



Lao People's Democratic Republic  
Peace Independence Democracy Unity Prosperity

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Ministry of Public Works and Transport

# Environmental and Social Management Framework - Annexes

Preparation of Environmental and Social Framework Instruments  
for the Lao PDR Climate Resilient Road Connectivity Improvement Project  
(CRRCIP)

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## **Table of Contents**

<b>ANNEX A – LOCATION MAPS .....</b>	<b>1</b>
<b>ANNEX B - PROJECT SETTING .....</b>	<b>4</b>
<b>ANNEX C - SCREENING FORM .....</b>	<b>11</b>
<b>ANNEX D - TEMPLATE BIODIVERSITY MANAGEMENT PLAN .....</b>	<b>14</b>
<b>ANNEX E - CHANCE FIND PROCEDURE .....</b>	<b>17</b>
<b>ANNEX F– OUTLINE OF AN ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP).....</b>	<b>19</b>
<b>ANNEX G – SIMPLIFIED LABOR MANAGEMENT PROCEDURES .....</b>	<b>20</b>
<b>ANNEX H - UXO PROCEDURES.....</b>	<b>25</b>
<b>ANNEX I - GUIDELINE TRAFFIC MANAGEMENT PLAN.....</b>	<b>25</b>

## Annex A – Location Maps

Figure A-1: Map Showing the Proposed CRRCI Sub-Project in KM

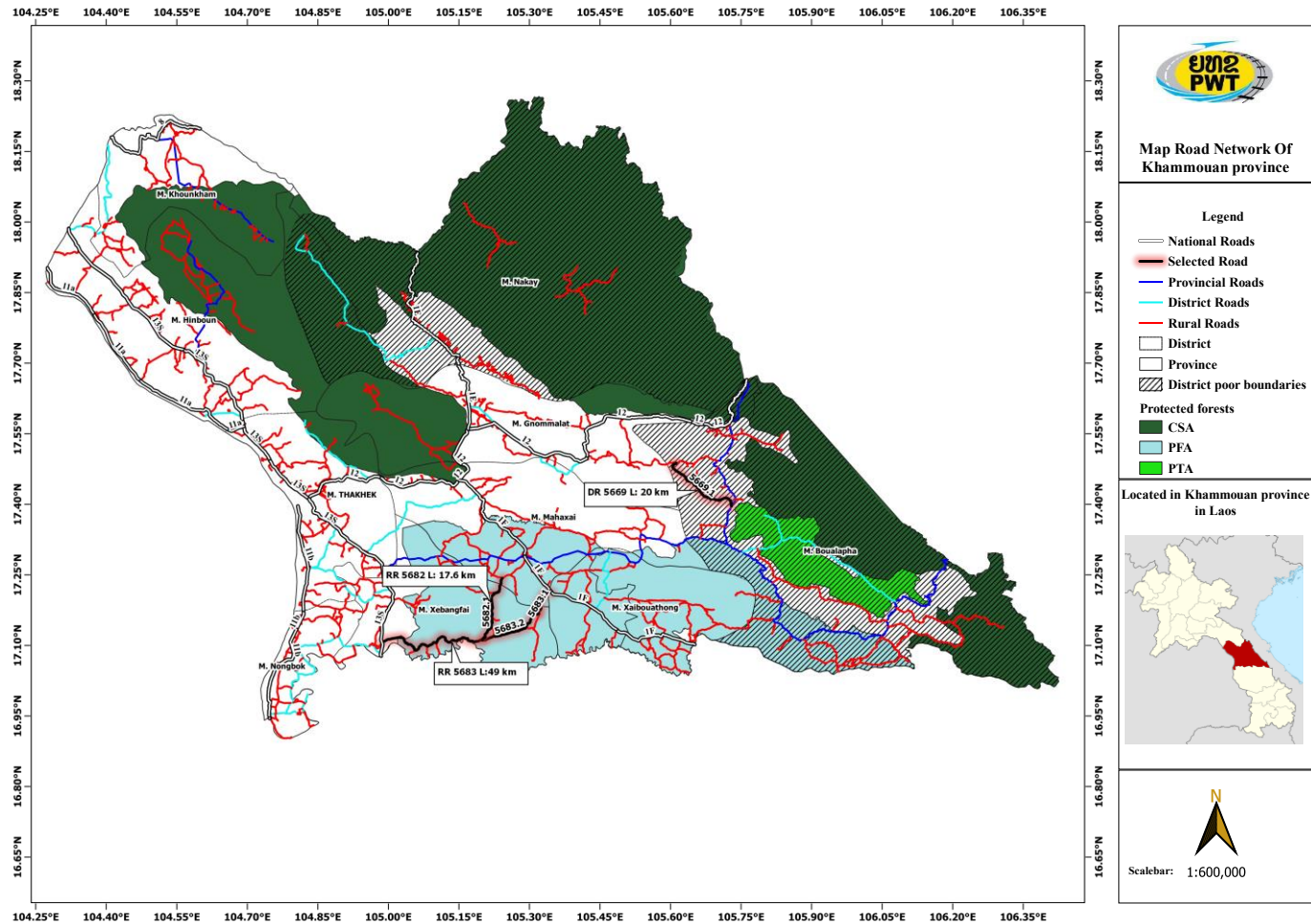


Figure A-2: Map Showing the Proposed CRRCI Sub-Project in SVK

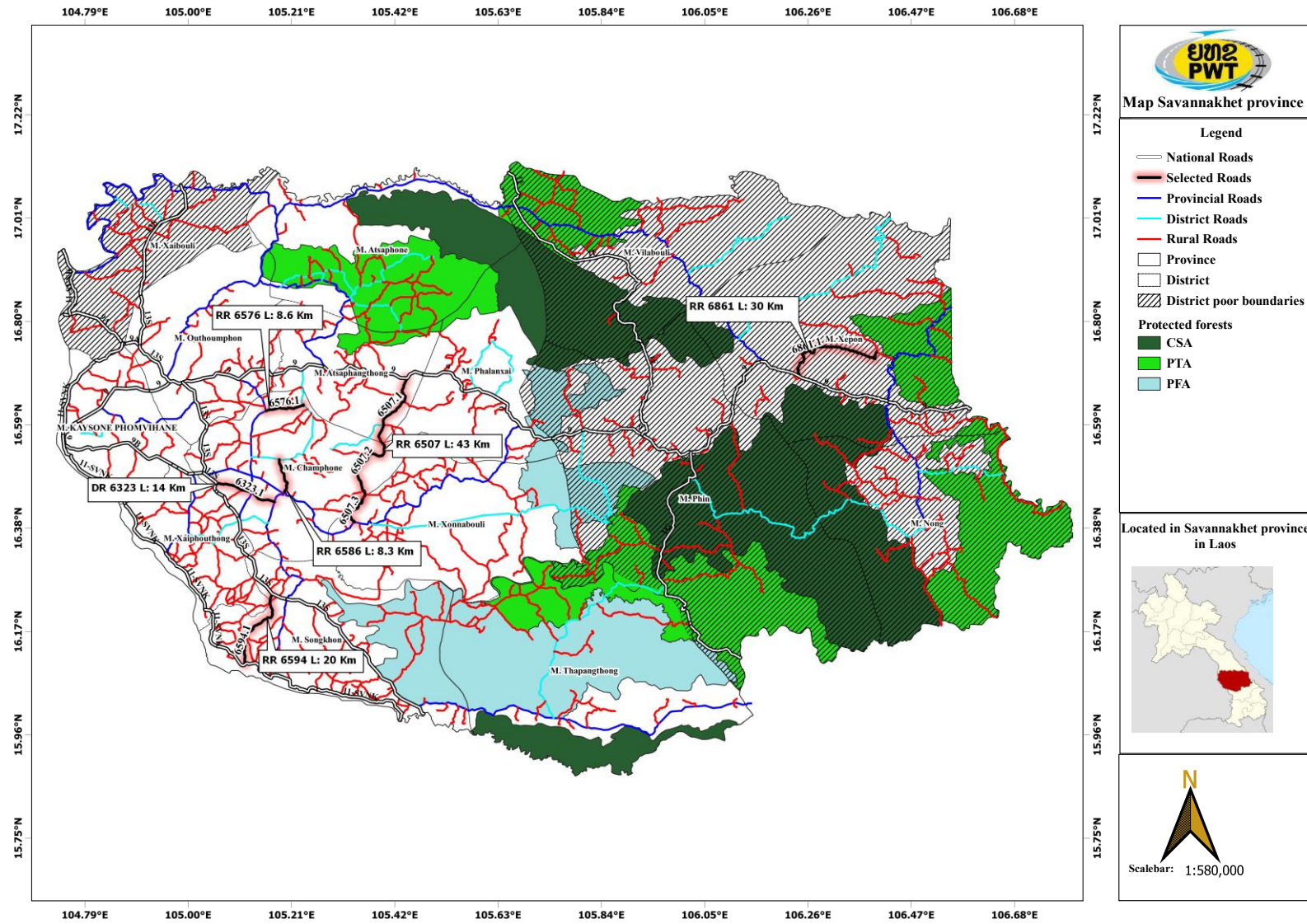
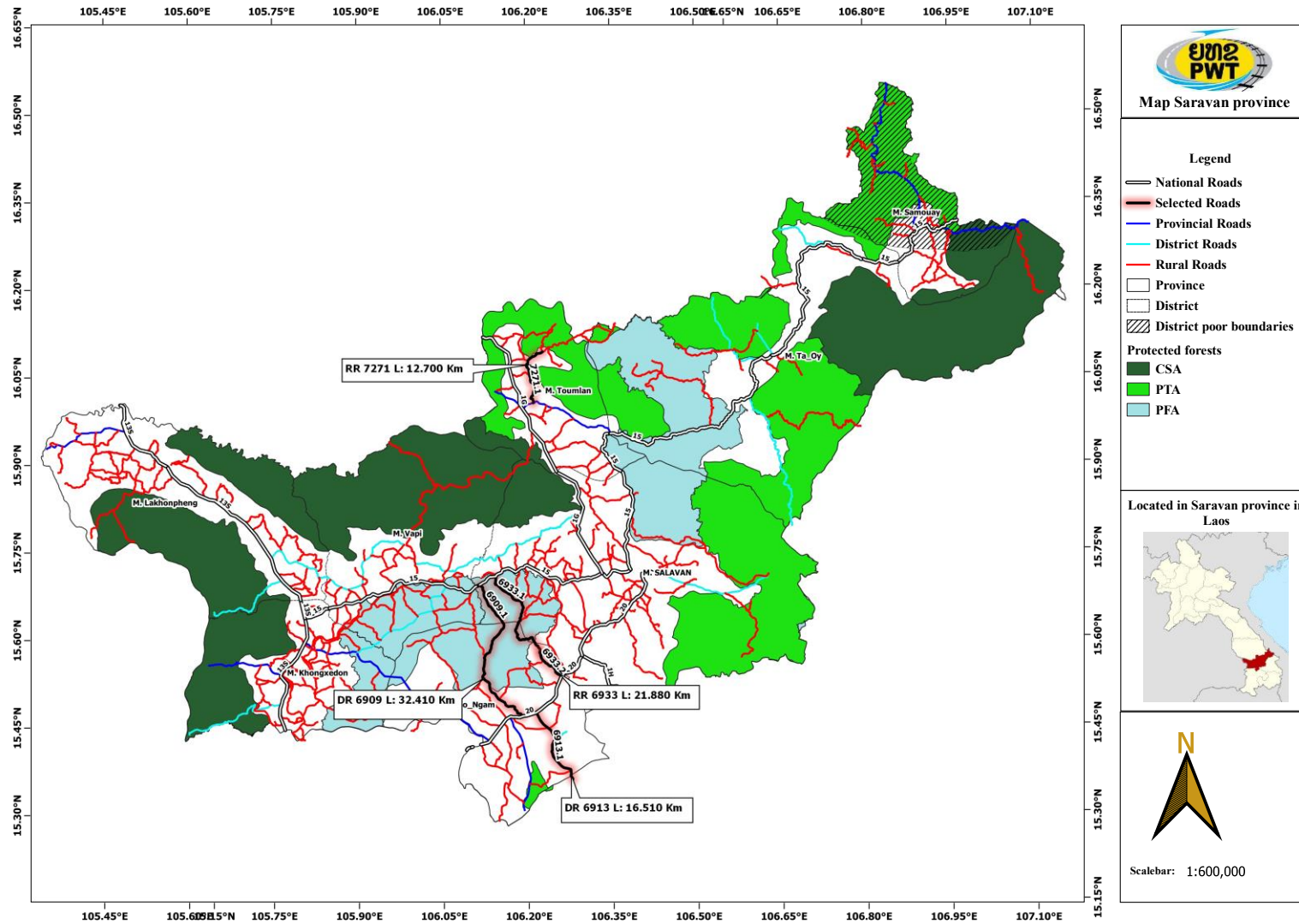


