World Bank as an event that has caused or is likely to imminently cause a major adverse economic and/or social impact associated with natural or man-made crises or disasters. Such events may include a disease outbreak and the following: (i) cyclone; (ii) earthquake; (iii) storm; (iv) storm surge and strong waves; (v) tornado; (vi) tsunami; (vii) volcanic eruption; (viii) flood; (ix) landslides; (x) forest fires; (xi) drought; (xii) severe weather; (xiii) extreme temperature; (xiv) high winds; (xv) dam break and (xvi) any natural disaster.

6. The causal relationship between the eligible emergency and the need to activate the CERC in order to withdraw proceeds will be established by an official

Government's declaration of emergency in accordance with the Disaster Prevention and Control Committee (DPCC), Decree No. 75/PM, 28 February 2018, Article 5, DPCC has the legal mandate to declare an Emergency Situation in the country at the Central and sub-national levels. The causal relationship between the eligible emergency and the need to activate the CERC in order to withdraw funds will be established by an official letter stating Emergency Situation by DPCC or a Statement of Facts from a designated authority of the GoL that is also acceptable to the Bank (e.g. Notification of a State of Emergency by DPCC/Province Governor, Official letter by Provincial Cabinet Office), or a Statement of Facts from a designated authority of the GoL that is also acceptable to the Bank.

7. In case of health emergencies, third-party declarations will be considered for activating, such as the World Health Organization (WHO) Risk Assessment⁵³ level 2 grade and greater as described by the WHO Emergency Response Framework; or an equivalent grading by other international agencies such as World Organization for Animal Health (OIE), United Nations Environment Program (UNEP), or the Food and Agriculture Organization (FAO).
8. The GoL will undertake the necessary steps to complete a Rapid Needs Assessment conducted by GoL or a third-party that is acceptable to the Bank, with the objective of identifying a list of potential activities for inclusion in the Emergency Action Plan (EAP). The GoL will review and select those for financing under the CERC based upon: (i) the eligibility and ESF criteria outlined in the Financing Agreement.
9. The GoL will seek support from the Bank to select a list of activities for financing under the CERC based on (i) the positive list presented in the Procurement Section, and (ii) priorities identified at the Rapid Needs Assessment of the emergency's impact. The GoL may seek advice from the World Bank in the selection of the Project's component and disbursement categories from which funds will be reallocated to CERC, if necessary.
10. The GoL will officially request the Bank to activate the CERC, summarizing the nature of emergency. As a second step, an official letter requesting to trigger CERC shall be sent from the Ministry of Finance (MoF) to the World Bank's Lao Country Director indicating the following information:
 - a. Nature of emergency, its impacts, and confirmation of causal relationship between the event and the need to access the funding through CERC⁵⁴, as supported by the official Statement of Facts;
 - b. Rapid Needs Assessment;

⁵³ As described in WHO Emergency Response Framework (2013) http://www.who.int/hac/about/erf_.pdf.

⁵⁴ A draft request letter to activate the CERC is in Annex 1 of this manual

- c. Indication of Project's funding to be reallocated to CERC and the distribution of reallocation across components and disbursement categories.
 - d. An Emergency Action Plan (EAP);
 - e. Implementation modalities with respect to decentralized activities, if applicable.
11. The GoL may request Bank technical assistance to undertake the activities detailed in paragraph 13 above (e.g., Rapid Needs Assessment and other related preparatory activities to support CERC activation and implementation activities). This request can be made directly to the Country Director in a written form via letter or electronic communication.

C – Key Instruments of CERC

12. As detailed below, the key instruments of CERC are the Rapid Needs Assessment and the Emergency Action Plan (EAP):

13. **Rapid Needs Assessment**⁵⁵. The GoL will conduct or adopt a Rapid Needs Assessment of the impacts and/ or needs due to the emergency as a basis for the EAP. The assessment will focus on immediate needs as a more comprehensive impact and needs assessment may follow if the situation so demands.

14. **Emergency Action Plan (EAP)**⁵⁶. The Implementing Agency will prepare an EAP, which is the most critical instrument for Bank support under the CERC. The EAP, as a minimum, will include the following:

- The list of emergency activities, goods, works, services, and/or emergency operating costs (based on the positive/negative list included in this manual) to be financed under the CERC, including itemized costs.
- If civil works are being proposed, the locations, types and number of civil works.
- It either confirms the CERC's implementation modalities outlined in this manual or proposes changes (which would require Bank's no-objection to the updates in the manual).
- It should also include a summary of the environmental and social framework implications (e.g. potential environmental and social impacts) of proposed activities and, if needed, the environmental and social instrument(s) to be prepared in order to comply with the national law and the Bank's ESF. If deferral of ESF document completion is agreed upon CERC activation, it should include an action plan for such completion. More information on ESF requirements is in the ESF section of this manual.

⁵⁵ A template of the Rapid Needs Assessment is in Annex 2 of this manual.

⁵⁶ A template for the EAP is in Annex 3 of this manual.

- A (simplified) Procurement Plan as described in the Procurement section of this manual.
- It specifies the End of Implementation Date, upon which all items financed under the EAP should have been received or completed.

D - Coordination & Implementation Arrangements

15. The National Disaster Prevention and Control Committee (NDPCC) is the government organization with responsibility for research, giving direction and coordinating with all the relevant authorities, line agencies and local administration at all levels in order to carry out and implement disaster Prevention and Control activities. The Disaster Prevention and Control Committees includes:
- a. Disaster Prevention and Control Committee at central level;
 - b. Disaster Prevention and Control Committee at provincial level; and
 - c. Disaster Prevention and Control Committee at district level.
16. NDPCC is activated when a disaster has occurred or is imminent and is chaired by the Deputy Prime Minister. The Disaster Management Division, Department of Social Welfare within the Ministry of Labour and Social Welfare is the secretariat for National Emergency Preparedness and Response. NDPCC has the responsibility to:
- a. Activate ministries and organizations in response to an event that has happened, is happening or may happen;
 - b. Liaise with ministries, non-government organizations and community groups in the execution of their emergency management roles and responsibilities;
 - c. Carry out initial assessment;
 - d. Compare and prioritize immediate disaster relief requirements; and
 - e. Manage the distribution of immediate relief supplies.
17. MPWT will oversee the implementation of CERC funded activities and Department of Roads is the lead agency responsible for the implementation of CERC funded emergency activities, including all aspects related to technical aspects, procurement, financial management, monitoring & evaluation and E&S compliance, all based on the SEARECC's POM. DOR will prepare the package, which is to be approved by Minister of MPWT, to activate the CERC (to be sent by MOF).
18. MPWT will recommend MoF that the CERC be activated and MoF will make the decision to activate the CERC. If relevant, NDPCC will provide general guidance for the implementation of the EAP.

The key responsibilities of MPWT with respect to the activation of the CERC and the implementation of the EAP are as follows:

- a. Coordination with NDPCC, DPCCs at province and district level for the emergency response, as appropriate;
- b. Provide direction and guidance to relevant authorities and local admin at all levels; and
- c. Assessment of the situation.

19. Other relevant line agencies (i.e., DOF⁵⁷, DPC⁵⁸, EDPD/PTRI⁵⁹, DPWT⁶⁰) may provide technical assistance to DOR as related to the finalization of procurement bidding documents and the technical supervision of the EAP. The GoL may strengthen its implementation and supervision capacity through the engagement of technical consultants to support the governmental agencies in the finalization of bidding documents and site supervision of works. The technical consultants shall work closely with and report to DOR.

20. Below is a table that summarizes the specific steps associated with the activation, implementation, and closing and evaluation of the CERC, the assigned responsibilities and estimated time:

Table 1: Steps for implementation

Step	Actions	Responsible	Estimated Time
1	Decision to trigger CERC: The GoL may inform the Bank in advance about its interest of activating CERC (and of the need for Bank technical assistance for preparatory activities such as the Rapid Needs Assessment).	MoF	
2	Preparation of Rapid Needs Assessment: DOR, with support from DPWT, will undertake the necessary steps to complete a Rapid Needs Assessment in coordination with the Disaster Management Division, Department of Social Welfare within the Ministry of Labour and Social Welfare.	DoR/DPWT	1 week
3	Preparation of Emergency Action Plan (EAP): DOR will prepare the EAP (as per paragraph 17 above) including a list of emergency response activities based on the results of the Rapid Needs Assessment.	WB/DoR/ DPC/DOF	2 weeks

⁵⁷ Department of Finance (DOF) of MPWT

⁵⁸ Department of Planning and Cooperation (DPC) of MPWT

⁵⁹ Environment Research and Disaster Prevention Division (EDPD) of the Public Works and Transport Institute (PTRI) of MPWT

⁶⁰ Provincial level - Department of Public Works and Transport (DPWT) of MPWT

4	Request of activation: The MoF will send a letter requesting the activation of the CERC to WB. This letter will be part of a package as per paragraph 13 above.	MoF/DOF/DP C	3 weeks
5	Bank review and non-objection of CERC Activation: The Bank upon positive review of activation request formally grants no-objection, including in the same communication the notification of fulfillment of disbursement conditions.	WB	4 weeks
6	Advance of Funds to CERC: The Bank provides CERC advance(s) upon activation. It will process the reallocation of funds from Project components/disbursement categories to CERC as part of overall Project restructuring within 3 months of CERC activation. CERC disbursements will follow the Disbursement and Financial Information letter's (DFIL) instructions.	WB	5 weeks
7	Implementation of EAP under CERC: DOR starts the implementation of approved emergency activities agreed upon in the EAP. All Procurement, Financial Management, and Monitoring and Evaluations aspects of EAP will follow the guidance of this manual.	DoR	18 months (EAP implementati on period)
8	Final reporting: a final evaluation report will be prepared by DOR once all emergency activities are finished and submitted to the WB.	DoR	24 months (6 months from end of EAP implementati on date)
9	Closing of CERC Activation and end of EAP implementation: GoL and the Bank will ensure adequate closing within six months of end of EAP implementation date. This will include submission of audit reports and any other agreed technical, fiduciary and ESF reports.	MPWT/WB	24 months (6 months from end of EAP implementati on date)

E - Procurement

21. Procurement falls under Paragraph 12 of IPF Policy, Projects in Situations of Urgent Need of Assistance or Capacity Constraint, once the CERC is activated. DOR is responsible for ensuring that the procurement policies and procedures governing the CERC are fully and successfully applied to the contracting of goods, works and services related to the EAP. These policies and procedures are detailed in the POM of the SEARECC. In addition to ensuring that the procurement policies and procedures are applied, DOR is also responsible for ensuring that all the proposed activities on the EAP are on the ERM positive list of activities.

22. Procurement will be carried out in accordance with the World Bank Procurement Regulations of IPF Borrowers, dated July 2016 and revised November, 2017 and August 2018, and the “Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants”, dated October 15, 2006 and revised in January 2011, and other provisions stipulated in the Financing Agreement.

23. The EAP will finance eligible activities in response to crisis or emergency, as needed. Eligible expenditures may include critical goods, services and works to quickly restore livelihoods, lifeline infrastructure and services. Table 2 presents the thresholds for procurement methods and prior review to be applied to CERC based on the World Bank’s emergency procurement procedures.

Table 2: Threshold for procurement of works, goods and services

Category	Procurement Method Thresholds		Prior Review Thresholds	
	Applicable thresholds (in US\$)	Remarks	Applicable thresholds (in US\$)	Remarks
Works				
RFB through Open International market approach	≥ 2.0 million	–	Above 10 million	-
RFB through Open National market approach	≥ 200,000 < 2.0 million	–	None	-
Request for Quotation	< 200,000	–	None	–
Direct Selection	None	No threshold; meet requirements of regulations 7.13-7.15	Same as for competitive selection	This has not been foreseen at the project preparation stage.
Goods, Non-Consulting Services and consulting services				
RFB through Open International market approach	≥ 0.6 million	–	Above 2 million	-
RFB through Open National market approach	≥ 100,000 < 0.6 million	-	None	Risk-based approach

Request for Quotation	< 100,000		None	
Direct Selection	None	No threshold; meet requirements of regulations 7.13-7.15	Same as for competitive selection	This has not been foreseen at the project preparation stage.

24. Contract below thresholds for prior review will be subject to post review based on a 20% sample.

25. Bidding Documents: International Competitive Bidding (ICB) procurement for works, goods and non-consulting services and selection of consultants involving international competition will be carried out using the Bank's Standard Procurement Documents (SBDs). In the case of National Competition, the Harmonized National SBDs and Request for Quotations as agreed with the Bank would be used in accordance with the conditions for use of such documents as bellows:

- I. The request for bids/request for proposals document shall require that bidders/proposers submitting bids/proposals present a signed acceptance at the time of bidding, to be incorporated in any resulting contracts, confirming application of, and compliance with, Bank Anti-Corruption Guidelines, including without limitation the Bank's right to sanction and the Bank's inspection and audit rights;
- II. Information related to award of contract including reasons for rejection of unsuccessful bidders shall be published on the implementing agency websites and/or newspaper of wide circulation.
- III. All complaints on procurement related matters including complaints arising from procurement under Bank financed Projects whilst using National Procurement Procedures shall be dealt with in accordance with Article 46 of the Procurement Law. Borrower shall put in place an effective complaints review mechanism for dealing with procurement related complaints and shall disclose the details in all the bidding documents. All complaints shall be recorded by the Borrower in the appropriate tracking and monitoring system, as agreed between the Bank and the Borrower.

26. In accordance with paragraph 3.32 of the Procurement Regulations, each bidding document and contract financed under the CERC funds shall provide the provisions on fraud and corruption, and the provision that the bidders, suppliers, contractors and subcontractors shall permit the World Bank to inspect their accounts, records and other documents relating to the bid submission and performance of the contract, and to have them audited by auditors appointed by the World Bank.

27. Table 3 present a positive list that should be used for the procurement or upon Bank's review and agreement reimbursement of already procured goods that

might be required for the Government’s immediate emergency response, as well as services, works and operating costs. The GoL and the World Bank may reach agreement on the conditions for the release of the financial tranches and the required documentation and certifications, such as customs and tax certificates or invoices. The acceptable procedures and addressing any associated risks and mitigation measures should be agreed.

Table 3: Positive list of goods, services and works

Item
Goods
<ul style="list-style-type: none"> • Medical equipment and supplies including but not limited to rehydration fluids, antibiotics, antivirals, ventilators, respiratory care equipment, IV pumps, referral equipment, isolation area equipment; • Cleaning supplies including hand hygiene and disinfectants; • Personal Protective Equipment (PPE) stockpiles, including masks, gowns and gloves; • Morgue Packs; • Non-perishable foods, bottled water and containers • Tents for advanced medical posts, temporary housing, quarantine facilities and classroom/daycare substitution • Equipment and supplies for temporary housing/living (gas stoves, utensils, tents, beds, sleeping bags, mattresses, blankets, hammocks, mosquito nets, kit of personal and family hygiene, etc.) and school • Gasoline and diesel (for air, land and sea transport) and engine lubricants • Spare parts, equipment and supplies for engines, transport, construction vehicles • Lease of vehicles (Vans, trucks and SUVs) • Equipment, tools, materials and supplies for search and rescue (including light motor boats and engines for transport and rescue) • Tools and construction supplies (roofing, cement, iron, stone, blocks, etc.) • Equipment and supplies for communications and broadcasting (radios, antennas, batteries) • Water pumps, tanks for water storage and water supply • Equipment, materials and supplies for disinfection of drinking water and repair/rehabilitate of black water collection systems • Equipment, tools and supplies for agricultural, forestry, and fisheries for rural people affected by the event • Feed and veterinary inputs (vaccines, vitamin tablets, etc.) for rural people affected by the event • Construction materials, equipment and industrial machinery • Water, air, and land transport equipment, including spare parts

- Temporary toilets
- Groundwater boreholes, cargos, equipment to allow access to affected site, storage units
- Any other item agreed on between the World Bank and the Recipient (as documented in an Aide-Memoire or other appropriate formal Project document)

Services

- Consulting services related to emergency response including, but not limited to urgent studies and surveys necessary to determine the impact of the disaster and to serve as a baseline for the recovery and reconstruction process, and support to the implementation of emergency response activities
- Feasibility study and technical design;
- Works supervision
- Technical Assistance in developing TORs, preparing Technical Specifications and drafting tendering documents (Bidding Documents, ITQ, RFP).
- Non-consultant services including, but not limited to: drilling, aerial photographs, satellite images, maps and other similar operations, information and awareness campaigns
- Non-consultant services to deliver any of the activities described in the “Goods” section of this table (e.g., debris removal, dump trucks, drones survey)

Works

- Repair of damaged infrastructure including, but not limited to: water supply and sanitation systems, dams, reservoirs, canals, roads, bridges and transportation systems, energy and power supply, telecommunication, and other infrastructure damaged by the event
- Re-establish of the urban and rural solid waste system, water supply and sanitation (including urban drainage)
- Repair of damaged public buildings, including schools, hospitals and administrative buildings
- Repair, restoration, rehabilitation of schools, clinics, hospitals
- Removal and disposal of debris associated with any eligible activity.

Training

- Conduct necessary training related to emergency response including, but not limited to the Implementation of the Emergency Action Plan (EAP) to be prepared when the CERC is activated.
- Training on rapid needs assessment and other related assessments including those related to ESF

Emergency Operating Costs

- Incremental expenses by the Government for a defined period related to early recovery efforts arising as a result of the impact of an eligible emergency. This includes, but is not limited to: operational costs⁶¹ and rental of equipment

⁶¹ As per Amended Financing Agreement, signed January 28, 2020 “Operating Costs” means the reasonable costs of goods and non-consulting services required for the day-to-day coordination, administration and

a. Procurement Plan:

28. A Procurement Plan will be prepared based on the approved EAP as soon as it is feasible to DoR and will be sent to the Bank through STEP for approval. This plan will also be used for monitoring and reporting purposes.
29. In order to expedite the procurement of critical goods, services related to the preparation and management of civil works contracts, and of contractors responsible for the execution of the EAP, DoR may pre-qualify suppliers, service providers and contractors for the Critical Goods and Non-Consulting Services, Emergency Works, and Consulting Services which have been identified by DoR and agreed to be financed by CERC in case of emergency.
30. Pre-qualification would allow the GoL to check the capability of suppliers or contractors to supply the goods or carry out the works. A simple request for expressions of interest (REOI) and related technical bidding documents would be prepared annually for potential expected activities in order to create the short-list.
31. The draft EAP Procurement Plan as found in Annex 3 of this manual is organized as follows:

a. Critical Goods and Non-Consulting Services:

- i. Tentative list of goods, material and equipment, non-consulting services as well as their expected unit costs, anticipated quantity and generic technical specifications;
- ii. List of identified suppliers/vendors that have sufficient capacity to supply the identified critical goods⁶²; and
- iii. Description of procurement methods and supporting procurement documents that DoR use.

b. Consulting Services:

- i. Identified the consulting services which might be required in case of emergency;
- ii. Description of the selection methods for consulting firms or Individual Consultants;
- iii. "Pool of experts", or a list of "preselected" consulting firms which have either previously been identified through competition, or have been known to perform well;

supervision of Project activities, including leasing and or routine repair and maintenance of vehicles, equipment, facilities and office premises, fuel, office supplies, utilities, consumables, communication expenses (including postage, telephone and internet costs), website maintenance, translation, printing and photocopying expenses, bank charges, publications and advertising expenses, insurance, Project-related travel, subsistence and lodging expenses, and other administrative costs and costs of contractual staff directly related to the Project, but excluding salaries, bonuses, fees and honoraria of equivalent payment of members of the Recipient's civil service."

⁶² Will be completed once the pre-qualification process is finished

- iv. Draft the ToRs, requests for proposals (RFPs) that will be used to contract the consulting services to support the scoping /design & supervision of the Works.

c. Emergency Works:

- i. Identified potential eligible Works;
- ii. Description of procurement methods and qualifications requirements;
- iii. A list(s) of firms (national & regional) that have demonstrable track record (technical, financial & operational) in implementing the expected post disaster activity; and
- iv. Draft Bidding documents/ITQ that will be used to contract firms to execute the civil works.

b. Procurement Methods:

Consultants

32. *Direct Selection.* Direct selection of consulting firms and individuals may be used only if it presents a clear advantage over competition for the required consulting services. Firms that are already working in the country and that have a proven track record in similar assignments may be the most suitable option for the start-up activities. Consultants selected on a single-source basis may be given the right to participate in future assignments under the same project provided that there is no conflict of interest with the tasks performed under the initial contract. However, for future or downstream assignments, any available information must be shared with all participating firms to ensure a level playing field.

Procurement steps:

1. Draft the TOR (including Cost Estimate) and REOI for the consultancy services;
2. Obtain the required approvals for SSS;
3. Directly approach the Consulting firms/Individual Consultant and provide the TOR and forms to be filled by the Consultant;
4. Negotiate the Contract with the Consultant;
5. Obtain the required approvals on the negotiated Contract;
6. Sign the Contract; and
7. Start the assignment;

Note: DoR is allowed to negotiate the technical aspects (work plan, methodology, approach) and also the financial aspects (unit rates, taxes, etc.).

33. *Selection of Consulting Firms through Consultants' Qualification Selection (CQS).* CQS is often the appropriate method for small assignments. When justified, the Bank may agree to the use of CQS for contracts estimated to cost more than \$300,000.

Procurement steps:

1. Develop the TOR (including Cost Estimate) and REOI for the services;
2. Obtain the required approvals;
3. Advertise in a local newspaper, if no local firms available, the ad should be placed on the UN Development Business; inform all the Consultants who expressed interest following general procurement notice (GPN), if any;
4. Receive the expressions of interest (EOIs); the time allowed for preparation of EOI is normally 14 days; the time can be reduced to 7 days depends on the type of the services and market (example: design of simple or standard construction, supervision of works);
5. Evaluate the EOIs, establish a Short list of a minimum of 3 Consulting firms; determine the most qualified Consultant to be invited for next stage;
6. Develop RFP and request the selected consultant (only the first ranked consultant in the shortlist) to submit a combined Technical and Financial Proposal;
7. Receives a combined Technical and Financial Proposal;
8. Negotiates the Contract;
9. Sign the Contract; and
10. Start the assignment.

34. *Individual Consultants.* Individual consultants will be selected, and contracts awarded in accordance with the World Bank Procurement Regulations dated July 1, 2016, revised November 2017 and August 2018 and per the provisions stipulated in the Financing Agreement.. Under the circumstances described in paragraph 5.6 of the Consultants Guidelines, individual consultants may be selected and awarded on a Single-Source basis, subject to IDA's prior approval. Individual Consultants will be selected through a comparison of qualifications of at least three qualified consultants among those who have expressed interest in the assignments following advertising or have been approached directly by the GoL/ MPWT. On an exceptional basis, as indicated in the approved Procurement Plan and when consistent with the World Bank Procurement Guidelines, single source selection can be used for individual consultants under the Project. This method should be used to select individual consultants on assignments for which (a) teams of personnel are not required, (b) no additional outside (home office) professional support is required, and (c) the experience and qualifications of the individual are the paramount requirement. When coordination, administration, or collective responsibility may become difficult because of the number of individuals, it would be advisable to employ a firm.

Procurement steps:

- For Consultancy services for which the TOR are already developed and a “pool of experts” have been already established:
 1. Approach the most qualified Consultant;
 2. If available, negotiate the Contract;
 3. Obtain the required approval on the negotiated Contract;
 4. Sign the Contract; and
 5. Start the assignment.
- For Consultancy services for which the ToR were not identified before the emergency and not developed and no “pool of experts” have been already established:
 1. Develop the TOR (including Cost Estimate) and REOI for the services;
 2. Obtain the required approvals;
 3. Collect CVs or advertise if MPWT does not have knowledge of experienced and qualified individuals or of their availability;
 4. Evaluate the CVs based on the qualification;
 5. Draft the Evaluation report including the recommendations of the best qualified;
 6. Obtain the required approvals;
 7. Invite the Consultant for Contract negotiations; negotiate the Contract;
 8. Obtain the required approvals on the negotiated Contract;
 9. Sign the Contract; and
 10. Start the assignment

If no agreement can be reached with the best qualified Consultant, MPWT shall approach the second one, after obtaining the required approvals.

35. *Consultant Shortlists.* On an exceptional basis the Bank may clear shortlists of consultants where fewer than five firms have expressed an interest to submit requests for proposals. If advertising at an international or national level would impede a rapid selection, advertisement for expressions of interest may be forgone or limited to the local/state level for assignments with estimated cost of less than \$300,000. The selected firm is then requested to submit simplified technical and financial proposals. For assignments that are estimated to cost less than \$100,000, advertisement is not mandatory as long as a shortlist of at least three qualified firms is established.

36. *Other Streamlined Approaches.* Using a “pool of experts” or a list of “preselected” consulting firms may also be considered as an appropriate method for supporting counterpart agencies at various steps of project execution, including the procurement process and the preparation of ToR, shortlists, RFPs, and bidding

documents. Remuneration and fees may be resolved at the time of pre-selection and prescribed in a framework agreement; this is similar in concept to an Indefinite Delivery Contract.

The steps to establish the “pool of experts” include:

1. Draft ToRs (including Cost Estimate) based on historical experience and expected services to be provided;
2. Draft REOIs following the ToR;
3. Collect contact details of potential the Consultants to be directly approached by MPWT;
4. Approach the Consultants by sending the REOI;
5. Collect the CVs and evaluate the qualifications; and
6. Evaluate the CVs and establish a list of qualified Consultants.

Note: The best qualified Consultant will be approached to be provide the services in case of emergency; if the Consultant is not available the next ranked will be approached; if more than one Consultant is required, MPWT will approach the Consultants as per their ranking and availability.

Civil Works and Goods

37. *Direct Selection.* Direct selection for the procurement of civil works and goods may be used to extend an existing contract or award new contracts in response to disasters. For such contracting to be justified, the Bank should be satisfied that the price is reasonable and that no advantage could be obtained by further competition. The direct selection may be from the private sector, UN agencies/programs (for goods), or contractors or NGOs that are already mobilized and working in the emergency areas.

Procurement steps:

1. Prepare Technical Specifications, estimated cost and identify the supplier;
2. Prepare the Invitation to quote (ITQ);
3. Send the ITQ;
4. Receive quote;
5. Evaluate the Quote and negotiate the Contract;
6. Obtain all the required approvals;
7. Sign the Contract;
8. Deliver the goods; or carry out the Works.

38. *Shopping.* Shopping may be an appropriate method for procuring readily available off-the-shelf goods of values less than US\$500,000, or simple civil works of values less than US\$1,000,000. In exceptional cases, when shopping needs to be followed for contracts estimated to cost more than these values, the

Bank reviews and clears each case. The Procurement Plan should determine the cost estimate of each contract, and the aggregate total amount. At least three price quotations should be provided; and the Harmonized Request for Quotations for Works and Goods dated April 2014, Lao version shall be used.

Procurement steps:

1. Prepare Technical Specifications for Goods/works and Bill of Quantities/Schedule of Activities, estimated cost and identify the suppliers/contractors from the list of the pre-qualified Suppliers;
2. Prepare the Invitation to quote (ITQ);
3. Distribute the ITQ;
4. Receive quotes;
5. Evaluate the Quote and draft the evaluation report;
6. Obtain all the required approvals;
7. Award the Contract;
8. Sign the Contract;
9. Inform the unsuccessful Suppliers/Contractors; and
10. Implement the Contract.

39. *NCB Procedures*. Simplified NCB procedures and documentation can be used where ICB procedures are considered to be inappropriate or too complex due implementation capacity issues, and where there is clearly no international market appetite to participate in bidding. The Harmonized National Standard Bidding Documents for Works and Goods dated September 2015, Lao version shall be used.