Figure A-3: Map Showing the Proposed CRRCI Sub-Project in SRV

Lao PDR Climate Resilient Road Connectivity Improvement Project (CRRCIP)



## Annex B - Project Setting

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### B-1 Topography

The total area of Lao PDR accounts for 236,800 km<sup>2</sup>, predominantly characterised by mountainous and forested topography – around 70% of country's terrain is mountainous and 46% is covered with forest. Laos comprises of three zones: the mountainous north (dominated by mountains of over 1,000 masl (meters above sea level) and steep slopes), the hilly to mountainous regions in the central and southern parts of the country (featuring elevations between 500 and 1,000 masl, with less steeper slopes, comparing to the north), the alluvial river plains (extending along the Mekong River and its tributaries in the central and southern parts of the country which include a narrow plain in Bolikhamxay and Northern Khammouan Provinces, a larger plain of southern Khammouan and much of Savannakhet Provinces, and smaller plains in the southern provinces of Champassak, Saravan and Attapeu).

### B-2 Soils and Geology

The soils cover of the southern part of Lao PDR is generally in a good condition with prevailing acid hydromorphic features. Most of the soils contain low organic matter which makes them moderately well-suited for rice production; however, in some areas more fertile soils containing higher organic matter and with good physical properties can also be found. The agricultural lands present in the Saravan Province are fertile and contribute to food security.<sup>i</sup>

The typical geological structure of the Savannakhet Province is represented by limestone mountains and crystalline rocks.<sup>ii</sup> Agricultural activity is dominant throughout the entire region; in particular it is the most important economic sector in Savannakhet Province which has the largest paddy rice area in the country, covering about 194 157 ha or 21 per cent of total national rice area.<sup>iii</sup> Khammouan Province is particularly distinct for its karst formations which extend 200 km in length and 30 km in width and are formed in thick Permo-Carboniferous limestones that are similar in age and lithology to those in the karstlands of southern China.<sup>iv</sup>

### B-3 Hydrology

Saravan Province is distinct for its abundant water resources with over 30 rivers flowing through the province and serving as sources for domestic and irrigation purposes. Xedon River plays a dominant role in the area as it crosses the region and flows into the Mekong River at Pakse; it passes through 192 km across the province and supports most of the population living along its banks. Other key arteries of the region include Mekong, Se Banguan, Sepone and Saset rivers.

The abundance of water resources in Saravan Province also provides opportunities for generation of hydropower, development of reservoirs, fishing, transportation, and tourism.<sup>v</sup> A number of major rivers are also flowing through the Savannakhet Province, and part from supplying the local population with water resources, they also put at high risk the occurrence of floods in the region – it is one of the six main flood affected provinces in the country. The Xe Champone River is the main river of the Se Bangheing Basin which is flowing through three districts (Champone, Atsaphang and Asaphone) in the Savannakhet Province<sup>vi</sup>.

### B-4 Air Quality

The procedures to monitor air quality are still not widely applied in Lao PDR, and, therefore, there is a gap of information on concentration of air pollutants in the country. The issue of lack of equipment and technical expertise has led to the lack of historical data on air quality and pollution levels across the country; however, in rural areas where most of the proposed Project roads are located, general air quality is in a good condition, as there are almost no industries operating in these parts of Laos and traffic volumes are relatively low. Nevertheless, some localised sources of air pollution are still present and are expected to increase as the result of increasing urbanisation levels.<sup>vii</sup>

### B-5 Climate and Climate Change

The central and southern parts of Lao PDR where the three project target provinces (Khammouan, Savannakhet and Saravan) are situated is characterized by tropical monsoon climate in the east and tropical savanna climate in west. There are two distinct seasons: the rainy season or monsoon, from May to mid-October and the dry season from mid-October to April. Lao PDR is highly vulnerable to climate

change risks. From 1970 to 2010, 33 natural hazard events (mostly floods and droughts) affected almost the entire population in the country causing economic damages of over US\$400 million. The annual expected losses from climate events range between 3 to 4% of GDP. Much of Khammouan and parts of the other two Project provinces are characterized by mountains. The western part of these provinces forms catchment of the Mekong River and its tributaries and the road network in general is highly prone to flooding. <sup>viii</sup>

## B-6 Natural Resources

In Saravan, the access road to Vietnam plays a critical role in shaping the current land-use and livelihood development landscape. In all project areas, field assessment revealed that ethnic groups' farmers, who used NTFP and other forest products for family/household consumption, now search for these products for commercial purposes. An increasing number of ethnic groups have engaged with more stable agricultural practices and commercial crops and tree plantations also resulted in an increase in chemical use by the villagers and ethnic groups.

## B-7 Biodiversity

Lao PDR has 24 national protected areas (PAs) but no complete inventory exists for provincial or district PAs. IUCN-registered PAs cover 3.86 million ha (16.7% of total land area). Khammouan, Savannakhet and Saravan provinces are characterized by Greater Annamite ecosystem and consist of wet evergreen forests, dry Dipterocarp forests, and more open dry forest. Most land areas in these three provinces are categorized either Protection Forest, Production Forest or Conservation Forest. There are 10 National PAs in these provinces that are prioritized for conservation and host most unique and diverse biodiversity within the lower Mekong Ecoregion Complex. There are also Protection Forests and Production Forests along roadsides but they are generally degraded in many cases with encroachment by agriculture and human settlements. Illegal harvesting of timbers is reported nationwide, and Timber exports (logs and sawn wood) to China and Vietnam in 2013 were reported more than 10 times the officially registered harvest in Lao PDR<sup>ix</sup>. None of the Project roads are located within nationally protected areas, although some are close (within 5km). The table below provides specific information about these sites.