Procurement steps:

1. Prepare Technical Specifications for Goods/Works and Bill of Quantities/Schedule of Activities, and estimated cost;
2. Draft the Bidding Documents;
3. Obtain all the required approvals;
4. Publish the IFB (Invitation for Bids) on the newspaper, website, and UNDB on-line;
5. Distribute the BDs to the interested Suppliers / Contractors;
6. Receipt the Bids; organize the public opening; and prepare the Minute of the Public Opening;
7. Evaluate the Bids and draft the Bids Evaluation Report (BER);
8. Obtain all the required approvals on the BER;
9. Award the Contract;

10. Inform the unsuccessful Bidders;
11. Sign the Contract; and
12. Implement the Contract.

40. *Simplification of Pre- and Post- Qualification criteria.* The pre- and post-qualification criteria requirements of the Bank's Standard Bidding Documents (SBD) for both Large Works and Works can be amended in order to optimize the participation of available local or regional contractors. In particular, adapting the qualification requirements to match the qualifications of available and competent local and regional contractors.

41. *Prequalified Suppliers and Contractors.* Using lists of prequalified suppliers and contractors, to whom periodic invitations are issued, may also help accelerate the procurement process. Such an approach could be used for a large number of similar simple contracts of any size, as well as for procurement of commodities. Prequalification documents may use a simplified format that is acceptable to the Bank. Suppliers and contractors would be asked to provide quotations for simple unit prices, as for commodities. Contracts should be awarded on a competitive basis, and may be for up to two years, with a price escalation clause and the possibility of extension upon mutual agreement between the client and the supplier.

The steps for "pre-qualification":

1. Develop the scope of works or needs of Goods;
2. Prepare the Technical Specifications and Type of Goods / Works;
3. Define the Pre-qualification criteria: Technical Capacity: similar contracts, required production capacity; Financial Capacity: Turn over (for the last 3 years).

42. *Accelerated Bid Times.* Under ICB and NCB, accelerated bid times might be envisaged, but bidding periods shorter than 21 days for ICB and 10 days for NCB should be cleared with the Bank, taking into consideration the capacity of firms (local and international) to prepare responsive bids in a short period.

43. *Waiving Bid and Performance Security Requirements.* For contracts for goods or works, the preparation of bids by small and medium-size suppliers or contractors can be accelerated by taking the option, set out in paragraph 2.14 of the Procurement Guidelines, of not requiring a bid security. Similarly, in the case of contracts for works or supply of goods, the borrower may decide not to require a performance security in accordance with paragraph 2.40 of the Procurement Guidelines. However, in works contracts, retention money may be retained during the liability period; and for goods contracts, manufacture warranties will be requested.

44. *Advance Payment.* Where it is not easy for contractors and suppliers to obtain lines of credit from banks, the Government may consider increasing the amount

of advance payment under works and supply contracts to up to 40 percent of the contract value, provided that the contractor/supplier provides a bank guarantee for the same amount and the World Bank clears this increased value of advance payment.

c. Special Procurement Arrangements⁶³:

Commodities

45. Procurement of commodities, such as grain and fuel, must be in accordance with paragraph 2.68 of the Procurement Guidelines. Priority commodities must be determined in response to the basic needs resulting from the emergency situation, in particular the needs of the poorest people.

Force Account

46. In emergencies, when construction firms are unlikely to bid at reasonable prices because of the location of and risks associated with the project or a certain government agency has a sole right in certain type of work (e.g., railway track work, high tension transmission cables), Force Account for repair/reconstruction using the Government agency's own personnel and equipment or a government-owned construction unit may be the only practical method (see paragraph 3.9 of the Procurement Guidelines).

Use of stand-by arrangements

47. There is no need to wait for an emergency for making arrangements for procurement of emergency works, goods and services. The Government may carry out advanced procurement procedures according to those established in this manual and WB Procurement Guidelines under Framework Agreements (FAs). This long-term agreement with suppliers, contractors and providers of non-consulting services sets out terms and conditions under which specific procurements (call-offs) can be made throughout its term. FAs are generally based on prices that are either pre-agreed, or determined at the call-off stage through competition or a process allowing their revision without further competition. Prior arrangements allow the offering and signing of contracts, whose execution is only triggered when a disaster strike.

Use of United Nations Agencies

48. When it is appropriate to place greater reliance on, or to delegate part or whole of project implementation to, UN agencies may be hired on sole-source basis for contracts for which they offer their unique roles and qualifications in responding to the emergency situations. Standard forms of agreement for UN agencies as acceptable to the Bank will be adopted. For those UN agencies, where such forms have not been agreed with the Bank, the Bank's team will provide acceptable sample forms.

⁶³ The Special procurement arrangements described herein shall be included in the manual and used if agreed with the Bank.

49. The UN agencies may participate in activities financed by the World Bank or WB-administered trust funds in one of the following ways:

- a. The UN implements all or part of project activities on behalf of the country;
- b. The UN acts as a supplier of critical goods (e.g., vaccines) under a WB-financed project; and
- c. The UN acts as a provider of technical services under a WB-financed project.

50. Flexibilities in procedures and contract provisions acceptable to the Bank in emergency situations;

- a. *Accelerated Bid Times.* Under ICB and NCB, accelerated bid times might be envisaged; however, these may vary depending on the event:
 - 21 days for ICB and 14 days for NCB – for complex requirements (construction of bridge, supply of complex items);
 - 14 days for 14 ICB and 7 days for NCB – with WB prior approval – for less complex requirements (standard Goods and Works); and
 - 3 days for ITQ.

Note: If no Quote/Bid is received within the time allowed for preparation the deadline will be extended;

- b. *Waiving Bid and Performance Security Requirements.* Considering the options described in the Guidelines as well as in the Bidding Documents, the Bid Securing Declaration will be considered. In the case of an emergency, the MPWT may not request bid security, but instead it will put in place a system for bid securing declarations. Similarly, in the case of contracts for works or supply of goods, the Recipient may decide not to require a performance security in accordance with paragraph 2.40 of the Procurement Guidelines. However, in works contracts, retention money may be allowed during the liability period; and for goods contracts, manufacture warranties will be requested. In relation to performance security, the arrangement is that money will be applied from 5 to 10% rate of the payments.
- c. *Advance Payment.* Where it is not easy for contractors and suppliers to obtain lines of credit from banks, the Recipient may consider increasing the amount of advance payment under works and supply contracts to up to 40 percent of the contract value, provided that the contractor/supplier provides a bank guarantee for the same amount and the World Bank clears this increased value of advance payment.

d. Links to Bank Standard Bidding and Proposal Documents:

National Procurement Document: <http://www.mpwt.gov.la/en/projects-en/lrsp2/153-ncb>

SBD for Goods:

<http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/PROCUREMENT/0,,contentMDK:23384556~menuPK:84284~pagePK:84269~piPK:60001558~theSitePK:84266~isCURL:Y,00.html>

Bank SBD for Works:

<http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/PROCUREMENT/0,,contentMDK:23151679~menuPK:84284~pagePK:84269~piPK:60001558~theSitePK:84266~isCURL:Y,00.html>

Bank Bid Evaluation Form (Goods and Works):

<http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/PROCUREMENT/0,,contentMDK:20062543~isCURL:Y~menuPK:84284~pagePK:84269~piPK:60001558~theSitePK:84266,00.html>

Standard Request for Proposals (Consulting Firms):

<http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/PROCUREMENT/0,,contentMDK:23060576~pagePK:84269~piPK:84286~theSitePK:84266,00.html>

Consultant – Sample Evaluation Report:

<http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/PROCUREMENT/0,,contentMDK:20062010~menuPK:84284~pagePK:84269~piPK:60001558~theSitePK:84266~isCURL:Y,00.html>

F - Fraud and Corruption

51. All procurement entities as well as bidders and service providers (i.e., suppliers, contractors, and consultants) shall observe the highest standard of ethics during the procurement and execution of contracts financed under the Project in accordance with paragraphs 1.16 and 1.17 (Fraud and Corruption) of the Procurement Guidelines and paragraph 1.23 and 1.24 (Fraud and Corruption) of the Consultants Guidelines, and “Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants”, dated October 15, 2006 and revised in January 2011.

G - Disbursement & Financial Management

52. Department of Finance (DOF) is responsible for ensuring that requirements set out in the Legal Agreements, the instructions in the supplemental DFIL for CERC, including the World Bank and GoL financial management and disbursement policies and procedures governing the Project, are fully and successfully applied to the management of the financial resources mobilized through Disbursement Category 2 in support of the approved EAP. These policies and procedures are detailed in the relevant Financial Management Manual as well as the Lao Road Sector Project 2 and Additional Financing’s Operation Manual.

53. Disbursements under Category 2 will be contingent upon the fulfillment of conditions specified in paragraph 7 of this document. Disbursements shall be

made based on the approved EAP, and shall be subject to evaluation, examination and approval by the World Bank.

54. Upon issuance of no-objection for CERC activation, MoF will send to the Bank the (i) forecast for two quarters for CERC and (ii) completed Withdrawal Application. The application will request the WB to advance the resources allocated to Disbursement Category 2 to the Lao Road Sector Project 2 and Additional Financing's designated account to finance eligible expenditures as they are incurred and for which supporting documents will be provided later.
55. The existing pooled designated account will continue to be used to receive IDA funds allocated to Category 25, the Emergency Expenditure Part of the Project. Advances for CERC category will be tracked through the DA reconciliation statement and IFRs. Withdrawals from the DA will only be made for expenditures incurred related to emergency activities laid out in the Emergency Action Plan and the CERC Operations Manual.
56. DOF shall be responsible for requesting disbursement of funds in accordance with the instructions contained in the DFIL and for ensuring that funds are accounted for and their use reported to the Bank on a timely manner.
57. The Disbursement methods will include reimbursement, advance and direct payment. The ceiling for DA advance shall be variable, based on forecast of emergency expenditures for 2 quarters. Supporting documentation required to be provided with the signed application for withdrawal are as follows:
 - **For requests for Reimbursement:**
 - Statement of Expenditure in the form attached (Attachment 4);
 - **For reporting eligible expenditures paid from the Designated Account:**
 - Statement of Expenditure in the form attached (Attachment 4)
 - A Designated Account Reconciliation statement in the form attached (Attachment 5) and related bank statement.
 - **For requests for Direct Payment:** Records evidencing eligible expenditures, e.g., copies of receipts, supplier invoices
58. For contracts with UN Agencies: Transfers to UN Agencies (if needed) would be made through UN Commitment disbursement mechanism. In case of contract with a UN Agency, an application for issuance of UN Commitment is to be submitted by DOF. Subsequent payment and documentation of expenditures would be as per the commitment letter to be issued by the World Bank and agreement between the Recipient and the UN agency.
59. Expenditure incurred under Category 2 will be reported as part of the project's Interim Unaudited Financial Report (IFR) and submitted to the Bank as per the requirement of the Legal Agreement.

60. Incurred expenditures under Disbursement Category 2 for Emergency Expenditures under CERC will be audited by the external auditor alongside other Project activities as indicated in the external audit TOR.
61. Per the Lao Road Sector Project 2 and Additional Financing's Financing Agreement, for expenditures under Disbursement Category 2 (Emergency Expenditures), to be eligible expenditure for financing under the CERC, expenditures must be included in the approved EAP, meet the fiduciary and ESF requirements and adequately supported with documentation, and meet the requirements that were detailed in Section B, paragraph 8 of this document
62. In the case of a contract providing for defect liability with a warranty period beyond the end of the EAP implementation period, payments under such a contract can be made if: (a) the contract for works has been completed and the works have been provisionally accepted before the end of the EAP implementation period; and (b) the contract provides the option to replace the retention money with an on-demand bank guarantee or other suitable performance security. When conditions for payment are met, the retention money may be released and paid from the DA or submitted to the Bank for payment through Direct Payment mode, within six (6) months after the end of the EAP implementation period. Supporting documentation that includes evidence of provisional acceptance of completed works and a copy of a bank guarantee equivalent to the retention money (same currency and amount) must be submitted to the Bank together with the application. This 6-months "grace period" will be provided so that payments can be completed consistent with the Government's contractual rights and obligations and related expenditure reported to the Bank. Upon completion of the defects liability period, the borrower should certify that the contractor or supplier has corrected all defects about which they were notified. And refund to the Bank any amount withdrawn that exceeds the amount of eligible expenditure (e.g., reductions from payment or retention on account of lower-quality level of outputs). This will affect the completion of the audit and DOR may be needed to include the CERC audit in two audit cycles of the Project.
63. Unutilized advances to the CERC's designated account must be refunded to the Bank, within 6 months after completion of EAP. CERC's designated account may remain open and the GoL will ensure that all amounts from Disbursement Category 2 advanced to the designated account are accounted for and their use reported to the World Bank on a timely manner, in no case later than the disbursement deadline date of the SEARECC Project
64. The World Bank may suspend disbursement or cancel the undisbursed balance of CERC funds, or require refund of disbursed CERC funds, if GoL or any of its agencies and contractors have used such funds in a manner inconsistent with the provisions of this ERM and the Financing Agreement.
65. The MPWT and DOF shall keep at least 10 years after the completion of EAP all supporting documents evidencing eligibility of expenditures financed with CERC

funds. These supporting documents shall be made available for examination by the World Bank or any other GoL authority.

H - ESF Compliance

66. All activities financed through the CERC are subject to World Bank ESF, keeping in mind that paragraph 12 of the IPF Policy applies once the CERC is triggered⁶⁴. The ESMF of the Project should also be applied to CERC as appropriate. However, to align with the ERM and urgency nature, MPWT and PTRI assisted by the environmental and social specialists, will timely monitor the implementation progress including complete consultation with local community and submit a monitoring report before considering that the subproject is closed. In the case of works procurement, the bidding document will include standard codes of conduct for workers and supervisors, specifying appropriate conduct and sanctions related to community relations, gender-based violence, child protection, human trafficking, and sexual exploitation and abuse. All activities financed through the CERC are subject to the WB's Environmental, Health and Safety (EHS) Guidelines⁶⁵.

67. Activities financed under the CERC will be limited to provision of critical goods and services, as well as rehabilitation and reconstruction of damaged infrastructure outlined in a positive list in this ERM (Table 3). Land acquisition leading to involuntary resettlement and/or restrictions of access to resources and livelihoods is not anticipated. It is further not anticipated to support activities which might have adverse impacts on ethnic groups considered indigenous people under WB ESS7. It is also unlikely that changes to the existing ESF instruments of the project will be required. However, if necessary, the ESF instruments will be updated if the EAP do not fall within the scope of the existing instruments. It is unlikely that emergency works will trigger new ESF policies, however, if required, new instruments will be prepared, consulted upon and disclosed; per the requirements of the Bank's Investment Financing Policy, a restructuring would be prepared.