*Table B-1: Biodiversity Aspects*

Province/ Road #	Length (Km)	Biodiversity	Remarks
<b>KM</b>	<b>86.56</b>		
Road #5682 in Xebangfai District	17.56	Located in Production forest (Dongphousoy): <ul style="list-style-type: none"> <li>Total area of Dongphousoy National Production Forest: 140,093.06 ha</li> <li>Reference: Decree No. 27/PM, dated 8/02/2006</li> <li>Total length of road located in the forest: 17.56 km</li> <li><b>Current Condition: no information</b></li> </ul>	
Road# 5683 in Xebangfai District	49	Located in Production forest (Dongphousoy): <ul style="list-style-type: none"> <li>Total area of Dongphousoy National Production Forest: 140,093.06 ha</li> <li>Reference: Decree No. 27/PM, dated 8/02/2006</li> <li>Total length of road located in the forest: 45 km</li> <li><b>Current Condition: no information</b></li> </ul> <p>Road is approximately 10km north of the Phou Xang He NPA, but with no direct access.</p>	
Road# 5669 in Bualapha District	20	This road connected to Provincial Road and the end point is about 1km distance to the Protection Forest (Phoukaonok Phoulouang) but having the Provincial Road and river as buffer zone: <ul style="list-style-type: none"> <li>Total area of forest: 38,809.04 ha</li> <li>Reference: no reference</li> <li><b>Current Condition: no information</b></li> </ul> <p>Also within 3km of the Hin Namno nationally protected area (Conservation Forest). Hin Nam No contains at least 10 species of primates, 9 of which are</p>	

Province/ Road #	Length (Km)	Biodiversity	Remarks
		<p>globally threatened. The Red-shanked Douc Langur (<i>Pygathrix nemaeus</i>) and the Southern White-cheeked Gibbon (<i>Nomascus siki</i>) are charismatic 'flagship' species of Hin Nam No, and along with the Black Langur (<i>Trachypithecus ebenus</i>) are globally endangered. Hin Nam No harbors the largest and one of the last viable populations of these two endangered langurs in the world. Other charismatic species include at least 4 species of hornbill (Bucerotidae), one of which, the Wreathed Hornbill (<i>Rhyticeros undulatus</i>), is globally threatened. A provincial road and Nam Ngo river act as buffers between the project road and the park. Further, access to the park is readily available via the existing provincial road and upgraded to the local road are unlikely to see any significant increase in population access to this park.</p> <p>Site is within 2km of the XE Bangfai River Cave System KBA with is assessed as a KBA due to the range of special status species present within the Xe Bangfai river in this location. The Project road also runs adjacent to the river, but not within the KBA. It is possible however that special status fish, such as the critically endangered <i>Schistura spiloptera</i> and <i>Schistura tenura</i> could be found in the river close to the Project road. This KBA is also an Alliance for Zero Extinction Site (AZE).</p>	
<b>SVK</b>	<b>123.9</b>		
Road# DR 6576 in Champhone District	8.6	Located within 2km of the Xe Champhon KBA, triggered by the potential presence of the critically endangered Siamese Crocodile. However, national and provincial roads already provide access to this area.	
Road# 6586 in Champhone District	8.3	Located within 2km of the Xe Champhon KBA, triggered by the potential presence of the critically endangered Siamese Crocodile. However, national and provincial roads already provide access to this area.	
Road# DR 6323 in Champhone District	14	Located within 2km of the Xe Champhon KBA, triggered by the potential presence of the critically endangered Siamese Crocodile. However, national and provincial roads already provide access to this area.	
Road# DR 6507 in Champhone District	43	None	
Road# RR 6594 in Songkhone District	20	None	
Road# 6861 in in Sepon District	30	<p>About 1.5km to the Xesalane Protection Forest but having <b>mountain, eucalyptus</b> and banana plantation, and river as buffer zone:</p> <ul style="list-style-type: none"> <li>• Total area of the forest: 32,845.21 ha</li> <li>• Reference: no reference</li> <li>• Current condition: Mixed deciduous forest, fallow, grassland and plantation (eucalyptus)</li> </ul> <p>Approximately 1.5km to the Dong Phou Vieng NPA to the south of the road. However, the road connects to the 9E provincial road meaning that upgrading of the local road will not increase access to the NPA in any substantial numbers as it is readily accessible from the existing 9E.</p>	
<b>SRV</b>	<b>83.5</b>		
Road# 6933 in Salavan District	21.88	<p>Runs through Lao Ngam National Production Forest <sup>2</sup>:</p> <ul style="list-style-type: none"> <li>• Total forest area: 74,580.96 ha</li> <li>• Total length of road located in the forest: 12.38 km</li> <li>• Reference: Decree 27/PM, dated 8/2/2006 and forest management plan of LaoNgam District No. 157/ນສອຸ, dated 18/10/2017</li> <li>• Current condition: Community/village production forest, residential/construction land, plantation (rice, maize, casava, fruit trees), wildlife habitat (squirrels, wild chickens and mice and etc.), and some important trees such as rose wood, mangrove wood, teak wood, etc. Some of the forest has been protected for natural regeneration/rehabilitation which surveyed the forest cover in 2015 and 2019, later approved and announced in 2021 according to the</li> </ul>	

Province/ Road #	Length (Km)	Biodiversity	Remarks
		Agreement No. 0356/MAF, dated 10/3/2021	
Road# 6909 in Laongam District	32.41	Runs through Lao Ngam National Production Forest: <ul style="list-style-type: none"> <li>Total forest area: 74,580.96 ha</li> <li>Total length of road located in the forest: 22.71 km</li> <li>Reference: Decree 27/PM, dated 8/2/2006 and forest management plan of LaoNgam District No. 157/ກສອບ, dated 18/10/2017</li> <li>Current condition: Community/village production forest, residential/construction land, plantation (rice, maize, casava, fruit trees), wildlife habitat (squirrels, wild chickens and mice and etc.), and some important tree such as rose wood, mangrove wood, teak wood, etc. Some of the forest has been protected for natural regeneration/rehabilitation which surveyed the forest cover in 2015 and 2019, later approved and announced in 2021 according to the Agreement No. 0356/MAF, dated 10/3/2021</li> </ul>	
Road# 6913 in Laongam District	16.51	About 4km to the Bolevan National Protection Forest but having rice field, plantation and fallow as buffer zone: <ul style="list-style-type: none"> <li>Total forest area: 308,637.49 ha</li> <li>Reference: no reference</li> <li>Current condition: Community/village production forest, residential/construction land, plantation (rice, maize, casava, fruit trees), wildlife habitat (squirrels, wild chickens and mice and etc.), and some important trees such as rose wood, mangrove wood, teak wood, etc.</li> </ul>	
Road# 7271 in Toumlan District	12.70	About 700m to the Protection Forest (Xetanoun Phou Nark) but having rice field as buffer zone. Runs through production forest: <ul style="list-style-type: none"> <li>Total forest area: 148,559.70 ha</li> <li>Reference: Governor Agreement No. 700/SRV, dated 25/11/2010</li> <li>Current condition of the section nearby the road: residential area, plantation (rice, fruit trees, community/village forest land. Some of forest areas are good condition with variety of wildlife (squirrels, wild chickens and mice and etc.) and some important trees such as rose wood, mangrove wood, teak wood, etc.</li> </ul> <p>The Dong Phu Vieng NPA is located approximately 10km to the north of the road. The Dong Phu Vieng KBA is however extended beyond this boundary which is less than 1km from the northern end point of the road. The KBE is triggered by the potential presence of several special status mammals and reptiles, including Tiger, Elephant, Langur and Tortoise.</p>	
<b>Grand Total</b>	<b>293.96</b>		

There are also numerous key biodiversity areas (KBAs) within the three provinces, most of which overlap with nationally protected areas. None of the proposed roads are located within these areas, but some are close, i.e., within 5km.

#### B-8 Geohazards

**Flooding:** is significant threat throughout much of Lao PDR. The lower Mekong River basin benefits and suffers from the annual monsoon floods. Some projections show wet season rainfall in the northern region rising by 4.2% by the end of the century, providing extra water downstream in the Mekong Basin that could flood riverine communities, damage riverside agricultural lands, and threaten livelihoods and food security. Thus, increasing wet-season flooding and deteriorating dry-season drought are the long-term trends.<sup>xi</sup> Tropical storms Goni, Linfa, and Saudel which struck Central Vietnam before moving over Laos between 28 October and 06 November 2020. As flooding from the rains peaked in Laos on 20 October, nine districts in Saravan, Savannakhet, and Sekong provinces had been affected; some 163 villages with an estimated 69,764 people needed some form of assistance with Savannakhet the hardest hit province. At

least 9,200 people were displaced, and an estimated 11,000 hectares of paddy and other crops were damaged.<sup>xii</sup>

**Landslides:** Rainfall patterns, terrain, geology, soil, and land cover in Lao PDR mean that most of the country is at some risk of landslides. Only about 5.25% of the country is at high or very high risk, but 43.5% is at medium risk with minimal mitigation undertaken. High landslide susceptibility zones cover about 10 % of each of the provinces of Sekong, Attapeu, Borikhamxay, and Khammouan in central and southeast parts of Laos. However, many of these zones are in conservation areas that are remote and less densely inhabited.

**Earthquakes:** Laos is vulnerable to earthquakes, but it rarely sees damaging events. The four provinces of northern Laos are at higher risk than the rest of the country. During the period 1 November 2019 – 31 October 2020, Laos registered seven earthquakes. The largest was a 6.1 magnitude quake in Xayaboury in November 2019, and it came just hours after a 4.6 magnitude quake in the same vicinity of the Lao-Thai border southwest of Luang Prabang, Laos.<sup>xiii</sup>

#### B-9 Economy and Employment

In Khammouan province the economy is largely centered on agricultural practices, mainly cultivation and animal husbandry. Trade serves as a secondary source of livelihood. Planted crops include rice, cassava, corn, potatoes, pears, chilies, cucumbers, and watermelon. Types of animals raised include buffalo, cattle, goat, pig, duck, chicken.

In Savannakhet Province, the primary livelihood for most of the population revolves around farming, cultivating fruits, vegetables, crabs, and rubber. Additionally, within the family, supplementary occupations involve the rearing of cattle, buffaloes, ducks, and chickens.

Saravan Province, much like Khammouan Province, relies heavily on agricultural activities. cultivation and animal husbandry are primary sources of income. Trade plays a secondary role in supporting livelihoods. Occasionally, harvesting non-timber forest products for sale, producing and selling black charcoal, and crafting wooden furniture. The community is also engaged in people-participatory tourism, with individuals serving as tour guides.