I - Monitoring & Evaluation

68. CERC will be monitored and evaluated as required by Bank IPF policy, considering especially that it represents a novel approach to disaster recovery financing and will require particularly strong oversight in order to ensure appropriate emergency activity implementation. The oversight and reporting mechanisms established for the SEARECC will also be apply to the CERC. An annually recruited external financial audit firm will audit the annual financial statements of the whole Project, including those financed through Disbursement Category 2.

⁶⁴ (a) The fiduciary and environmental and social requirements set out in ESF.

⁶⁵ https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines

69. In case of activation, additional indicators related to CERC will be added to the Project's Result Framework through restructuring. The CERC activities will be part of the regular Project monitoring and will be assessed as part of the final project evaluation.

70. Given the large number of post-disaster activities that may be initiated shortly after the CERC activation – in addition to those already under implementation – MPWT and PTRI may hire additional technical consultants to support supervision and procedural compliance efforts, particularly as they pertain to fiduciary and ESF.

J– Closing of CERC and EAP Implementation

71. It is noted that a CERC will be activated at any time during project implementation. Considering that the CERC is expected to be implemented in a relatively short time, the Project's implementation will continue after the EAP has been completed. Accordingly, all technical, fiduciary and ESF requirements related to the CERC will be finalized within six months of the end of implementation of the EAP and should not go beyond the disbursement deadline date of SEARECC. These include:

- Fiduciary Requirements, such as Audit Report, interim unaudited financial reports, and proper documentation and closing of CERC designated account.
- M&E Requirements, such as final evaluation report of CERC, and any other technical and social and environmental reports agreed upon CERC activation.

72. In case of a surplus of goods, the Bank may allow their use by the Government providing their use do not contradict any Bank ESF.

73. Within four months after end of implementation of the EAP, DoF will document expenditures, verify inventories, and finalize payments. On receipt of the final progress and financial reports on the activities undertaken under the agreed EAP, the Bank (through the Country Director) will notify the GoL that the CERC for the specific eligible expenditure is closed, and that no further withdrawals will be permitted for purposes of the specific emergency (this may not apply in the situation described in paragraphs 65 and 66 of this manual).

ANNEX 16: Details of Estimated ESMF Budget

Proposed ESS Budget for Northern Lao PDR Regional Economic Corridor and Connectivity Project (NLRECC), 2021-2027											
No.	2.4.5 Environmental and Social capacity building	Note	Sources of funds	Budget FY 2021	Budget FY 2022	Budget FY 2023	Budget FY 2024	Budget FY 2025	Budget FY 2026	Budget FY 2027	Total (USD)
I.	Preparation Period of ESF requirement of NLECP include NR 2 (World Bank New Project) (under LRSP 2+AF Budget)			216,000	130,000						346,000
1.1	International Environmental Risk Management Consultant		IDA-LRSP 2-AF	36,000	10,000						46,000
1.2	Senior Environmental and Social Safeguards National Consultant		IDA-LRSP 2-AF	30,000	40,000						70,000
1.3	Senior Social Risk Management Consultant		IDA-LRSP 2-AF	60,000	10,000						70,000
1.4	Junior Community Engagement Consultant		IDA-LRSP 2-AF	15,000	10,000						25,000
1.5	Junior Field Survey Consultant		IDA-LRSP 2-AF	15,000	10,000						25,000
1.6	EDPD/PTRI conduct field visit to data collection AND consultations (include many plans, Inception Report, Pre-ESIA,RAP, EGDP, BMP,LMP, CSHP,SEP, ESCP, and etc..)		IDA-LRSP 2-AF	60,000	50,000						110,000
II.	Construction Period of ESF requirement of NLECP include NR 2 (World Bank New Project) (Request specific budget for this project)						102,000	13,000	-	-	1,587,000
2.1	Consultants and Supporting Staffs										722,000
2.1.1	ESS Consultant Team Leader	1				90,000	60,000	30,000	10,000	10,000	200,000
2.1.2	Social Consultant	1				72,000	48,000	16,000			136,000
2.1.3	Environmental Consultant	1				48,000	48,000	24,000	16,000	16,000	152,000
2.1.4	Supporting staffs	8				48,000	48,000	48,000	30,000	30,000	204,000
2.1.4	Accountant	1				6,000	6,000	6,000	6,000	6,000	30,000
2.2	Implementation, Internal Monitoring and Evaluation of ESMF (RAP, EGEP, ESMP, SEP)										865,000
2.2.1	Training/Capacity Building on the WB ESS and ESMF implementation for Project Implementing Agencies (PIA)	2 times per year				25,000	25,000	25,000	5,000	5,000	85,000
2.2.2	Implementation of RAP (DMS, consultations with PAPs, development and approval of compensation unit rate, field verification, compensation, resettlement and livelihood activities)					250,000	100,000	50,000			400,000
2.2.3	Implementation of GRM					30,000	10,000	10,000			50,000
2.2.4	Implementation of EGEP					20,000	10,000	10,000	10,000		50,000
2.2.5	Implementation of ESMP and Internal Monitoring (PTRI and 5 provinces)										
2.2.5.1	Internal monitoring and evaluation by PTRI						20,000	20,000	20,000	20,000	80,000
2.2.5.2	Internal monitoring and evaluation by SMWGs						50,000	50,000	50,000	50,000	200,000
III.	Procurement of Logistic Supports										115,000
3.1	Procurement for one Pick-up (full function) to field monitoring and reporting.(ESMF task)	1 unit				55,000					55,000
3.3	Procurement of motobikes for 5 provinces+PTRI	6 units				12,000					12,000
3.4	Procuring office supplies for supporting staffs and consultants of EDPD/PTRI and DPWTs					35,000					35,000
3.5	Procurement for VC equipments (2 sets for new Provinces LNT and LPB), but ODX, PSL and XYBL got from the LRSP 2's budget (already)						13,000				13,000
Total Budget Plan 2021-2027 (I+II+III)											2,048,000
IV	Contingency (10%)										204,800
Total Estimated ESMF Budget											2,252,800
Notes: This budget is ONLY for ESS activities under PTRI NOT including budget for activities and procurement of equipments for other PIAs that linked to the findings of ESMF.											

ANNEX 17: Terms of Reference for the Feasibility Study and Environment and Social Impact Assessment (ESIA)



LAO PEOPLE'S DEMOCRATIC REPUBLIC
PEACE INDEPENDENCE DEMOCRACY UNITY PROSPERITY

Ministry of Public Works and Transport

Terms of Reference

Feasibility Study and Environment and Social Impact Assessment (ESIA) Study for the Improvement and Maintenance of National Road 2 in Lao PDR

Country: Lao People's Democratic Republic
Project Name; SEARECC Project

DRAFT_November 2021

Terms of Reference

Feasibility Study and Environment and Social Impact Assessment (ESIA) Study for the Improvement and Maintenance of National Road 2 in Lao PDR

BACKGROUND

1) Introduction. The Lao-China railway⁶⁶ is expected to start its operation at the end of 2021. The railway can be potentially transformational – boosting growth, attracting foreign direct investment (FDI), and repositioning the economy. To capture the economic benefits that come with the railway, the Government of Lao (GoL) is conceptualizing a complementary investment project with a multi-sectoral approach. The project aims to develop the economic corridor in three main components: (i) climate resilient transport corridor development; (ii) productive sector enhancement and skill development; and (iii) institutional strengthening, policy reforms, and capacity building.

PROJECT DESCRIPTION

2) The proposed SEARECC seeks to improve regional and domestic transport connectivity and the cross-border trade efficiency for beneficiaries in selected corridors in Northern Lao PDR, and to provide immediate and effective response in case of an Eligible Crisis or Emergency. The project consists of 5 Components:

Component 1: Lao PDR and Regional connectivity enhancement. This Component will support MPWT to improve connectivity in the northern part of Lao PDR to provide safe, efficient, climate-resilient, and reliable infrastructure for both international transit routes and domestic connectivity through:

- v. **Sub-Component 1.1: NR2W climate resilient improvement and maintenance.** This sub-component supports the improvement and maintenance of condition, safety, and climate resilience of selected sections of NR2W⁶⁷ to meet the Asian Highway Class III standards, including widening of the road from 6 meters to 8 meters (6 meters of the carriageway and 2 meters of shoulders-one meter each side to accommodate pedestrian's safety) and rest areas. This subcomponent will implement the Output and Performance-Based Road Contracts (OPBRC), with 3 years for construction and 7 years for operations and maintenance. This subcomponent will ensure the equal opportunity of women and men from local communities in paid jobs under the road works contracts. The Department of Road (DOR), MPWT, will be the lead implementing agency for this sub-component. Local communities, with a particular focus increasing women's voice and agency in this male dominated sector, will participate in the monitoring of the OPBRC road improvement and maintenance contracts.
- vi. **Sub-Component 1.2: Local Road climate resilient improvement and**

⁶⁶ The railway corridor in Lao PDR connects Vientiane to Boten and continue in China through Mohan to Kunming.

⁶⁷ The NR2E sections will be financed by EIB in parallel to this project.

maintenance. This sub-component supports the improvement and maintenance of climate resilience and safety of selected local roads in Phongsaly, Oudomxay, Luang Namtha, Xayabouly, and Luangprabang. The performance-based contract (PBC) approach will be used for maintenance. This subcomponent will ensure the equal opportunities of women and men from local communities in paid jobs under roads maintenance. The Department of Road (DOR) and the provincial Department of Public Works and Transport (DPWT) will be the lead implementing agency for this sub-component. Local communities, with a particular focus increasing women's voice and agency in this male dominated sector, will participate in the monitoring of the road improvement and PBC maintenance contracts.

- vii. **Sub-Component 1.3: Improvement of the border crossing facilities.** This sub-component supports the improvement of the border crossing facilities road NR2 at (a) Pang Hok in Phongsaly bordering to Dien Bien Phu, Vietnam and (b) Muang Ngeun in Xayabouly bordering to Nan province, Thailand, through the upgrade of the existing facility and provision of goods and equipment for digitization of cross-border business processes. This subcomponent will ensure the equal opportunities of women and men from local communities in paid jobs under the cross-border facilities improvement contracts. This will also be led by the DOR with support from the Department of Urban Planning (DUP), MPWT.
- viii. **Sub-Component 1.4: Implementation support and supervision consultant.** This sub-component will finance (a) implementation support and supervision consulting services for the design and supervision of the NR2, local roads, and cross-border facilities improvement, and (b). The sub-component will also support MPWT and DPWT working on the mechanism for local road maintenance planning and financing. This sub-component will ensure the equal opportunity of women and men in road work supervision.

Component 2: Logistics services development and border-crossing management. This Component will support the operations of cross-border trade and logistic development through:

- (iv) **Sub-Component 2.1: Dry ports and logistics development.** This sub-component supports MPWT to improve the efficiency and competitiveness of Logistics services in the economic corridor through: (i) formulation of policies to improve enabling environment for competitive logistics services; (ii) FS for dry-ports and consolidation locations, including the development of the Standard Operation Procedures (SOPs) for the development of dry-ports and consolidation locations; (iii) provide public utilities to the dry-ports and consolidation locations, to be developed as Public-Private Partnerships. This sub-component will be led by the DOT and involved agencies concerned at the provincial level.

- (v) **Sub-component 2.2: Regional integration and cross-border transport agreements.** This sub-component will support GoL to improve cross-border transport efficiency. The proposed activities include technical assistance to (i) establish a platform for collaboration among Lao PDR, Thailand, and Vietnam; (ii) strengthen the capacity to implement cross-border transport agreements and address cross-border transport issues, such as harmonization of heavy vehicle dimensions and standards; permitted axle loads; driver licensing; climate change; road safety; communicable disease control; and, (iii) improve legislative frameworks to support implementation of cross-border transport agreements.
- (vi) **Sub-component 2.3: Strengthening capacity CIQ and Border Management.** This sub-component covers: (i) financing technical assistance to review and improve secondary legislation in border management; (ii) providing training to strengthen institutional and operational capacity of CIQ, including communicable diseases and human trafficking; (iii) provide equipment and software customization to optimize border clearance; and (iv) promoting cross-border cooperation for improved CIQ management including information sharing. This sub-component will place a particular focus to ensure equal access to information related to CIQ for women and men. The Trade Facilitation Secretariat (TFS), MOIC, will be the lead coordinating agency for this sub-component.

Component 3: Strengthening institutional capacity and regulatory framework in agriculture, transport, and investments planning. This component will support strengthening institutional and operational capacity in agricultural development, transport sector, and investment management at national and provincial levels.

- (iii) **Sub-Component 3.1: Support on agricultural trade and SPS Management.** The scope of this sub-component, which will be led by the Department of Agriculture (DOA), Ministry of Agriculture and Forestry (MAF), is mainly grouped into two parts:

c) Capacity development to support agricultural trade will focus on improving the enabling environment for agricultural trade activities. The key activities include: (i) financing technical assistance to review and improve business process for cross border trade for agriculture products through streamlining of export and import permits, raising awareness of traders' compliance with SPS requirements, and simplifying the registration of farm inputs; (ii) providing training to strengthen operational capacity for the MAF, Provincial Agriculture and Forestry Offices (PAFOs), and DAFOs in agricultural trade promotion; and (iii) capacity development to address key gender gaps in agricultural trade including unequal access to information for women, barriers registering businesses, accessing financial credit, technology and market

d) Capacity Building for SPS Management will focus on capacity building of MAF, Ministry of Health (MOH), PAFOs, District Agriculture and Forestry Offices (DAFOs), and border checkpoints for compliance of SPS requirements and reduce trade barriers in the targeted provinces and districts. Mainly, the activities cover (i) financing technical assistance to review and improve legislations relevant for SPS; (ii) providing training to strengthen institutional and operational capacity in SPS management; and (iii) financing technical assistance to carry out a laboratory assessment for upgrade and testing services.

- (iv) **Sub-Component 3.2: Support on Multi-Modal Transport.** This sub-component, led by DPC, MPWT, includes (a) review and development of the legal framework, regulations, tools, and guidelines to support the implementation of multi-modal transport law, logistics development strategy and transport sector strategy, (b) development of multi-modal transport network management framework and system, including investment planning for logistics sector development, (c) strengthening capacity for planning and implementation of the multi-modal transport network management framework and logistics development management at both national and provincial levels, (d) implementation of road safety action plan, (e) integrate disaster risk and climate change considerations into transportation and logistics investment decision-making processes, and (f) capacity development to address the gender gaps in the transport sector, including integrating gender and social inclusion (GESI) considerations in developing regulations and guidelines to support the implementation of the law and strategy. The sub-component will also develop and roll out annual advocacy and social and behavior change communication (SBCC) campaigns to support necessary changes for raising women's agency and voice, to change social norms to increase women's mobility and access to transport.

Component 4: Project Management. This Component will provide technical and operational assistance for strengthening the environmental and social capacity of agencies concerned at national and local levels, the day-to-day management, monitoring and evaluation of the Project, and the carrying out of technical and financial audits. In addition, this component will provide support for compliance monitoring for environmental and social aspects. The sub-component will also strengthen the resilience of communities living along the project roads against human trafficking, communicable disease, road safety, sexual exploitation abuse and harassment through campaigns, training, dissemination of information. The following documents, which will also be prepared as part of the project requirement, include Project Procurement Strategy for Development (PPSD), including procurement plan, and Project Operational Manual (POM) - containing detailed information on the project implementation arrangements and processes, including coordination mechanism, project management, Monitoring and Evaluation (M&E)

/reporting arrangement, procurement, financial management, disbursements, and environment and social.

Component 5: Contingency Emergency Response. This component will provide an immediate response to an eligible crisis or emergency, as needed. In the event of an eligible crisis or emergency, the World Bank can re-allocate project funds to support emergency response and recovery.

3) As a part of the regional and domestic connectivity, National Road 2 (NR2) is a main transport corridor that connects Lao PDR with Vietnam and Thailand and cuts across the Lao-China railway and expressway, which are both under construction. The NR2 corridor is one of the government's key investment priorities, as it was submitted to be a part of the Master Plan for ASEAN Connectivity (MPAC) and was identified as one of the 19 initial pipeline projects across ASEAN countries.

Figure 1 National Road 2 Corridor and Regional Setting



Source: World Bank

Figure 1 gives an illustration of NR2 Corridor and its regional setting.

4) A pre-feasibility study (PFS)⁶⁸ has identified the need to improve (including widening, rehabilitation, and reconstruction) the existing NR2, in North West Lao PDR, Oudomxay province. NR2 is about 230 km in length, comprising NR2 West (NR2W, 130 km) and NR2 East (NR2E, 100 km). Undertaking a detailed feasibility study of NR2, including preparation of a Conceptual Design, as well as a detailed environment and social assessment (ESA) to mitigate potential negative impacts are the most critical next steps.

5) GoL intends to improve the NR2, using as an Output- and Performance-Based Road Contract (OPBRC)⁶⁹, with a 10-year contract life, including an estimated 3-year construction phase. An OPBRC approach, in line with the ones adopted for NR13 North and South, is envisaged for the Project.

6) The Project is aligned to Lao national policies and is also important from a regional development perspective, as it provides a link from Thailand to Vietnam through Northern Lao PDR. NR2 is one of the few remaining routes of the Asian Highway Network (AHN) which still falls below the minimum ASEAN Highway Standards. The road improvement is also seen as necessary to support the daily

⁶⁸ ASEAN Initial Priority Infrastructure Project Pipeline. Pre-feasibility report on the upgrading of Lao PDR National Road No. 2. EY, December 2019.

⁶⁹ World Bank. Request for Bids - Works – Roads (Output- and Performance-Based Road Contracts), July 2020. <https://www.worldbank.org/en/projects-operations/products-and-services/brief/procurement-new-framework>

livelihood of local communities who rely on it and to allow them to potentially benefit from future economic growth resulting from the Lao - China HSR station to be located at Muang Xai, Oudomxay Province.

7) Further to the interconnectivity of the NR2 and the Lao-China Railway at Muang Xai, a lack of accessibility to the railway was identified and measures proposed in order for Lao PDR to fully benefit from the new corridor⁷⁰. Measures identified include reforms and trade facilitation, but also the need for infrastructure to access the railway stations between Boten and Vientiane, namely: Boten, Nateuy, Na Mor, Muong Xai, Muong Nga, Luang Prabang, Muang Kasi, Vang Vieng, Phonthong and Vientiane. Improving accessibility to the railway in the areas with most economic development potentials, through improvement of priority infrastructure is one of the project goals.

8) Assumptions on possible future traffic numbers on NR2 were made under the Pre-feasibility Study, by applying different growth rates to the 2015 traffic numbers (which are available from MPWT), resulting in 1,600 to 2,400 vehicles per day (vpd), when the upgraded road fully opens in 2026, respectively for the low- and high-traffic growth scenarios. Such traffic numbers are relatively low compared to other national roads in the region, but did not take into account the possible generated traffic related to the Lao-China Railway.

9) Construction and maintenance of the Project are expected to be challenging due to the mountainous terrain in some sections and climate related conditions. It is intended that the Project should adhere to Class III standard of MPWT, as well as to meet the requirements of a resilient road (See, for example, Lifelines: The Resilient Infrastructure Opportunity, World Bank, 2019)⁷¹.

10) In addition, the EDPD/PTRI of MPWT has environmental and social (E&S) risk management instruments: (1) Environmental and Social Management Framework (ESMF), (2) Stakeholder Engagement Plan (SEP), and (3) Environmental and Social Commitment Plan (ESCP), and will disclose and consult on these instruments with stakeholders by the project appraisal. The draft ESMF includes: (i) Preliminary Environmental and Social Impact Assessment (Pre-ESIA) for the NR2 West Corridor (190km) that the Bank will be financing; (ii) framework(s) for managing E&S aspects of feeder roads/local roads in Phongsaly, Oudomxay, Luang Namtha, Xayabouly and Luangprabang Provinces to determine geographic location-specific risks and impacts, for border facilities in Phongsaly and Xaybouly Provinces, and for other physical facilities to which the Bank will provide financing for TA (e.g., dry ports, market places, consolidation centers, etc.); (iii) biodiversity management plan (BMP) template; and (iv) budget, staffing, and operational arrangements for project E&S risk management, including a training plan informed by the capacity needs assessment, all to be funded by the Client as part of the project.

⁷⁰ From landlocked to land-linked unlocking the potential of Lao-China rail connectivity, Washington, DC: World Bank. © World Bank.

⁷¹ Hallegatte, Stephane; Rentschler, Jun; Rozenberg, Julie. 2019. Lifelines: The Resilient Infrastructure Opportunity. Sustainable Infrastructure. Washington, DC: World Bank. © World Bank. <https://openknowledge.worldbank.org/handle/10986/31805> License: CC BY 3.0 IGO.”

Preparation of Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP)

11) The consultant shall prepare an Environmental and Social impact assessment (ESIA) to identify and assess the potential environmental and social impacts of a proposed project, evaluate alternatives, and design appropriate mitigation, management, and monitoring measures. The ESIA will include an ESMP that will provide measures to be taken during the project's pre-construction, construction and operation phases. The ESIA and ESMP should include inter alia the contents included in ESS1 – Annex 1. Environmental and Social Assessment of the WB's ESF ("D. Indicative outline of ESIA" and "E. Indicative Outline of ESMP") which are available on WB's website⁷² and EIB's website. In preparing the ESIA, the Consultant shall carefully review E&S requirements of the GOL, WB ESF and EIB E&S policies and prepare ESIA that comply with requirements of GOL and donors in a streamline manner to avoid unnecessary repetition. *The consultant scope of work includes to prepare IEE for submission to the PONRE/GOL for clearance and ECC issuance.*

12) The ESIA preparation should consist the following key tasks:

Task 1: Review of Proposed Project Details. The task involves understanding the proposed project, its various components and the conceptual design of the proposed improvement works of the NR2. Focus should be given to the components that potentially interact with environmental and social resources of the project area and its associated facilities, including workers camps, borrow pits, quarry site, batching plant (if any information), sources of construction materials, etc.

Task 2: Scoping of E&S Impacts

The objective of this task is to determine the footprint of the project and identify significant risks and impacts and the area of influence. During this phase, the following three subtasks will be carried out in close consultation and agreement with EDPD/PTRI, WB and EIB.

- Key activities of the project will be identified and the interaction between those activities and key environmental resources/elements will be charted out in a matrix. A long list of the potential environmental and social issues, risks and impacts likely to arise because of the project will be developed. Subsequently, the significant potential impacts will be short listed while the non-relevant and or insignificant impacts will be screened out, based upon their nature and severity.
- The area of influence (AOI) of the project activities will be determined. The consultants will overlay the Project components and the AOI on suitable maps.
- The stakeholder analysis/mapping will also be carried out. The key stakeholders will be identified and their respective importance and influence on the Project will be analyzed. A draft Stakeholder Engagement Plan (SEP) with a tentative list of stakeholders and Environmental and Social

⁷²https://www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-standards?cq_ck=1522164538151#ess1

Commitment Plan (ESCP) should be prepared as soon as possible to provide guidance for consultation and information disclosure during the preparation of various E&S documents/instruments. The consultant will also need to identify subgroups (age, gender, and by residential location etc.) within each stakeholder group that face different constraints with respect to access, safety, affordability, availability, and health impacts and have different demands.

Under this phase the consultant will prepare a work plan to comply with both the GOL, WB and EIB requirements in a streamlined manner so as to avoid unnecessary repetition.

Task 3: Review of Policy, Legal, and Institutional Setting: This task will review information on the national legal and institutional setting relevant to the E&S standards applicable to the project as well as the WB and EIB E&S standards to be applied to the project. Gap analysis to identify key different between the WB and/or EIB E&S standards and the national laws and regulation, if any, will be also be carried out.

Task 4: Analysis of Environmental and Socioeconomic Baseline: The baseline information provided in the PFS (see *Attachment 3 for a brief*) should be reviewed and utilized as appropriate. In the planning and scoping exercise, the consultant is expected to propose environmental and socioeconomic baseline data collection required for ESIA. Basic data regarding physical, biological, and sociological characteristics of the project areas, especially those related to locations and sensitivities of the conservation and protection areas along the projects sites and corridors including the borrow pits and disposal of wastes as well as the socioeconomic data regarding ethnic groups, gender issues, and other social and health aspects should be presented. This task shall be carried out through a combination of various methods for desk reviews, field surveys, data collection, analysis and assessment. The field tools would include various methods e.g. field surveys, instrument monitoring (if needed), focus group meetings, workshops, questionnaires, interviews, etc. The data collection and assessment should be carried out in a consultative and participatory manner, closely involving local communities and other concerned stakeholders.

Task 5: Analysis of Alternatives: Under this task, project alternatives, including no-project alternative, will be analyzed for their technical, economic, financial, environmental and social considerations. Through this analysis, justification and rationale of the selected alternative will be provided. This is to minimize adverse impacts on the local people, community and their environment.

Task 6: Assessment of Environmental and Social impacts: This builds upon the initial scoping and analyses carried out during Scoping (Task 2). This task aims to assess all direct and indirect impacts and risks in both the short-term and the long-term resulting from both construction and operation phases of the proposed project. It should also include consideration of cumulative, transboundary and indirect risks and impacts and any associated facilities, particularly considering that this road provides a critical link in improving cross border connectivity and trade and logistics between Thailand, Lao PDR and Viet Nam.

This task involves using an internationally recognized methodology to identify and characterize each potential impact of the project on various aspects of physical,

biological, and socioeconomic environment. Tools like Leopold Matrix will be used to determine the interaction of the proposed activities with various aspects of environment. Based on its nature and likelihood of occurrence, significance of each potential impact will be assessed as severe, moderate, mild, or negligible. The consultant will use both qualitative and quantitative (where required) approaches to assess the potential impacts, and will distinguish between significant positive and negative impacts, direct and indirect impacts, and immediate and longer-term impacts, particularly those adverse impacts which are likely to be unavoidable or irreversible. Apart from the generic impacts of the Project, site-specific impacts will also be assessed. As such, sensitive receptors located on site, and its surroundings will be identified, and each potential impact will be assessed separately in the AOI.

Particular attention will be paid to analysis of potential risks and impacts on occupational health and safety (OHS) and community health and safety (CHS) as well as risks and impacts of potential labour influx on the local community including SEA, GBV and VAC.

In addition, the consultant will work closely with the engineering design team to assess the impacts on the climate and to analyze climate adaptation. For the former, estimated gross emissions of greenhouse gases (GHGs) as a result of the Project and baseline emissions will be provided by the project. For the latter, any special designs (e.g. drainage and pavement) for adapting to climate change (e.g. flooding and extreme heat) considered during the design of this proposed project will be discussed and introduced in the ESIA. The ESIA team will work closely with design team to integrate relevant measures into the road design.

Task 8: Preparing Environmental and Social Management Plan (ESMP): An ESMP shall covers mitigation measures and monitoring requirements for pre-construction (such as design, utility relocation, and site-preparation), construction and operational (or maintenance) phases. The consultant will also ensure that requirements for contractor to prepare Contractor-ESMPs will be explicitly mentioned. An ESMP will also be made a part of the bidding documents for work contracts and will be an obligation of the contractors to implement. It will provide mechanisms and institutional arrangement for implementing the mitigation measures, conducting monitoring, reporting and capacity building programs.

Task 9: Grievance Redress Mechanism (GRM): This task shall be carried out to present information on GRM process to be established and operations throughout the project cycle. MPWT has established and applied GRM processes for existing road projects and they will be adjusted and applied to the proposed project as appropriate.

Task 10: Assessment of Implementation Arrangement and Capacity Building requirement, and estimation of budget for ESIA and ESMP: This task will provide information on the responsible agencies and entities including a brief assessment of their implementation responsibilities. If it is considered inadequate, the Consultant shall prepare a capacity building plan to ensure full compliance with the E&S requirements including monitoring and reporting. A subsection on ESIA and ESMP implementation budget will be necessary.