Table 4 below shows that each road consists of at least one local market and one health center. All Project villages consist of primary school and some villages consist of primary, secondary and high schools. Project villages use ground water (water well) and river water for their consumption and general use. However, most Project villages are still poor villages such as all villages in SRV are poor, 40 out of 44 Project villages in SVN are poor and 15 out of 21 Project villages in KM are poor.

*Table B-2: Access to Public Facilities of Project Villages*

Province/Road #	Total Village #	Poor village (Village #)	Access to Public Facilities (Village #)					
			Market	Electricity	Health Centre	Primary school	Secondary school	High school
<b>KM</b>	<b>21</b>	<b>15</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>21</b>	<b>17</b>	<b>8</b>
1. Road #5682 in Xebangfai District	7	5	1	1	1	7	6	2
2. Road# 5683 in Xebangfai District	8	8	1	1	1	8	6	2
3. Road# 5669 in Bualapha District	6	2	1	2	2	6	5	4
<b>SVK</b>	<b>44</b>	<b>40</b>	<b>6</b>	<b>35</b>	<b>8</b>	<b>44</b>	<b>43</b>	<b>11</b>
1. Road# DR 6576 in Champhone District	7	7	1	7	2	7	6	2
2. Road# 6586 in Champhone District	12	12	1	12	1	12	12	3
3. Road# DR 6323 in Champhone District	4	4	1	4	1	4	4	1

Province/Road #	Total Village #	Poor village (Village #)	Access to Public Facilities (Village #)					
			Market	Electricity	Health Centre	Primary school	Secondary school	High school
4. Road# DR 6507 in Champhone District	7	7	1	3	1	7	7	1
5. Road# RR 6594 in Songkhone District	8	8	1	7	2	8	8	2
6. Road# 6861 in in Sepon District	6	2	1	2	1	6	6	2
<b>SRV</b>	<b>43</b>	<b>43</b>	<b>4</b>	<b>24</b>	<b>6</b>	<b>43</b>	<b>41</b>	<b>15</b>
1. Road# 6933 in Salavan District	12	12	1	4	2	12	12	8
2. Road# 6909 in Laongam District	14	14	1	10	1	14	12	4
3. Road# 6913 in Laongam District	10	10	1	9	2	10	10	2
4. Road# 7271 in Toumlan District	7	7	1	1	1	7	7	1
	<b>108</b>							

#### B-10 Population and Demographics

The project covers 108 villages in 8 districts in 3 provinces which are home to a total of 87,806 people (44,989 females) from 15,259 households. Savannakhet has highest density of populations and households with figure equal to 47,085 people (16,365 females) and 8,395 households respectively from 44 villages while Saravan province is the second largest, which has populations and households equal to 32,351 people (16,365 females) and 5,272 households from 43 respectively. Khammouan has the smallest density of populations and households with figure equal to 8,370 (4,204) respectively from 21 villages (Table B-3).

*Table B-3: Demographic information in the Project Area*

Province/ Road #	Total Length (Km)	Road Class	Total Villages	Total HHs	Total Pop.	Total Female
<b>KM</b>	<b>86.56</b>		<b>21</b>	<b>1,592</b>	<b>8,370</b>	<b>4,204</b>
1. Road #5682 in Xebangfai District	17.56	Rural road	7	518	2,801	1,403
2. Road# 5683 in Xebangfai District	49	Rural road	8	620	3,036	1,533
3. Road# 5669 in Bualapha District	20	Rural road	6	454	2,533	1,268
<b>SVK</b>	<b>123.9</b>		<b>44</b>	<b>8,395</b>	<b>47,085</b>	<b>24,420</b>
1. Road# DR 6576 in Champhone District	8.6	Rural road	7	1,655	9,970	5,223
2. Road# 6586 in Champhone District	8.3	Rural road	12	2,386	13,412	6,841
3. Road# DR 6323 in Champhone District	14	District road	4	1,026	5,749	3,279
4. Road# DR 6507 in Champhone District	43	Rural road	7	1,295	7,751	4,087

Province/ Road #	Total Length (Km)	Road Class	Total Villages	Total HHs	Total Pop.	Total Female
5. Road# RR 6594 in Songkhone District	20	Rural road	8	1,521	7,316	3,768
6. Road# 6861 in in Sepon District	30	Rural road	6	512	2,887	1,222
<b>SRV</b>	<b>83.5</b>		<b>43</b>	<b>5,272</b>	<b>32,351</b>	<b>16,365</b>
1. Road# 6933 in Salavan District	21.88	Rural road	12	1461	8841	4441
2. Road# 6909 in Laongam District	32.41	District road	14	1484	8843	4546
3. Road# 6913 in Laongam District	16.51	District road	10	1729	9829	4939
4. Road# 7271 in Toumlan District	12.70	Rural road	7	598	4838	2439
<b>Grand Total</b>	<b>293.96</b>		<b>108</b>	<b>15,259</b>	<b>87,806</b>	<b>44,989</b>

### B-11 Ethnicity

There are 50 official different ethnic groups in Lao PDR, who are classified into the following ethno-linguistic families: Lao-Tai, Mon-Khmer, Sino-Tibetan, and Hmong-Iumien.

The Mon-Khmer has many ethnic groups and subgroups, and their languages are not mutually understood, even they are in the same main group/cluster. The same difficulties with linguistic understanding prevail among the Hmong-Iumien cluster. The ethnic groups in Project Area are Lao, Phoutai, Khmu, Makong, Brou and Yrou. Khmu, Makong, Brou and Yrou possessing the four characteristics the of World Bank's ESS7. See SEP for more details.

### B-12 Land Use

The land use on both sides of the roads are mostly private land (construction land, farmland, garden land, etc.). The land use is categorized into different agriculture land (lowland rainfed rice, irrigated rice, upland rice, cassava, maize, rubber, and green vegetables), residential land and some parts of the road are minor forest production land and others whose right of use is (not within the Right of way). According to E&S screening conducted in March 2023, acquisition of private lands is unlikely to occur by the proposed Project.

### B-13 Infrastructure

**Transport:** Khammouan is located in central Laos and is accessible by road. The province is served by the National Road 13, which is a major north-south highway in Laos. Salavan is situated in the southern part of Laos. Transportation infrastructure in this province primarily relies on roads. The National Road 16 connects Saravan to the southern part of the country. Savannakhet, located along the Mekong River, is a major province with relatively better transportation infrastructure. Three national roads of Routes 1, 9, and 13 form the road systems in Savannakhet province.

**Electricity:** Around 80.3% of rural areas and 97.4% of urban areas have access to electricity as of 2018. There is a Theun-Hinboun hydropower plant in Bolikhamxay and Khammouan provinces operated by THPC (Theun-Hinboun Power Company). There is a proposed Boualapha power station, formerly known as the Khammouan Coal Fired Power Plant, a 2,000 MW Ultra Supercritical Coal Fired Power Plant to be located in Boualapha. Saravan Province has a number of hydropower projects that supply much of its electricity - namely the Xeset 1 and 2 and Xenalong 2 sites. In 2022, the Ministry of Planning and Investment announced a plan to invest over US\$2.1bn for the construction of a 1.2 GW onshore wind power project in Lako, Savannakhet province.

**Water supply:** Most people living along the road in Khammouan province use the nearby canal streams, water from mountains, and well water. In Saravan Province, there is only partial piped water supply.

People access drinking water through groundwater filtration systems, factory supplies, and natural sources like canals, ponds, wells, and mountain water. People in Savannakhet province have access to tap water. Other water sources include well water, groundwater, and mountain water.

#### B-14 Cultural Resources

Khammouan Province in Laos features Phou Hin Poun Protected area, which allows the visitors to see Limestone Forest, caves, ethnic villages. Wat Phabath Phonsane, Tham Kong Lo Cave, and Ban Phone Sawan village are some of the most significant cultural sites in the province. The cultural and natural attractions in the Saravan province include ethnic villages, the Ho Chi Minh trail, Tad Lo Waterfall, and boat rides on the Xe Lanong River. Visitors can also buy high-quality Arabica coffee beans and handwoven fabrics from local villagers. Savannakhet Province features cultural highlights such as Wat Xayaphoum Temple, Heuan Hinh (Stone House), That Ing Hang Stupa, and the Dinosaur Museum. These sites showcase the province's religious, French colonial, and prehistoric heritage.

#### B-15 Unexploded Ordnance

Lao PDR is the most heavily bombed nation per capita, a consequence of extensive U.S. bombing missions between 1964 and 1973. Over Two million tons of explosive ordnance, including 266 million submunitions, were dropped, with an estimated 30% failing to detonate<sup>xiv</sup>. The resulting unexploded ordnance (UXO) poses an ongoing threat and hinders socio-economic development. In response, the Government of Lao PDR established the Lao National Unexploded Ordnance Programme (UXO Lao) in 1996, with support from UNDP, UNICEF, and other partners. UXO lao conducts surveys, land clearance, roving tasks, and risk education to address UXO contamination in the nine most heavily impacted provinces, including Khammouan, Saravan, and Savannakhet<sup>xv</sup>. There are ongoing UXO/Mine Action projects in these three provinces.

#### B-16 Human Trafficking

In the 2023 Trafficking in Persons Report, the U.S. Department of State ranked Laos as a Tier 2 nation, stating that The Government of Laos does not fully meet the minimum standards for the elimination of trafficking, in spite of demonstrating increased efforts in investigating trafficking cases<sup>xvi</sup>. According to the consultation and focus group discussion (FGD) with local communities, human trafficking has occurred within the project area in the past 3 years.

## Annex C - Screening Form

The E&S Screening procedure comprises of two stages-process: (1) Initial screening by using the **Exclusion List** in Box 2 of the ESMF; and (2) Screening the proposed activities to identify the approach for E&S risk management. This Screening Form is the second stage of screening process and is to be used for all subproject activities. The completed forms will be signed and kept in the Project ESF file. The World Bank may review a sample of the forms during implementation support visits.