Task 11: ESIA Consultations and Information Disclosure: Subsequent to the stakeholder analysis carried out during Task 2 described earlier, the consultant shall

coordinate with the MPWT/PTRI in carrying out stakeholder consultation meeting/s and/or other forms of consultation on ESIA, ESMP and other associated activities (i.e, RAP, EGEP preparation) to promote and ensure active and inclusive process of participation by various groups of stakeholders including the poor and vulnerable groups⁷³ in preparation, implementation and maintenance of the road works. Relevant materials will be provided to these groups in a timely manner prior to consultations and in a form and language that is understandable and accessible to the groups being consulted. Objective, process, outcome and consultation records of the stakeholder consultations carried out shall be described in the ESIA. In coordination with MPWT/PTRI, the consultant shall ensure that the disclosure of ESIA and other E&S instruments meet the GOL, WB and EIB requirement. The executive summary of all ESA reports shall be translated in local language and disclosed.

REQUIRED EXPERTISE

13) The Consultant is expected to be a firm or an association of consulting firms with the appropriate capabilities and experience to execute the services. Due to current COVID restrictions, it is essential for the Consultants to mobilize the required staff, including in Lao PDR. For this purpose, the Consultants are required to demonstrate availability of qualified international and national staff to carry out the assignment in Lao PDR. Consultants are strongly encouraged to create JVs or sub-consultancy arrangements in this context.

14) The following requirements shall apply to the firms to qualify for the assignment:

Criterion 1: Have at least 10 years of general experience of proven international experience in carrying out and preparing feasibility studies, environmental and social assessments for construction/ rehabilitation projects; such experience in South/ South East Asia is a strong asset;

Criterion 2: Minimum 3 contracts carried out in the past 10 years as Lead Agency, performing feasibility studies and environmental and social assessments and design for a major country's highway, or of comparable value, scope and nature.

15) The Consultant shall propose a project team consistent with the services required. It is anticipated that the following key experts will be required:

1. ESA Study Team Leader (International)
2. Environmental Specialist (ES) National
3. Social Specialist (SS) National
4. Resettlement Specialist (RS) National

⁷³ The vulnerable group includes but not should not be limited people with disability (both physical and mental), female heads of households with dependents to look after, elder people with no social welfare and network to support, ethnic households and persons)

16) Further to the Key Experts identified and listed above, it is expected that both the technical as well as the ESA tasks shall be carried out by a qualified team of additional non-key-experts, including roads designers, Cad-draughtsman, traffic and socio-economic survey team social specialists on resettlement, labour, ethnic groups, stakeholder engagement, possibly community health and safety, environmental experts and others. The Consultant shall use his own estimate and judgement to propose a project team consistent with the services required. The Consultants shall consider in his team composition the participation of experts readily available and carefully estimate the possibility of international experts' mobilization in line with the COVID-19 related travel restrictions.

Staff Qualifications

17) ESA Study Team Leader (International).

S/he will lead the ESIA and preparation of ESIA report, IEE, ESMP, RAP/ARAP, EGEP, GAP, SEP, and LMP. TL work closely with ES, SS and RS to a) design environmental and social risks and impacts assessment process and tools including questionnaires to be used by enumerators for data collection and household interviews, b) ensure adequacy and consistency between environmental and social data as well socio-economic information across ESIA report, IEE, ESMP, RAP/ARAP, EGEP, GAP, SEP, and LMP. S/he will supervise and provide technical guidance for all the consultant team members to ensure the expected outputs are delivered in a timely and satisfactory manner.

- Master's degree in environmental management, environmental engineering or other relevant fields;
- 10 years-experience in conducting ESIA and producing ESIA report and ESMP for infrastructure including transport projects with proven track records;
- Knowledge on the World Bank safeguard policies (OP 4.01, OP 4.12) and the relevant government legislation would be an advantage;
- Strong spoken and written English proficiency with ability to produce ESIA report and ESMP in English of acceptable quality;
- Ability to plan, conduct and supervise the team and process of conducting ESIA and preparing ESIA and producing ESIA report and ESMP (with social inputs from Social Management consultant to be hire as one of the team members) acceptable to the World Bank or the other donors and development partners with minimal supervision and intervention;
- Good interpersonal skill with culturally sensitive behavior to work and interact with a range of project stakeholders from local community to central government officials and international experts in a consultative and participatory manner; and
- Excellent computer (Excel, Word, Power Point, Access) skills.

18) Environmental Specialist (ES).

This specialist will be responsible for preparation of all E&S documents related to ESIA, ESMP, and other documents related to environmental aspect and he/she shall work closely with the Social Impact Specialist (SIS) and the Occupational, Health, and Safety (OHS) specialist (see below). A minimum qualification are as follows:

- A degree or equivalent in engineering and/or environmental science or in related other disciplines with minimum 10 years of experience of which 5 years on environmental impact assessment of road (or similar) development projects.
- Related experience of at least 2 years in developing countries and/or Lao PDR is essential. The candidate must have full knowledge of the World Bank's guidelines, procedures and operational policies/directives. Experience of working as environmental expert in at least one World Bank funded project is required. The candidate must have the experience of preparing environmental management plans and supervising & monitoring implementation of the plans, especially those related to mitigation of potential negative impacts during construction of road projects in Lao PDR.
- Knowledge of spoken and written English; familiarity with government and foreign aid project operations.

19) Social Specialists (SS)

This specialist will be responsible for preparation of all E&S documents related to social aspects i.e. RAP/ARAP, EGEP, GAP, SEP, and LMP, and other documents related to social aspect. He shall coordinate the work of the social team (experts on resettlement, labour, ethnic groups, stakeholder engagement, and possibly community health and safety) to be engaged by the Consultant and he/she shall work closely with the ES and the OHS specialist. A minimum qualification are as follows:

- A degree or equivalent qualification in social sciences or in related disciplines with 10 years' experience out of which about 5 years' experience of working as social/resettlement/gender/ethnic group expert for road/engineering projects.
- Knowledge of the World Bank's related guidelines and operational directives, and must have worked as social/resettlement expert on at least one World Bank funded project. The candidate should have worked among the project affected persons and should be conversant with household census interviews, land use surveys, legal analysis of land records and should have organized participatory consultation workshops.
- Knowledge of spoken and written English; familiarity with government and foreign aid project operations.

20) Resettlement Specialist (RS)

- A degree or equivalent qualification in social sciences or in related disciplines with 10 years' experience out of which about 5 years'

experience of working as social/resettlement/gender/ethnic group expert for road/engineering projects.

- At least 8 years experience in conducting socio-economic or baseline surveys, and/or IOL/DMS for development projects
- Solid experience in interview and consultation with affected households and persons
- Proven experience in consultative engagement at the household level with a view to facilitating the identification of E&S response options and negotiation skills to enable households and the Project Staff reach agreed positions necessary to determine project responsibilities.
- Understanding of World Bank processes on land acquisition and resettlement, resettlement planning, due diligence and corrective action plans

21) ESA supporting team:

A team of specialists on labour, gender, ethnic groups, stakeholder engagement, GIS, community health and safety, field data collection collector and enumerators and outreach personnel. Women and come from ethnic groups are strongly encouraged to join the consultant team.

ESTIMATED DURATION OF THE SERVICES

22) The duration of services is expected to be 12 months.

REPORTS

23) The Consultant shall submit to the MPWT and PTRI/EDPD the following reports in ten copies plus electronic files:

(a) Inception Report, presenting initial findings and detailed planning of all activities and outputs, due within 30 days from commencement;

(b) Monthly Progress Briefs, due within the fifth day of each calendar month, in electronic files only;

(c) A Data Collection report, including all the results of the field data collection, within 3 months of commencement;

(d) A Priorisation Report, including all the data collected on the access roads to the railway Corridor and recommending selected roads for conceptual design, within 4 months of commencement;

An Interim Report, due upon completion of the surveys and investigations, within 5 months of commencement, including, inter alia, a number of draft E&S reports as identified in the Workstream 10 above and/or other documents as agreed with WB, EIB, and/or GoL

(g) Conceptual Designs and Draft bidding documents, due upon completion of the Engineering Studies, within 8 months of commencement, with due consideration of the findings of the environment and social studies;

(h) A Draft Final Report, due upon completion of all the studies and assessments, including, inter alia, the revised bidding documents, within 11 months of commencement. This includes those related to the E&S documents as described in the Workstream 10 that incorporate results from stakeholder consultations;

(i) A Final Report, within one month of receipt of comments from DOR, World Bank, and EIB. This includes those related to the E&S documents as described in the Workstream 10.

(j) Environmental Compliance Certificate (ECC). An Environmental Compliance Certificate (ECC) will be issued by PONRE to approve the final IEE reports. The Consultant shall prepare and submit an IEE reports to PONRE for review and approval in compliance with The Decree on Environmental Impact Assessment No. 21/PMO of 31 January 2019.

ANNEX 18: Additional Social Baseline Data

Table 1 Ethnicity of villages along NR2W

No	District/Village	Ethnic Group, persons																				
		Lao	Tai	Phouthay	Lue	Ngoaun	Yang	Thaineau	Kh mou	Pray	Lamed	Yrou	Griang	Hmong	Ewmien	Akha	Pounoy	Lahou	Hor	Other	Unknown	Total
1	Xay District	1,215	30	20	494	-	8	2	1,935	1	-	-	-	550	-	2	124	-	23	14	47	4,465
	B. Houyhoun	0	0	1	2	0	0	0	602	0	0	0	0	62	0	0	4	0	0	0	7	678
	B. konkane	33	1	3	3	0	1	0	571	0	0	0	0	36	0	2	5	0	0	0	4	659
	B. Namon	35	0	2	148	0	0	0	229	0	0	0	0	391	0	0	6	0	0	0	11	822
	B. Tuey	488	1	4	255	0	7	1	52	0	0	0	0	28	0	0	47	0	1	14	8	906
	B. Hiepsoum	659	28	10	86	0	0	1	481	1	0	0	0	33	0	0	62	0	22	0	17	1,400
2	Beng District	366	1,508	247	7,565	4	527	1	4,086	1	-	-	-	3,244	1	5	42	-	17	20	265	17,899
	B. Bangkham	22	0	1	433	0	2	0	37	0	0	0	0	0	0	0	0	0	0	0	10	505
	B. Bangrouang	137	9	5	644	1	16	0	329	0	0	0	0	21	0	0	8	0	3	1	30	1,204
	B. Houaira	19	0	1	22	0	0	0	691	0	0	0	0	44	0	0	1	0	0	0	12	790
	B. Khonkham	1	3	0	0	0	0	0	296	0	0	0	0	2	0	0	0	0	0	0	3	305
	B. Kiewsangvan	0	0	0	1	0	0	0	292	0	0	0	0	645	1	0	0	0	3	0	9	951
	B. Kokngiew	0	0	0	0	0	0	0	410	0	0	0	0	0	0	0	0	0	0	0	0	410

No	District/Village	Ethnic Group, persons																				
		Lao	Tai	Phouthay	Lue	Ngoaun	Yang	Thaineau	Kh mou	Pray	Lamed	Yrou	Griang	Himong	Ewmien	Akha	Pounoy	Lahou	Hor	Other	Unknown	Total
	B. Nabon	18	9	0	419	1	0	0	19	0	0	0	0	30	0	0	1	0	0	0	3	500
	B. Nahouai	37	0	4	349	0	0	0	285	1	0	0	0	228	0	0	1	0	0	0	11	916
	B. Nalai	6	3	0	301	0	0	0	28	0	0	0	0	9	0	0	2	0	0	0	29	378
	B. Nammate	7	0	1	1059	0	0	0	23	0	0	0	0	85	0	0	6	0	0	0	8	1,189
	B. Namon	1	0	0	206	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	211
	B. Napanuea	9	0	2	901	0	0	0	75	0	0	0	0	36	0	0	14	0	0	0	5	1,042
	B. Pangduar	15	0	0	426	0	0	0	6	0	0	0	0	46	0	4	0	0	3	0	5	505
	B. Pangsom	0	0	0	0	0	0	0	451	0	0	0	0	0	0	0	0	0	0	0	19	470
	B. Pangthong	3	1	1	297	0	0	0	0	0	0	0	0	0	0	1	0	0	7	0	3	313
	B. Pheerhouanum	0	0	0	1	0	0	1	406	0	0	0	0	403	0	0	0	0	0	0	5	816
	B. Phonkheo	26	6	1	89	2	495	0	14	0	0	0	0	0	0	0	1	0	1	0	5	640
	B. Phonhsaat	1	0	0	195	0	0	0	325	0	0	0	0	0	0	0	0	0	0	0	0	521
	B. Phonhsai	0	0	0	0	0	0	0	0	0	0	0	0	862	0	0	1	0	0	0	9	872
	B. Phonhsi	0	0	0	0	0	0	0	1	0	0	0	0	784	0	0	1	0	0	0	7	793
	B. Phoukham	0	208	228	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	448
	B. Samkang	8	951	0	7	0	0	0	4	0	0	0	0	1	0	0	0	0	0	0	7	978

No	District/Village	Ethnic Group, persons																				
		Lao	Tai	Phouthay	Lue	Ngoaun	Yang	Thaineau	Kh mou	Pray	Lamed	Yrou	Griang	Himong	Ewmien	Akha	Pounoy	Lahou	Hor	Other	Unknown	Total
	B. Sienglae	11	0	1	235	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	1	255
	B. Somlor (ຫ້ວຍລໍ)	3	0	1	354	0	0	0	357	0	0	0	0	0	0	0	3	0	0	0	7	725
	B. Thakart	29	4	0	606	0	14	0	10	0	0	0	0	0	0	0	1	0	0	0	38	702
	B. Thamuen	4	0	1	444	0	0	0	3	0	0	0	0	38	0	0	2	0	0	0	21	513
	B. Vungva	6	311	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	2	339
	B. Yor	3	3	0	572	0	0	0	14	0	0	0	0	10	0	0	0	0	0	0	6	608
3	Houn District	8,513	414	155	838	27	5	119	15,477	6	9	-	7	3,857	33	110	586	5	17	-	325	30,503
	B. Bouamlao	511	5	0	8	0	0	1	57	0	0	0	0	1	0	0	2	0	0	0	2	587
	B. Donkeo	17	4	7	0	0	0	27	1254	0	0	0	0	0	0	0	2	0	0	0	10	1,321
	B. Donkham	2	6	0	1	0	0	0	1064	0	0	0	0	1	0	1	5	0	0	0	1	1,081
	B. Jontainuea	447	3	5	121	0	0	0	655	0	0	0	0	0	0	0	13	0	0	0	28	1,272
	B. Langching	0	0	6	0	0	0	4	417	0	0	0	0	325	0	0	0	0	0	0	8	760
	B. Nahoum	459	0	0	37	0	0	0	71	0	1	0	0	0	0	0	1	0	0	0	8	577
	B. Nakhong	888	30	3	48	2	0	0	283	0	0	0	0	7	0	9	142	0	2	0	9	1,423
	B. Namkhor	69	6	5	1	0	0	1	613	0	4	0	0	0	0	0	11	0	0	0	3	713

No	District/Village	Ethnic Group, persons																				
		Lao	Tai	Phouthay	Lue	Ngoaun	Yang	Thaineau	Khmou	Pray	Lamed	Yrou	Griang	Himong	Ewmien	Akha	Pounoy	Lahou	Hor	Other	Unknown	Total
	B. Namoun	609	168	74	107	15	0	1	562	0	2	0	0	24	12	8	159	1	1	0	8	1,751
	B. Namyon	12	15	0	0	0	0	49	1938	0	0	0	0	1	0	0	0	0	0	0	17	2,032
	B. Nanguen	17	20	1	344	0	0	0	23	0	0	0	0	29	0	0	0	0	0	0	2	436
	B. Naphang	523	20	14	22	2	0	1	142	0	0	0	0	92	0	0	25	0	0	0	6	847
	B. Nathong	3	0	0	0	0	0	0	227	0	0	0	0	319	0	0	7	0	2	0	0	558
	B. Navang	712	0	7	2	0	0	6	933	0	0	0	0	666	0	0	0	0	0	0	27	2,353
	B. Nongbouadang	37	1	7	3	0	0	0	61	0	0	0	0	1193	0	0	1	0	3	0	21	1,327
	B. Oudom	28	1	2	0	0	0	2	1146	0	0	0	0	0	0	0	0	0	0	0	2	1,181
	B. Phane	804	10	6	38	3	0	6	586	2	0	0	0	12	0	24	92	3	0	0	25	1,611
	B. Phonesavan	402	57	1	21	0	3	0	1101	0	0	0	1	37	1	3	18	0	0	0	34	1,679
	B. Phonesavang	822	1	0	3	0	0	7	698	0	0	0	0	0	0	3	0	0	0	0	6	1,540
	B. Phonesavat	651	13	0	18	0	2	1	62	0	0	0	0	23	0	0	3	0	0	0	49	822
	B. SibounHouang	1309	0	7	22	2	0	1	2027	0	0	0	0	750	18	0	2	0	6	0	23	4,167
	B. Vangtang	1	0	1	5	0	0	6	583	0	0	0	0	350	0	6	1	0	0	0	33	986
	B. Vunglor	190	54	9	37	3	0	6	974	4	2	0	6	27	2	56	102	1	3	0	3	1,479
4	Pakbeng District	1,988	9	12	152	2	-	6	4,408	1	1	3	-	679	-	1	11	-	8	-	206	7,487

No	District/Village	Ethnic Group, persons																				
		Lao	Tai	Phouthay	Lue	Ngoaun	Yang	Thaineau	Kh mou	Pray	Lamed	Yrou	Griang	Himong	Ewmien	Akha	Pounoy	Lahou	Hor	Other	Unknown	Total
	B. Done sa at	44	0	0	1	0	0	0	1079	1	0	0	0	119	0	0	2	0	0	0	16	1,262
	B. Houayxaengkham	11	0	0	4	0	0	1	538	0	0	0	0	1	0	0	0	0	6	0	6	567
	B. Kaengxang	164	3	4	30	1	0	0	1094	0	0	0	0	10	0	0	0	0	0	0	6	1,312
	B. Pak ngeui	558	0	0	0	0	0	2	56	0	1	0	0	0	0	0	0	0	0	0	114	731
	B. Pakbaeng	1125	6	0	30	1	0	3	601	0	0	3	0	103	0	1	0	0	0	0	51	1,924
	B. Xaixana	86	0	8	87	0	0	0	1040	0	0	0	0	446	0	0	9	0	2	0	13	1,691
5	Ngeun District	1,111	12	11	4,992	18	-	-	2,942	6	-	-	-	3,081	-	-	13	-	16	-	155	12,357
	B. Hom xai	10	0	0	5	0	0	0	542	0	0	0	0	0	0	0	0	0	0	0	31	588
	B. Huay phueng	7	0	0	0	0	0	0	2	0	0	0	0	519	0	0	1	0	0	0	2	531
	B. Kang	10	1	3	0	0	0	0	368	0	0	0	0	0	0	0	0	0	0	0	8	390
	B. Khon	60	0	0	1290	0	0	0	4	1	0	0	0	0	0	0	1	0	2	0	10	1,368
	B. Luang	129	1	0	727	0	0	0	2	0	0	0	0	1	0	0	5	0	0	0	10	875
	B. Na nhang	21	0	0	735	2	0	0	16	3	0	0	0	4	0	0	2	0	0	0	16	799
	B. Nam nguen	532	3	2	225	9	0	0	23	0	0	0	0	1410	0	0	2	0	14	0	15	2,235
	B. Nam thon	5	0	2	16	0	0	0	564	0	0	0	0	0	0	0	0	0	0	0	2	589

No	District/Village	Ethnic Group, persons																				
		Lao	Tai	Phouthay	Lue	Ngoaun	Yang	Thaineau	Khmou	Pray	Lamed	Yrou	Griang	Himong	Ewmien	Akha	Pounoy	Lahou	Hor	Other	Unknown	Total
	B. Parkjeng	24	0	1	500	0	0	0	145	0	0	0	0	1	0	0	0	0	0	0	18	689
	B. Pha daeng	15	0	0	7	0	0	0	76	0	0	0	0	904	0	0	0	0	0	0	5	1,007
	B. Pheir ngam	156	0	0	694	3	0	0	59	0	0	0	0	21	0	0	2	0	0	0	5	940
	B. Py myy	75	7	2	769	3	0	0	20	2	0	0	0	0	0	0	0	0	0	0	14	892
	B. Thong	67	0	1	24	1	0	0	1121	0	0	0	0	221	0	0	0	0	0	0	19	1,454

Source: data from Lao Housing and Population Census 2015.

Table 2 Number of people engaged in each livelihood activity of villages along NR2W

No.	District/Village	Main activity 12 months before the census of people 10 years old and older, persons												
		Government employee	Private employee	State enterprise employee	Employer	Own account worker	Unpaid family worker	International or NGO	Unemployed	Student	Household duties	Other	Not stated	Total
1	Xay District	231	216	12	13	832	928	-	59	955	149	138	37	3,570
	B. Houyhoun	5	0	1	0	110	231	0	0	115	14	13	2	491
	B. konkane	30	3	0	4	101	151	0	1	222	5	16	3	536
	B. Namon	10	2	3	0	178	246	0	15	156	0	4	13	627
	B. Tuey	90	54	2	2	204	191	0	16	148	8	42	6	763
	B. Hiepsoum	96	157	6	7	239	109	0	27	314	122	63	13	1,153
														-

No.	District/Village	Main activity 12 months before the census of people 10 years old and older, persons												
		Government employee	Private employee	State enterprise employee	Employer	Own account worker	Unpaid family worker	International or NGO	Unemployed	Student	Household duties	Other	Not stated	Total
2	Beng District	854	312	19	20	3,723	5,186	10	151	3,017	57	960	211	14,520
	B. Bangkham	41	2	2	0	112	151	5	6	67	4	39	0	429
	B. Bangrouang	235	14	5	0	249	83	4	27	268	9	120	17	1,031
	B. Houaira	64	5	2	1	140	151	0	24	191	1	59	4	642
	B. Khonkham	11	3	0	0	74	39	0	12	68	1	24	1	233
	B. Kiewsangvan	10	0	0	1	172	335	0	6	179	2	4	7	716
	B. Kokngiew	3	0	0	0	73	156	0	2	72	14	0	6	326
	B. Nabon	22	26	2	0	114	140	0	2	63	6	23	9	407
	B. Nahouai	66	0	2	0	222	213	1	6	146	0	54	13	723
	B. Nalai	17	49	0	1	79	104	0	2	40	3	33	0	328
	B. Nammate	38	46	2	1	285	330	0	10	268	3	49	10	1,042
	B. Namon	7	4	0	1	48	83	0	1	36	0	1	1	182
	B. Napanuea	42	29	1	3	230	295	0	7	159	0	107	10	883
	B. Pangduar	13	33	1	4	91	173	0	6	65	2	25	2	415
	B. Pangsom	1	0	0	0	84	170	0	0	78	1	7	3	344
	B. Pangthong	9	7	0	0	81	119	0	0	31	0	9	19	275
	B. Pheerhouanum	3	0	0	0	122	273	0	5	151	0	27	14	595
	B. Phonhkeo	30	12	0	2	149	233	0	2	64	1	42	11	546
	B. Phonhsaat	10	0	0	1	110	200	0	0	112	2	11	2	448
	B. Phonhsai	18	0	0	0	111	210	0	2	166	1	45	21	574
	B. Phonhsi	7	2	0	2	133	240	0	2	128	0	16	8	538
	B. Phoukham	4	0	0	0	110	164	0	1	63	0	19	11	372
	B. Samkang	54	9	1	0	204	345	0	4	163	4	41	7	832
	B. Sienglae	31	2	0	0	86	42	0	3	18	2	32	0	216

No.	District/Village	Main activity 12 months before the census of people 10 years old and older, persons												
		Government employee	Private employee	State enterprise employee	Employer	Own account worker	Unpaid family worker	International or NGO	Unemployed	Student	Household duties	Other	Not stated	Total
	B. Somlor	19	2	0	0	167	214	0	11	107	0	64	7	591
	B. Thakart	37	33	0	1	167	220	0	5	91	0	34	2	590
	B. Thamuen	20	18	0	2	103	156	0	0	98	0	25	13	435
	B. Vungva	3	0	0	0	73	139	0	0	52	1	10	3	281
	B. Yor	39	16	1	0	134	208	0	5	73	0	40	10	526
3	Houn District	3,153	165	48	34	5,683	7,554	1	316	5,881	462	701	259	24,257
	B. Bouamlao	35	0	0	6	164	193	0	3	81	10	2	6	500
	B. Donkeo	37	5	0	1	254	389	0	27	313	22	3	12	1,063
	B. Donkham	20	1	2	0	211	392	0	12	193	5	1	7	844
	B. Jontainuea	64	18	2	8	336	249	0	11	248	58	36	10	1,040
	B. Langching	1	0	1	0	147	310	0	2	107	9	1	1	579
	B. Nahoum	65	13	2	0	123	126	0	9	108	0	45	9	500
	B. Nakhoung	406	14	7	2	317	168	0	18	234	38	21	6	1,231
	B. Namkhor	40	4	3	1	119	189	0	4	164	12	9	5	550
	B. Namoun	624	2	3	0	256	233	0	44	309	35	20	39	1,565
	B. Namyon	31	1	0	0	333	588	0	22	427	8	53	9	1,472
	B. Nanguen	18	9	0	0	94	155	0	3	65	25	1	4	374
	B. Naphang	122	11	5	0	199	100	0	11	164	14	52	8	686
	B. Nathong	13	1	0	1	112	144	0	1	107	5	11	4	399
	B. Navang	37	2	3	0	449	660	0	37	485	39	57	17	1,786
	B. Nongbouadang	41	4	0	0	203	289	0	16	342	20	19	16	950
	B. Oudom	3	1	1	0	220	369	0	1	230	11	11	11	858
	B. Phane	320	2	0	2	247	405	0	11	306	2	67	20	1,382
	B. Phonesavan	251	7	3	0	308	247	0	25	423	19	112	16	1,411

No.	District/Village	Main activity 12 months before the census of people 10 years old and older, persons												
		Government employee	Private employee	State enterprise employee	Employer	Own account worker	Unpaid family worker	International or NGO	Unemployed	Student	Household duties	Other	Not stated	Total
	B. Phonesavang	6	0	1	0	340	534	0	2	241	30	29	11	1,194
	B. Phonesavat	138	20	11	12	159	100	1	27	129	26	75	8	706
	B. SibounHouang	63	46	2	0	730	1273	0	9	838	46	44	24	3,075
	B. Vangtang	3	3	2	0	191	359	0	3	161	4	2	6	734
	B. Vunglor	815	1	0	1	171	82	0	18	206	24	30	10	1,358
4	Pakbeng District	573	344	20	34	1376	1391	3	170	1531	272	91	82	5,887
	B. Done sa at	45	12	3	12	199	293	0	13	320	49	5	8	959
	B. Houayxaengkham	11	20	0	1	93	138	1	0	123	21	1	17	426
	B. Kaengxang	192	47	9	0	192	167	1	32	328	55	18	11	1,052
	B. Pak ngeui	14	118	0	1	168	212	0	3	52	28	16	1	613
	B. Pakbaeng	259	140	7	19	375	215	1	43	349	77	47	27	1,559
	B. Xaixana	52	7	1	1	349	366	0	79	359	42	4	18	1,278
5	Ngeun District	631	244	41	30	2,788	3,608	2	54	1,905	342	205	101	9,951
	B. Hom xai	6	0	0	0	151	223	0	2	63	0	3	8	456
	B. Huay phueng	8	2	1	0	138	114	0	0	103	1	28	2	397
	B. Kang	4	2	0	0	130	98	0	8	77	2	6	3	330
	B. Khon	92	36	5	1	346	431	1	8	144	92	18	7	1,181
	B. Luang	120	34	3	0	177	247	0	1	107	42	13	3	747
	B. Na nhang	17	2	1	0	217	389	0	0	16	0	32	2	676
	B. Nam nguen	186	54	9	9	454	469	0	16	387	40	21	16	1,661
	B. Nam thon	7	0	0	0	154	215	0	0	63	25	5	1	470
	B. Parkjeng	17	9	3	12	153	242	1	12	66	13	9	19	556
	B. Pha daeng	4	5	0	0	146	310	0	2	184	8	10	17	686

No.	District/Village	Main activity 12 months before the census of people 10 years old and older, persons												
		Government employee	Private employee	State enterprise employee	Employer	Own account worker	Unpaid family worker	International or NGO	Unemployed	Student	Household duties	Other	Not stated	Total
	B. Pheir ngam	60	62	8	5	276	178	0	4	171	18	23	5	810
	B. Py myy	70	30	10	3	215	282	0	1	76	42	29	6	764
	B. Thong	40	8	1	0	231	410	0	0	448	59	8	12	1,217

Source: data from Lao Housing and Population Census 2015.