### 1. Subproject Information:

Subproject Title	
Subproject Location	
Regional Unit in Charge	
Estimated Cost	
Start/Completion Date	
Brief Description of Subproject	

### 2. Environmental and Social Screening Questionnaires

Questions	Answer		Next Steps
	Yes	No	
<b>ESSI</b>			
1. Is the subproject likely to have significant adverse environmental impacts that are sensitive and unprecedented that trigger the 'Ineligible Activities' or other exclusion criteria?			If "Yes": Exclude from project.
2. Does the subproject involve new construction or			If "Yes":

<u>significant expansion</u> of ponds, solid waste management systems, shelters, roads (including access roads), community centers, schools, bridges and jetties?			1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex H. 2. Include E&S risk management measures in bidding documents.
3. Will construction or renovation works require new borrow pits or quarries to be opened?			If “Yes”: 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex H. 2. Include E&S risk management measures in bidding documents.
5. Does the project lead to any risks and impacts on, individuals or groups who, because of their particular circumstances, may be disadvantaged or vulnerable. <sup>1</sup>			If “Yes”: Apply relevant measures described in the ESMF and SEP.
<b>ESS2</b>			
6. Does the subproject involve uses of goods and equipment involving forced labor, child labor, or other harmful or exploitative forms of labor?			If “Yes”: Exclude from project.
7. Does the subproject involve recruitment of workforce including direct, contracted, primary supply, and/or community workers?			If “Yes”: Apply LMP in Annex I.
8. Will the workers be exposed to workplace hazards that needs to be managed in accordance with local regulations and EHSs? Do workers need PPE relative to the potential risks and hazards associated with their work?			If “Yes”: Apply LMP in Annex I.
9. Is there a risk that women may be underpaid when compared to men when working on the project construction?			If “Yes”: Apply LMP in Annex I.
<b>ESS3</b>			
10. Is the project likely to generate solid or liquid waste that could adversely impact soils, vegetation, rivers, streams or groundwater, or nearby communities?			If “Yes”: 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex H. 2. Include E&S risk management measures in bidding documents.
11. Do any of the construction works involve the removal of asbestos or other hazardous materials?			If “Yes”: 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex H. 2. Include E&S risk management measures in bidding documents.
12. Are works likely to cause significant negative impacts to air and / or water quality?			If “Yes”: 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex H. 2. Include E&S risk management measures in bidding documents.
13. Does the activity rely on existing infrastructure (such as discharge points) that is inadequate to prevent environmental impacts?			If “Yes”: If “Yes”: 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex H. 2. Include E&S risk management measures in bidding documents.
<b>ESS4</b>			

<sup>1</sup> “Disadvantaged or vulnerable” refers to those individuals or groups who, by virtue of, for example, their age, gender, ethnicity, religion, physical, mental or other disability, social, civic or health status, sexual orientation, gender identity, economic disadvantages or ethnic peoples status, and/or dependence on unique natural resources, may be more likely to be adversely affected by the project impacts and/or more limited than others in their ability to take advantage of a project’s benefits.

15. Is there a risk of increased community exposure to communicable disease (such as COVID-19, HIV/AIDS, Malaria), or increase in the risk of traffic related accidents?			If “Yes”: Apply LMP in Annex I.
16. Is an influx of workers, from outside the community, expected? Would workers be expected to use health services of the community? Would they create pressures on existing community services (water, electricity, health, recreation, others?)			If “Yes”: Apply LMP in Annex I.
17. Is there a risk that SEA/SH may increase as a result of project works and external labor influx ?			If “Yes”: Apply LMP in Annex I.
18. Would any public facilities, such as schools, health clinic, church be negatively affected by construction?			If “Yes”: 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex H. 2. Include E&S risk management measures in bidding documents.
19. Will the subproject require the government to retain workers to provide security to safeguard the subproject?			If “Yes”: Prepare a site-specific ESMP for the proposed subproject, including an assessment of potential risks and mitigation measures of using security personnel.
<b>ESS5</b>			
20. Will the subproject require the involuntary acquisition of new land (will the government use eminent domain powers to acquire the land)? <sup>2</sup>			If “Yes”: Refer to and apply the project Resettlement Framework Plan (RFP).
21. Will the subproject lead to temporary or permanent physical displacement (including people without legal claims to land)?			If “Yes”: Refer to and apply the project Resettlement Framework Plan (RFP).
22. Will the subproject lead to economic displacement (such as loss of assets or livelihoods, or access to resources due to land acquisition or access restrictions)?			If “Yes”: Refer to and apply the project Resettlement Framework Plan (RFP).
23. Has the site of the subproject been acquired through eminent domain in the past 5 years, in anticipation of the subproject?			If “Yes”: Refer to and apply the project Resettlement Framework Plan (RFP).
24. Are there any associated facilities needed for the subproject (such as access roads or electricity transmission lines) that will require the involuntary acquisition of new land?			If “Yes”: Refer to and apply the project Resettlement Framework Plan (RFP).
25. Is private land required for the subproject activity being voluntarily donated to the project? <sup>3</sup>			If “Yes”: Refer to and apply the project Resettlement Framework Plan (RFP).
<b>ESS6</b>			
26. Does the subproject involve activities that have potential to cause any significant loss or degradation of critical habitats <sup>4</sup> whether directly or indirectly, or which would lead to adverse impacts on natural habitats <sup>5</sup> ?			If “Yes”: Exclude from project.

<sup>2</sup> Environmental and Social Standard 5, Footnote 10: “In some circumstances, it may be proposed that part or all of the land to be used by the project is donated on a voluntary basis without payment of full compensation. Subject to prior Bank approval, this may be acceptable providing the Borrower demonstrates that: (a) the potential donor or donors have been appropriately informed and consulted about the project and the choices available to them; (b) potential donors are aware that refusal is an option, and have confirmed in writing their willingness to proceed with the donation; (c) the amount of land being donated is minor and will not reduce the donor’s remaining land area below that required to maintain the donor’s livelihood at current levels; (d) no household relocation is involved; (e) the donor is expected to benefit directly from the project; and (f) for community or collective land, donation can only occur with the consent of individuals using or occupying the land. The Borrower will maintain a transparent record of all consultations and agreements reached.”

<sup>3</sup> Environmental and Social Standard 5, Footnote 10: “In some circumstances, it may be proposed that part or all of the land to be used by the project is donated on a voluntary basis without payment of full compensation. Subject to prior Bank approval, this may be acceptable providing the Borrower demonstrates that: (a) the potential donor or donors have been appropriately informed and consulted about the project and the choices available to them; (b) potential donors are aware that refusal is an option, and have confirmed in writing their willingness to proceed with the donation; (c) the amount of land being donated is minor and will not reduce the donor’s remaining land area below that required to maintain the donor’s livelihood at current levels; (d) no household relocation is involved; (e) the donor is expected to benefit directly from the project; and (f) for community or collective land, donation can only occur with the consent of individuals using or occupying the land. The Borrower will maintain a transparent record of all consultations and agreements reached.”

<sup>4</sup> Environmental and Social Standard 6, paragraph 23: “Critical habitat is defined as areas with high biodiversity importance or value, including (a) Habitat of significant importance to Critically Endangered or Endangered species, as listed in the IUCN Red List of threatened species or equivalent national approaches; (b) Habitat of significant importance to endemic or restricted-range species; (c) Habitat supporting globally or

27. Will the project involve the conversion or degradation of non-critical natural habitats?			If “Yes”: 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex H. 2. Include E&S risk management measures in bidding documents.
28. Will this activity require clearance of mangroves?			If “Yes”: Exclude from project.
29. Will this activity require clearance of trees, including inland natural vegetation?			If “Yes”: 1. Prepare a site-specific ESMP for the proposed subproject, based on the template in Annex H. 2. Include E&S risk management measures in bidding documents.
30. Will there be any significant impact on any ecosystems of importance (especially those supporting rare, threatened or endangered species of flora and fauna)?			If “Yes”: Exclude from project.
31. Is the project within 5km of a conservation / protection forest.			If “Yes”: 1. Prepare a site-specific Biodiversity Management Plan (SS-BMP) for the proposed subproject, based on the template in Annex E. 2. Include E&S risk management measures in bidding documents.
<b>ESS7</b>			
31. Are there any Indigenous Peoples or Sub-Saharan African Historically Underserved Traditional Local Communities present in the subproject area and are likely to be affected by the proposed subproject negatively?			If “Yes”: Follow guidance in the SEP.
<b>ESS8</b>			
32. Is the subproject to be located adjacent to a sensitive site (historical or archaeological or culturally significant site) or facility?			If “Yes”: Apply Chance Find Procedures in Annex G.
33. Locate near buildings, sacred trees or objects having spiritual values to local communities (e.g. memorials, graves or stones) or require excavation near there?			If “Yes”: Apply Chance Find Procedures in Annex G.

### 3. Conclusion

Based on the result from the screening above, please list the E&S risk management instruments to be prepared / adopt and implemented:

- a)
- b)

**Name and title of person who conducted screening:**

**Date of screening:**

## Annex D - Template Biodiversity Management Plan

An indicative content or template of the BMP in line with ESS6 (and in line with other BMPs prepared for recent national road projects co-funded by WB) is below.

### D-1 Introduction

nationally significant concentrations of migratory or congregatory species; (d) Highly threatened or unique ecosystems; and (e) Ecological functions or characteristics that are needed to maintain the viability of the biodiversity values described above in (a) to (d).”

<sup>5</sup> Environmental and Social Standard 6, paragraph 21: “Natural habitats are areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area’s primary ecological functions and species composition.”

D-1.1 Project Overview – Provides a general introduction to the BMP and its linkages to other documents, such as the ESMF.

D-1.2 Project Description – summarizes the general alignment, design and construction activities as well as project timelines.

D-1.3 Purpose and Scope - Provides the BMP purpose as follows:

- brings potential direct and indirect risks and impact arisen from construction and operation of project roads
- should take actions and measures necessary for the effective management and monitoring of biodiversity along the alignments and the nearby Protected Areas/Protection Forests including through involvement of local communities
- collates diverse biodiversity management measures in one place, despite various department responsibilities for their implementation.
- facilitates communication about sound project biodiversity risk management to external audiences.
- provides reassurance that risks and impacts are being managed, and ensure investment is prioritized towards actions that most cost-effectively tackle highest risks or impacts.
- provides a basis for planning and tracking progress.

Presents the BMP scope, which includes:

- management measures to mitigate adverse impacts during construction and operation phases.
- a description of the ecological monitoring and reporting commitments including location, frequency and key performance indicators for adaptive management.
- a description of roles and responsibilities
- a presentation of the proposed schedule of works.

This section shall also describe the mitigation hierarchy in line with the WB /ESS 6: Biodiversity Conservation and Sustainable Management of Living Resources and the stakeholder consultation activities completed as part of the BMP preparation.

D-1.4 Policies and Legal Framework – Provides an outline of the legal framework for biodiversity management in Lao PDR and the requirements of World Bank ESF.

## D-2 Priority Habitats and Species

D-2.1 Identification of Priority Habitats and Species – The BMP will characterizes the existing biodiversity features within and adjacent environment based on the following;

- Habitat mapping
- Site visit and rapid biodiversity survey
- Literature reviews

D-2.2 Overview of The Biodiversity Characteristics Adjacent/relevant to the Project – Once identified the BMP will provide a description of:

- Protected areas (including NPAs and KBAs) – describing in detail its location relative to the project road and the species present within the park, its condition and management and any current threats to the park based on consultations with park management and other relevant stakeholders. NPAs will also be mapped showing the road location.
- Protection forests – describing in detail its location relative to the project road and the species present within the park, its condition and management and any current threats to the park based on consultations with forest management and other relevant stakeholders. Forests will also be mapped showing the road location.

- Habitat types – the BMP will describe the existing habitat along the road, identifying any modified, natural and critical habitat. Maps will also be provided showing the habitat within a 2km buffer of the road. Photos should also be provided to show the habitat types.
- Flora – including a list of trees to be cut and their IUCN and national protection status
- Fauna – including a description of mammals, reptiles, birds and fish likely to be present in the Project area, clearly identifying IUCN special status species.

D-2.3 Existing Threats to Biodiversity – The BMP will outline any existing threats to biodiversity in the project area, specifically focusing on habitat loss and degradation, hunting and poaching, invasive species, illegal logging and trade in endangered species.

### D-3 Targets and Actions for Biodiversity Management

D-3.1 Project-related Impacts – This section outlines the potential impacts to protected areas, protection forests, natural and critical habitat, special status flora and fauna and general flora and fauna will be identified, and the impact significance assessed.

As identified in the ESMF, this will include:

- General impacts to flora, through vegetation clearance.
- Encroachment into protection forests by workers and machinery.
- Encroachment into conservation forests & KBAs by workers and machinery.
- Illegal trades of timber and wildlife products from nearby Conservation Forests / Protected Areas and Protection Forests.

D-3.2 Mitigation and Management Measures - Where significant impacts to these areas / species are identified mitigation measures will be provided as clear ‘actions’ for implementation during the construction and O&M phases. The measures will be summarized in table E-1.

*Table E-1: Summary of the proposed avoidance, minimization and restoration/rehabilitation measures*

Project-related impacts	Avoidance measures	Minimization	Rehabilitation
Preconstruction Phase			

As identified in the project ESMF, mitigation measures shall include at least the following requirements:

- Keep all work activities and vehicle movements within the RoW.
- Avoid any unnecessary removal of vegetation.
- No chemicals will be used to clear vegetation.
- Trees cannot be cut without approval from PAFO.
- Workers will be given regular toolbox training to ensure they do not encroach in the protection forests during works (or for collection of wood fuel) and that tree cutting in these areas will be limited to the right of way with the approval of PAFO.
- Poaching or illegal tree cutting shall be a sackable offence.
- Coordination with relevant authorities and communities responsible for the management of designated sites to monitor potential impacts during the O&M phase.
- Do not allow to establish worker camps or other supporting facilities within 2km distance to the forest.

### D-4 Monitoring and Evaluation and Adaptive Management

This section of the BMP will include requirements for any anecdotal wildlife observations, wildlife trafficking monitoring, and monitoring of any vegetation clearance / tree cutting. Requirements for monitoring of habitat restoration will also be set out, if needed. Specifically, this section should include the following monitoring measures:

- Partnership or work with District Office of Agriculture and Forestry to conduct monthly site patrolling of forest area nearby the road and potential risk areas or access roads /tracks to the forest
- Use Google earth image to check the history change of forest
- Remote sensing monitoring will be completed by the Contractor (using drones or satellite images), pre-construction, mid-construction and post-construction (years 1, 2 & 5 of O&M phase).

#### D-5 Implementation

D-5.1 Staff and Contractors – Outlines the requirements of the contractor and sub-contractors for implementation of the BMP. This may include the need for a dedicated on site ecologist for the works duration, or for specific activities, such as workforce training and pre-clearance surveys.

D-5.2 Key Stakeholders – This will include any requirements for other stakeholders, for example PMU, MPWT, PTI, PAFO/DAFOs, etc.

D-5.3 Capacity Building – Outlines any specific capacity building requirements to ensure that contractors and other stakeholders can implement the BMP.

D-5.4 Monitoring and Maintenance Works – Including the roles of PMU and DPWT, supervising engineer and contractors to monitor implementation.

D-5.5 Reporting Commitments – Outlines monitoring requirements which will include at a minimum annual reports to WB on BMP implementation, pre-construction reports and monthly updates on BMP implementation.

D-5.6 Budget for implementation – Provides the BMP budget.

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## Annex E - Chance Find Procedure

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Cultural heritage encompasses tangible and intangible heritage which may be recognized and valued at a local, regional, national or global level. *Tangible cultural heritage*, which includes movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Tangible cultural heritage may be located in urban or rural settings, and may be above or below land or under the water. *Intangible cultural heritage*, which includes practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artefacts and cultural spaces associated therewith—that communities and groups recognize as part of their cultural heritage, as transmitted from generation to generation and constantly recreated by them in response to their environment, their interaction with nature and their history.

In the event that during construction, sites, resources or artifacts of cultural value are found, the following procedures for identification, protection from theft, and treatment of discovered artefacts should be followed and included in standard bidding documents. These procedures take into account requirements related to Chance Finding under national legislation including [list relevant cultural heritage legislation in country].

- Stop the construction activities in the area of chance find temporarily.
- Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a guard shall be arranged until the responsible local authorities take over. These authorities are [list the responsible authorities under national legislation].
- Notify the relevant [implementing agency field staff] and the relevant [list the responsible local authorities under national legislation] immediately. [Implementing agency field staff] will inform the [implementing agency management].
- The relevant [list the responsible local authorities under national legislation] shall promptly carry out the necessities and inform the [national level cultural heritage or archeology ministry] immediately from the date on which the information is received.
- The [national level cultural heritage or archeology ministry] would be in charge of evaluation /inspection of the significance or importance of the chance finds and advise on appropriate subsequent procedures.

- If the [national level cultural heritage or archeology ministry] determines that chance find is a non-cultural heritage chance find, the construction process can resume.
- If the [national level cultural heritage or archeology ministry] determines chance find is an isolated chance find, [national level cultural heritage or archeology ministry] would provide technical supports/advice on chance find treatment with related expenditure on the treatment provided by the entity report the chance find.

## Annex F– Outline of an Environmental and Social Management Plan (ESMP)

### 1. Subproject Information

<b>Subproject Title:</b>	
<b>Estimated Cost:</b>	
<b>Start/Completion Date:</b>	

### 2. Site/Location Description

*This section concisely describes the proposed location and its geographic, ecological, social and temporal context including any offsite investments that may be required (e.g., access roads, water supply, etc.). Please attach a map of the location to the ESMP.*

### 3. Subproject Description and Activities

*This section lists all the activities that will take place under the subproject, including any associated activities (such as building of access roads or transmission lines, or communication campaigns that accompany service provision).*

### 4. ESMP Matrix: Risk and Impacts, Mitigation, Monitoring

*This section should identify anticipated site-specific adverse environmental and social risks and impacts; describe mitigation measures to address these risks and impact; and list the monitoring measures necessary to ensure effective implementation of the mitigation measures. It may draw from the ESMF’s pre-identification of potential risks/impacts and mitigation measures, as applicable, and drill down further to ensure relevance and comprehensiveness at the site-specific level. For subprojects involving construction, two sets of tables may be needed, for the construction phase and the operation phase.*

Anticipated E&S Risks and Impacts	Risk Mitigation and Management Measures	Impact Mitigation		Impact/Mitigation Monitoring		
		Location/Timing/Frequency	Responsibility	Parameter to be monitored	Methodology, including Location and Frequency	Responsibility

### 5. Capacity Development & Training

*Based on the implementation arrangements and responsible parties proposed above, this section outlines any capacity building, training or new staffing that may be necessary for effective implementation.*

### 6. Implementation Schedule and Cost Estimates

*This section states the implementation timeline for the mitigation measures and capacity development measures described above, as well as a cost estimate for the implementation. The cost estimate can focus on the line items that will be covered by the project implementing agency, with costs of mitigation measures to be implemented by the contractor left to the contractor to calculate.*

**7. Attachments**

site specific SS-ESMP etc.