Table 3 Percentage of people engaged in each livelihood activity of villages along NR2W

No.	District/Village	Main activity 12 months before the census of people 10 years old and older, %												
		Government employee	Private employee	State enterprise employee	Employer	Own account worker	Unpaid family worker	International or NGO	Unemployed	Student	Household duties	Other	Not stated	Total
1	Xay District	6.5	6.1	0.3	0.4	23.3	26.0	-	1.7	26.8	4.2	3.9	1.0	100
111	B. Houyhoum	1.0	0.0	0.2	0.0	22.4	47.0	0.0	0.0	23.4	2.9	2.6	0.4	100
112	B. konkane	5.6	0.6	0.0	0.7	18.8	28.2	0.0	0.2	41.4	0.9	3.0	0.6	100
113	B. Namon	1.6	0.3	0.5	0.0	28.4	39.2	0.0	2.4	24.9	0.0	0.6	2.1	100

No.	District/Village	Main activity 12 months before the census of people 10 years old and older, %												
		Government employee	Private employee	State enterprise employee	Employer	Own account worker	Unpaid family worker	International or NGO	Unemployed	Student	Household duties	Other	Not stated	Total
114	B. Tuey	11.8	7.1	0.3	0.3	26.7	25.0	0.0	2.1	19.4	1.0	5.5	0.8	100
115	B. Hiepsoum	8.3	13.6	0.5	0.6	20.7	9.5	0.0	2.3	27.2	10.6	5.5	1.1	100
5	Beng District	5.9	2.1	0.1	0.1	25.6	35.7	0.1	1.0	20.8	0.4	6.6	1.5	100
501	B. Bangkham	9.6	0.5	0.5	0.0	26.1	35.2	1.2	1.4	15.6	0.9	9.1	0.0	100
502	B. Bangrouang	22.8	1.4	0.5	0.0	24.2	8.1	0.4	2.6	26.0	0.9	11.6	1.6	100
503	B. Houaira	10.0	0.8	0.3	0.2	21.8	23.5	0.0	3.7	29.8	0.2	9.2	0.6	100
504	B. Khonkham	4.7	1.3	0.0	0.0	31.8	16.7	0.0	5.2	29.2	0.4	10.3	0.4	100
505	B. Kiewsangvan	1.4	0.0	0.0	0.1	24.0	46.8	0.0	0.8	25.0	0.3	0.6	1.0	100
506	B. Kokngiew	0.9	0.0	0.0	0.0	22.4	47.9	0.0	0.6	22.1	4.3	0.0	1.8	100
507	B. Nabon	5.4	6.4	0.5	0.0	28.0	34.4	0.0	0.5	15.5	1.5	5.7	2.2	100
508	B. Nahouai	9.1	0.0	0.3	0.0	30.7	29.5	0.1	0.8	20.2	0.0	7.5	1.8	100
509	B. Nalai	5.2	14.9	0.0	0.3	24.1	31.7	0.0	0.6	12.2	0.9	10.1	0.0	100

No.	District/Village	Main activity 12 months before the census of people 10 years old and older, %												
		Government employee	Private employee	State enterprise employee	Employer	Own account worker	Unpaid family worker	International or NGO	Unemployed	Student	Household duties	Other	Not stated	Total
510	B. Nammate	3.6	4.4	0.2	0.1	27.4	31.7	0.0	1.0	25.7	0.3	4.7	1.0	100
511	B. Namon	3.8	2.2	0.0	0.5	26.4	45.6	0.0	0.5	19.8	0.0	0.5	0.5	100
512	B. Napanuea	4.8	3.3	0.1	0.3	26.0	33.4	0.0	0.8	18.0	0.0	12.1	1.1	100
513	B. Pangduar	3.1	8.0	0.2	1.0	21.9	41.7	0.0	1.4	15.7	0.5	6.0	0.5	100
514	B. Pangsom	0.3	0.0	0.0	0.0	24.4	49.4	0.0	0.0	22.7	0.3	2.0	0.9	100
515	B. Pangthong	3.3	2.5	0.0	0.0	29.5	43.3	0.0	0.0	11.3	0.0	3.3	6.9	100
516	B. Pheerhouanum	0.5	0.0	0.0	0.0	20.5	45.9	0.0	0.8	25.4	0.0	4.5	2.4	100
517	B. Phonhkeo	5.5	2.2	0.0	0.4	27.3	42.7	0.0	0.4	11.7	0.2	7.7	2.0	100
518	B. Phonhsaat	2.2	0.0	0.0	0.2	24.6	44.6	0.0	0.0	25.0	0.4	2.5	0.4	100
519	B. Phonhsai	3.1	0.0	0.0	0.0	19.3	36.6	0.0	0.3	28.9	0.2	7.8	3.7	100
520	B. Phonhsi	1.3	0.4	0.0	0.4	24.7	44.6	0.0	0.4	23.8	0.0	3.0	1.5	100
521	B. Phoukham	1.1	0.0	0.0	0.0	29.6	44.1	0.0	0.3	16.9	0.0	5.1	3.0	100
522	B. Samkang	6.5	1.1	0.1	0.0	24.5	41.5	0.0	0.5	19.6	0.5	4.9	0.8	100

No.	District/Village	Main activity 12 months before the census of people 10 years old and older, %												
		Government employee	Private employee	State enterprise employee	Employer	Own account worker	Unpaid family worker	International or NGO	Unemployed	Student	Household duties	Other	Not stated	Total
523	B. Sienglae	14.4	0.9	0.0	0.0	39.8	19.4	0.0	1.4	8.3	0.9	14.8	0.0	100
524	B. Somlor	3.2	0.3	0.0	0.0	28.3	36.2	0.0	1.9	18.1	0.0	10.8	1.2	100
525	B. Thakart	6.3	5.6	0.0	0.2	28.3	37.3	0.0	0.8	15.4	0.0	5.8	0.3	100
526	B. Thamuen	4.6	4.1	0.0	0.5	23.7	35.9	0.0	0.0	22.5	0.0	5.7	3.0	100
527	B. Vungva	1.1	0.0	0.0	0.0	26.0	49.5	0.0	0.0	18.5	0.4	3.6	1.1	100
528	B. Yor	7.4	3.0	0.2	0.0	25.5	39.5	0.0	1.0	13.9	0.0	7.6	1.9	100
6	Houn District	13.0	0.7	0.2	0.1	23.4	31.1	0.0	1.3	24.2	1.9	2.9	1.1	100
601	B. Bouamlao	7.0	0.0	0.0	1.2	32.8	38.6	0.0	0.6	16.2	2.0	0.4	1.2	100
602	B. Donkeo	3.5	0.5	0.0	0.1	23.9	36.6	0.0	2.5	29.4	2.1	0.3	1.1	100
603	B. Donkham	2.4	0.1	0.2	0.0	25.0	46.4	0.0	1.4	22.9	0.6	0.1	0.8	100
604	B. Jontainuea	6.2	1.7	0.2	0.8	32.3	23.9	0.0	1.1	23.8	5.6	3.5	1.0	100
605	B. Langching	0.2	0.0	0.2	0.0	25.4	53.5	0.0	0.3	18.5	1.6	0.2	0.2	100

No.	District/Village	Main activity 12 months before the census of people 10 years old and older, %												
		Government employee	Private employee	State enterprise employee	Employer	Own account worker	Unpaid family worker	International or NGO	Unemployed	Student	Household duties	Other	Not stated	Total
606	B. Nahoum	13.0	2.6	0.4	0.0	24.6	25.2	0.0	1.8	21.6	0.0	9.0	1.8	100
607	B. Nakhong	33.0	1.1	0.6	0.2	25.8	13.6	0.0	1.5	19.0	3.1	1.7	0.5	100
608	B. Namkhor	7.3	0.7	0.5	0.2	21.6	34.4	0.0	0.7	29.8	2.2	1.6	0.9	100
609	B. Namoun	39.9	0.1	0.2	0.0	16.4	14.9	0.0	2.8	19.7	2.2	1.3	2.5	100
610	B. Namyon	2.1	0.1	0.0	0.0	22.6	39.9	0.0	1.5	29.0	0.5	3.6	0.6	100
611	B. Nanguen	4.8	2.4	0.0	0.0	25.1	41.4	0.0	0.8	17.4	6.7	0.3	1.1	100
612	B. Naphang	17.8	1.6	0.7	0.0	29.0	14.6	0.0	1.6	23.9	2.0	7.6	1.2	100
613	B. Nathong	3.3	0.3	0.0	0.3	28.1	36.1	0.0	0.3	26.8	1.3	2.8	1.0	100
614	B. Navang	2.1	0.1	0.2	0.0	25.1	37.0	0.0	2.1	27.2	2.2	3.2	1.0	100
615	B. Nongboudang	4.3	0.4	0.0	0.0	21.4	30.4	0.0	1.7	36.0	2.1	2.0	1.7	100
616	B. Oudom	0.3	0.1	0.1	0.0	25.6	43.0	0.0	0.1	26.8	1.3	1.3	1.3	100
617	B. Phane	23.2	0.1	0.0	0.1	17.9	29.3	0.0	0.8	22.1	0.1	4.8	1.4	100
618	B. Phonesavan	17.8	0.5	0.2	0.0	21.8	17.5	0.0	1.8	30.0	1.3	7.9	1.1	100

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		Government employee	Private employee	State enterprise employee	Employer	Own account worker	Unpaid family worker	International or NGO	Unemployed	Student	Household duties	Other	Not stated	Total
619	B. Phonesavang	0.5	0.0	0.1	0.0	28.5	44.7	0.0	0.2	20.2	2.5	2.4	0.9	100
620	B. Phonesavat	19.5	2.8	1.6	1.7	22.5	14.2	0.1	3.8	18.3	3.7	10.6	1.1	100
621	B. SibounHouang	2.0	1.5	0.1	0.0	23.7	41.4	0.0	0.3	27.3	1.5	1.4	0.8	100
622	B. Vangtang	0.4	0.4	0.3	0.0	26.0	48.9	0.0	0.4	21.9	0.5	0.3	0.8	100
623	B. Vunglor	60.0	0.1	0.0	0.1	12.6	6.0	0.0	1.3	15.2	1.8	2.2	0.7	100
	Pakbeng District	9.7	5.8	0.3	0.6	23.4	23.6	0.1	2.9	26.0	4.6	1.5	1.4	100
701	B. Done sa at	4.7	1.3	0.3	1.3	20.8	30.6	0.0	1.4	33.4	5.1	0.5	0.8	100
702	B. Houayxaengkham	2.6	4.7	0.0	0.2	21.8	32.4	0.2	0.0	28.9	4.9	0.2	4.0	100
703	B. Kaengxang	18.3	4.5	0.9	0.0	18.3	15.9	0.1	3.0	31.2	5.2	1.7	1.0	100
704	B. Pak ngeui	2.3	19.2	0.0	0.2	27.4	34.6	0.0	0.5	8.5	4.6	2.6	0.2	100
705	B. Pakbaeng	16.6	9.0	0.4	1.2	24.1	13.8	0.1	2.8	22.4	4.9	3.0	1.7	100
706	B. Xaixana	4.1	0.5	0.1	0.1	27.3	28.6	0.0	6.2	28.1	3.3	0.3	1.4	100

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		Government employee	Private employee	State enterprise employee	Employer	Own account worker	Unpaid family worker	International or NGO	Unemployed	Student	Household duties	Other	Not stated	Total
84	Ngeun District	6.3	2.5	0.4	0.3	28.0	36.3	0.0	0.5	19.1	3.4	2.1	1.0	100
8401	B. Hom xai	1.3	0.0	0.0	0.0	33.1	48.9	0.0	0.4	13.8	0.0	0.7	1.8	100
8402	B. Huay phueng	2.0	0.5	0.3	0.0	34.8	28.7	0.0	0.0	25.9	0.3	7.1	0.5	100
8403	B. Kang	1.2	0.6	0.0	0.0	39.4	29.7	0.0	2.4	23.3	0.6	1.8	0.9	100
8404	B. Khon	7.8	3.0	0.4	0.1	29.3	36.5	0.1	0.7	12.2	7.8	1.5	0.6	100
8405	B. Luang	16.1	4.6	0.4	0.0	23.7	33.1	0.0	0.1	14.3	5.6	1.7	0.4	100
8406	B. Na nhang	2.5	0.3	0.1	0.0	32.1	57.5	0.0	0.0	2.4	0.0	4.7	0.3	100
8407	B. Nam nguen	11.2	3.3	0.5	0.5	27.3	28.2	0.0	1.0	23.3	2.4	1.3	1.0	100
8408	B. Nam thon	1.5	0.0	0.0	0.0	32.8	45.7	0.0	0.0	13.4	5.3	1.1	0.2	100
8409	B. Parkjeng	3.1	1.6	0.5	2.2	27.5	43.5	0.2	2.2	11.9	2.3	1.6	3.4	100
8410	B. Pha daeng	0.6	0.7	0.0	0.0	21.3	45.2	0.0	0.3	26.8	1.2	1.5	2.5	100
8411	B. Pheir ngam	7.4	7.7	1.0	0.6	34.1	22.0	0.0	0.5	21.1	2.2	2.8	0.6	100

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		Government employee	Private employee	State enterprise employee	Employer	Own account worker	Unpaid family worker	International or NGO	Unemployed	Student	Household duties	Other	Not stated	Total
8412	B. Py myy	9.2	3.9	1.3	0.4	28.1	36.9	0.0	0.1	9.9	5.5	3.8	0.8	100
8413	B. Thong	3.3	0.7	0.1	0.0	19.0	33.7	0.0	0.0	36.8	4.8	0.7	1.0	100

Source: data from Lao Housing and Population Census 2015.