**IV. Review & Approval**

<p><b>Prepared By:</b> .....(Signature)</p> <p>Position: ..... Date .....</p>	
<p><b>Reviewed By:</b> .....(Signature)</p> <p>Position: .....Date .....</p>	<p><b>Approved By:</b> .....(Signature)</p> <p>Position: ..... Date .....</p>

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## Annex G – Simplified Labor Management Procedures

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In accordance with the requirements of World Bank’s Environmental and Social Standard 2 (ESS2) on Labor and Working Conditions, a simplified LMP have been developed for the project. The LMP sets out the ways in which MPWT will manage all project workers in relation to the associated risks and impacts. The objectives of the LMP are to: Identify the different types of project workers that are likely to be involved in the project; identify, analyze and evaluate the labor-related risks and impacts for project activities; provide procedures to meet the requirements of ESS 2 on Labor and Working Conditions, ESS 4 on Community Health and Safety, and applicable national legislation.

The Labor Management Procedures apply to all project workers, irrespective of contracts being full-time, part-time, temporary or casual. The types of workers that will be included in the project are listed below:

- **Direct workers** – [based on the definition of direct workers in ESS2, list the types of direct workers expected to be employed by the Project].
- **Contracted workers** – [based on the definition of contracted workers in ESS2, list the types of contracted workers expected to be employed by the Project].
- **Community workers** – [if relevant, based on the definition of community workers in ESS2, list the types of community workers expected to be employed by the Project or certain Project activities which may use the labor of community workers].
- **Primary supply workers** – [if relevant, based on the definition of primary supply workers in ESS2, list the types of primary supply workers connected to the Project or certain Project activities which may benefit from the labor of primary supply workers].

**G-1 Labor Risks**

The following potential labor risks are identified under the project:

- Violation of worker’s rights: Terms and conditions of employment of workers may not be consistent with national legislation or World Bank standards
- Violation of worker’s rights: Non-discrimination and equal opportunity of workers may not be consistent with national legislation or World Bank standards
- Use of child labor or forced labor
- Unsafe work environment and poor working conditions
- Workplace injuries and 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.)

- Sexual exploitation and abuse/sexual harassment (SEA/SH) risks for workers
- SEA/SH risks for community members, from workers from outside the project areas
- Conflicts between workers and communities
- Transmission of COVID-19 among workers or nearby communities, especially if workers are not hired locally and arrive to civil works locations from elsewhere or if COVID-19 specific precautions are not in place at work sites and worker accommodation sites

## G-2 Relevant National Labor Legislation

See Section 3 of the ESMF

## G-3 General Applicable Procedures

MPWT and contractors will apply the following guidelines when dealing with workers:

- There will be no discrimination with respect to any aspects of the employment relationship, such as: Recruitment and hiring; compensation (including wages and benefits; working conditions and terms of employment; access to training; job assignment; promotion; termination of employment or retirement; or disciplinary practices.
- Harassment, intimidation and/or exploitation will be prevented or addressed appropriately.
- Special measures of protection and assistance to remedy discrimination or selection for a particular job will not be deemed as discrimination.
- Vulnerable project workers will be provided with special protection.
- MPWT and contractors will provide job / employment contracts with clear terms and conditions including rights related to hours of work, wages, overtime, compensation and benefits, annual holiday and sick leave, maternity leave and family leave. Code of Conduct included in this LMP will be applicable for all project workers.
- Contractors will ensure compliance with the Code of Conduct including providing briefings/awareness raising on the Code.
- MPWT and contractors will ensure compliance with occupational health and safety procedures and COVID-19 specific procedures (see below) including that the workers are properly trained in application of the standards that are relevant to the work.
- MPWT and retained contractors will ensure no person under the age of 18 shall be employed. Age verification of all workers will be conducted by the contractors.
- MPWT will recruit contractors and labor locally to the extent that they are available.
- Workers shall be recruited voluntarily, and no worker is forced or coerced into work.
- MPWT] will supervise and monitor to ensure compliance with the above requirements.
- All workers will be made aware of the Worker's Grievance Mechanism (see below) to raise work related grievances, including any sensitive and serious grievances on SEA/SH.

## G-4 Occupational Health and Safety (OHS) Procedures

The objective of the procedure is to achieve and maintain a healthy and safe work environment for all project workers (contracted workers and community workers) and the host community.

- On procurement for contractors, [Implementing agency] will avail the ESMF to the aspiring contractors so that contractors include the budgetary requirements for OHS measures in their respective bids.
- The contractor will develop and maintain an OHS management system that is consistent with the scope of work, which must include measures and procedures to address all the following topics listed below and in accordance with local legislation and GIIP (as defined by World Bank Group EHSs). The management system must be consistent with the duration of contract and this LMP.
- Contractor will conduct workplace hazards identification and adopt all applicable E&S risk mitigation measures in accordance with local legislation requirements and WBG EHSs.
- Contractor designates a responsible person to oversee OHS related issues at the project site and define OHS roles and responsibilities for task leaders and contract managers.
- Contractor should put in place processes for workers to report work situations that they believe are not safe or healthy, and to remove themselves from a work situation which they have

reasonable justification to believe presents an imminent and serious danger to their life or health, without fear of retaliation.

- Contractor provides preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances informed by assessment and plan. Whenever PPEs are required for the work, it must be provided at no cost for the workers.
- Contractor should assess workers' exposure to hazardous agents (noise, vibration, heat, cold, vapors, chemicals, airborne contaminants etc.) and adopt adequate control measures in accordance with local regulations and WB EHSGs.
- Contractors provides facilities appropriate to the circumstances of the work, including access to canteens, hygiene facilities, and appropriate areas for rest. Where accommodation services are provided to project workers, policies will be put in place and implemented on the management and quality of accommodation to protect and promote the health, safety, and well-being of the project workers, and to provide access to or provision of services that accommodate their physical, social and cultural needs.
- Contractor provides for appropriate training/induction of project workers and maintenance of training records on OHS subjects.
- Contractor documents and reports on occupational incidents, diseases and incidents as per ESMF guidance.
- Contractor provides emergency prevention and preparedness and response arrangements to emergency situations including and not limited to workplace accidents, workplace illnesses, flooding, fire outbreak, disease outbreak, labor unrest and security.
- Contractor provides remedies for adverse impacts such as occupational injuries, deaths, disability and disease in accordance with local regulatory requirements and Good International Industry Practices.
- Contractor shall maintain all such record for activities related to the safety health and environmental management for inspection by [implementing agency] or the World Bank.

#### G-5 COVID-19 Procedures

- Contractors should ensure that workers are hired locally to the extent possible.
- Contractors should provide training to all workers on signs and symptoms of COVID-19, how it is spread, how to protect themselves (including regular handwashing and social distancing) and what to do if they or other people have symptoms, as well as policies and procedures listed here. Training of workers should be conducted regularly, providing workers with a clear understanding of how they are expected to behave and carry out their work duties. Training should address issues of discrimination or prejudice if a worker becomes ill and provide an understanding of the trajectory of the virus, where workers return to work following infection.
- A summary of basic guidelines and COVID-19 symptoms should be displayed at all civil works sites, with images and text in relevant ethnic languages.
- Workers who are sick or showing possible symptoms should not be allowed on work site, should be isolated and referred to local medical facilities immediately.
- Contractors should review worker accommodation arrangements to see if they are adequate and designed to reduce contact with the community.
- Contractors should review work arrangements, tasks and hours to allow social distancing.
- Contractors should provide workers with appropriate forms of personal protective equipment.
- Contractors should ensure handwashing facilities supplied with soap, disposable paper towels and closed waste bins exist at key places at the work site.
- [Implementing agency] and contractors should together implement a communication strategy with the community in relation to COVID-19 issues on the site.

#### G-6 Contractor Management Procedures

The objective of this procedure is to ensure that MPWT has contractual power to administer oversight and action against contractors for non-compliance with the LMP.

- MPWT will make available relevant documentation to inform the contractor about requirements for effective implementation of the LMP.

- MPWT will include the provisions of the ESMF, LMP and other relevant documents into the specification section of the bidding documents. The contractors will be required to comply with these specifications.
- Contractor will raise worker awareness on the Code and Conduct.
- Contractor will show evidence of OHS and Emergency Preparedness procedures.
- MPWT will monitor contract's E&S performance during its regular site visits utilizing contractor reporting or external monitoring/supervision consultants where available. Where appropriate, MPWT may withhold contractor's payment or apply other contractual remedies as appropriate until corrective action(s) is/are implemented on significant non-compliance with the LMP, such as failure to notify MPWT of incidents and accidents.

#### G-7 Procedures for Primary Suppliers

The objective of the procedure is to ensure that labor-related risks, especially child and forced labor as well as serious safety issues to the project from primary supply workers are managed. MPWT and all contractors will undertake the following measures:

- Procure supplies from legally constituted suppliers.
- To the extent feasible, conduct due diligence to ensure that primary suppliers conduct age verifications, employ workers without any force or coercion, and maintain basic OHS systems.

#### G-8 Procedures for Community Workers

The objective of this procedure is to ensure the community workers offer their labor voluntarily and that they agree to the terms and conditions of employment. MPWT and contractors using community workers will apply the following guidelines when dealing with community workers:

- MPWT will develop standard working times, remuneration systems (depending on the type of work), methods of payment, timing of payment, and community worker Code of Conduct, which will apply to all project activities.
- MPWT and contractors should consult communities and document their community meetings where members agree to conditions of community worker recruitment. The agreement should include details on nature of work, working times, age restrictions (18 and above), remuneration amount, method of payment, timing of payment, individual signatory or representative signatory of meeting resolution
- Contractors will have the terms and conditions discussed, explained, negotiated and documented through joint community meetings, with each community employee showing consent through signing the attendance register of the meeting which made the employment resolutions.
- MPWT and contractors train community workers on key LMP issues, including SEA/SH, OHS, COVID-19, safe use of equipment and lifting techniques, and the relevant grievance mechanisms.

#### G-9 Worker Accommodation

If accommodations are provided for workers, contractors will ensure that they are provided in good hygiene standards, with fresh drinking water, clean beds, restrooms and showers, clean bedrooms, good illumination, lockers, proper ventilation, safe electrical installation, fire and lightning protection, separate cooking and eating areas. There will be separate facilities provided for men and women. The contractors will be liable to comply with "Workers' Accommodation: Processes and Standards: A guidance Note" by IFC and the EBRD.

#### H-10 Institutional Arrangement for Implementation of the LMP

MPWT will carry the main responsibility for the implementation and monitoring of the LMP. MPWT through their Project Management Unit (PMU) will identify subproject activities, prepare subproject designs and bidding documents, as well as procure contractors. DWPT/PIU will be responsible for contractor and site supervision, technical quality assurance, certification, and payment of works. PMU will ensure that labor management procedures are integrated into the specification section of the bidding documents and the procurement contracts.

#### H-11 Grievance Mechanism

There will be a specific Workers Grievance Mechanism (Worker GM) 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. Workers will be informed about the relevant Worker GM upon their recruitment and their right to redress, confidentiality and protection against any reprisals from the employer will be stated in the contract. The process for the Worker GM is as follows:

- Any worker 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 worker or contractor within one week of receipt of complaint, the incident and resultant resolution will be logged and reported monthly to the MPWT PMU.
- If the grievance is not resolved within one week, the contractor (or the complainant directly) will refer the issue to the DWPT/PIU. The DWPT/PIU will work to address and resolve the complaint and inform the worker as promptly as possible, in particular if the complaint is related to something urgent that may cause harm or exposure to the person, such as lack of PPE needed to prevent COVID-19 transmission. For non-urgent complaints, the DWPT/PIU will aim to resolve complaints within 2 weeks. For complaints that were satisfactorily resolved by the DWPT/PIU the incident and resultant resolution will be logged by DWPT/PIU and reported monthly to PMU as part of regular reporting. Where the complaint has not been resolved, the DWPT/PIU will refer to PMU for further action or resolution.

The workers will preserve all rights to refer matters to relevant judicial proceedings as provided under national labor law.

At PMU level, each grievance record should be allocated a unique number reflecting year, sequence and township of received complaint. Complaint records (letter, email, record of conversation) should be stored together, electronically or in hard copy. The PMU will appoint a Worker GM Focal Person, who will be responsible for undertaking a monthly review of all grievances to analyze and respond to any common issues arising. The Focal Person will also be responsible for oversight, monitoring and reporting on the Worker GM.

#### Serious Grievances

In case a worker experiences serious mistreatment such as harassment, intimidation, abuse, violence, discrimination or injustice at the workplace, the worker may raise the case, verbally or in writing directly to the contractor or DWPT/PIU. The contractor will immediately refer the case to PMU. The PMU will immediately investigate the case respecting confidentiality and anonymity of the worker. Upon project effectiveness, the PMU will designate a Focal Person or Persons for Serious Grievances. These Focal Persons will receive training in investigating serious grievances, relevant laws and regulations, and World Bank standards including the rights of people who file a grievance. PMU and the World Bank will jointly develop culturally-sensitive and locally-appropriate roles and responsibilities, and procedures. In case a direct worker or civil servant has a serious grievance, the staff may directly contact verbally or in writing the Focal Person for Serious Grievances.

All complaints received will be filed and kept confidential. For statistical purposes, cases will be anonymized and bundled to avoid identification of persons involved.

#### G-12 Code of Conduct

- Treat women, children (persons under the age of 18), and men with respect regardless of ethnicity, language, religion, political or other opinion, national, social origin, citizenship status, property, disability, birth or other status.
- Do not use language or behavior towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
- Do not participate in sexual activity with community members.
- Do not engage in sexual favors or other forms of humiliating, degrading or exploitative behavior.
- Do not engage in any activity that will constitute payment for sex with members of the communities surrounding the workplace.
- Report through the Worker GM suspected or actual gender-based violence against a person of any gender by a fellow worker or any breaches of this Code of Conduct.
- Use any computers, mobile phones, or video and digital cameras appropriately, and never to exploit or harass women, children or a vulnerable person through these mediums.
- Comply with all relevant local legislation.

- Engaging in any of the prohibited activities above can be cause for termination of employment, criminal liability, and/or other sanctions.

## Annex H - UXO Procedures

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### H-1 General

There are no specific laws regulating the UXO/mine action sector in Lao PDR. Various official documents, including decrees, resolutions, and decisions, serve to regulate UXO/mine action in the absence of specific laws, specifically the Lao PDR National UXO/MINE Action Standards (NS). The primary goal of the NS is to guarantee the safety, efficiency, and effectiveness of UXO/mine action activities in Laos.

NS is responsible for accrediting organizations involved in UXO/mine action, prioritizing and planning tasks related to UXO/mine action, execution of UXO/mine action activities, facilitating the transfer of cleared land, implementing quality management standards, providing training and qualifications for personnel engaged in UXO/mine action, managing information related to UXO/mine action, ensuring the health and safety of personnel involved, considering environmental factors, and supporting logistical activities.

### H-2 Project Procedures

Procedures for UXO identification and management are as follows:

1. Preliminary Risk Assessment - check if there is history of bombing or military activity on your project site, completed by consultation with local authorities and the community. To be completed by the Contractor and findings submitted to PMU.
2. Detailed Risk Assessment - if any potential risk or need for further research is identified during the Preliminary Assessment, a detailed risk assessment should be completed is commissioned, which is a comprehensive and in-depth desktop study report which fully examines the history of a project site and the potential for UXO. The detailed risk assessment should be completed by an accredited organization in Lao PDR.
3. Surveys – based on the findings of the detailed risk assessment surveys of potentially UXO contaminated sites may be required and will be completed by an accredited organization. The findings of surveys shall be provided to the PMU and Contractor in a detailed site survey report indicating the precise areas surveyed and the results of the survey.
4. Risk Mitigation – Based on the findings of the detailed risk assessment and site surveys a risk management plan will be prepared by the accredited organization and shared with the Contractor and PMU. Risk mitigation measures, such as mine clearance will be implemented according to the risk management plan. The risk management plan will also include an emergency response plan, contractor staff training plans and plans to identify and manage previously unidentified UXO (e.g. marking of contaminated areas).
5. Clearance – Where mine clearance works are required they will be completed by an accredited organization according to the requirements of the NS.

## Annex I - Guideline Traffic Management Plan

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### I-1 Need for Plan

During the construction period of the project, considerable vehicular movement carrying large amounts of material and machinery is expected. This will definitely interrupt the local traffic and is therefore important to manage the traffic to avoid the nuisance to local residents in terms of noise, dust, congestion and inconvenience.

## I-2 The Plan

The objective of Traffic Management Plan (TMP) is to define the requirements that should be implemented to mitigate any potential negative risks to the environment, workers or the community resulting from construction traffic.

The TMP will advise and inform site Contractors and external suppliers of equipment and materials of access and entry points along with other key information such as tipping areas and wash-out areas. It is intended to compliment and work alongside relevant ESMP. The TMP will be classed as “live” and therefore be subjected to updates as required.

The Contractor, at the time of the execution of the project, will prepare a comprehensive TMP in coordination with local traffic police department, PMU/PIU, emergency services and local administrative department. PMU/PIU and CSC will review and approve the Contractor’s TMP. The Contractor’s TMP shall include following mitigation measures during its preparation:

- Undertake a road conditions assessment prior to and following the peak construction period, to assess any damage to road infrastructure that can be attributed to Project development.
- Repair damage as appropriate or enter into a voluntary agreement with the relevant roads authority to reimburse the cost of any repairs required to the public road network as a result of the Project.
- Spoil dumpsites located close to project site to minimize journey distance and limit movements to site access roads.
- Construction of worker accommodation on site to reduce light vehicle movements relating to travel to/from the site.
- Provision of bus/minibus services for personnel living in nearby settlements.
- Movements of construction workers will be planned to avoid the busiest roads and times of day when traffic is at its greatest.
- Schedule deliveries and road movements to avoid peak periods.
- Driver training for HGV drivers and refresher course every six months for project drivers.
- Speed restrictions for project traffic travelling through communities (to be agreed GOL Authority).
- Run a safety campaign to improve the people’s knowledge of the traffic hazard on their roads, public information and other activities to address the issues.
- Run a pedestrian awareness programme.
- Temporary signage

## I-3 Other Recommendations

It is important to manage public access routes during construction because it can cause delay to local traffic and create a safety hazard both on and offsite. People working and living near the tower sites would be annoyed by the emissions, noise and visual intrusion of queuing vehicles. Some important factors involved in access routes and site traffic are as follows:

### I-3-1. Public Access Routes

The use of public road for site access may be restricted in terms of:

- Vehicle size, width and type of load

- Time limits
- Parking
- Pedestrian conflicts

Contractor should have consultation with the local police or local authority to address these issues and to effectively manage them before the beginning of the construction.

### I-3-2. Site Workers Traffic

Site personnel should not be permitted to park vehicles right on the road; this will lead to disruption in material deliveries. Designated parking areas with appropriate parking space will be needed for this purpose; any plain area near construction site can be used for this purpose.

### I-3-3. Site Rules

- Access to and from the site must be only via the specified entrance.
- On leaving the site, vehicles must be directed to follow the directions given.
- Drivers must adhere to the site speed limits.
- All material deliveries to site must keep allocated time limits.
- No material or rubbish should be left in the loading-unloading area.
- Develop a map for alternate routes showing material delivery services.
- Assign designated personnel on site to receive deliveries and to direct the vehicles.
- Monitor vehicle movement to reduce the likelihood of queuing or causing congestion in and around the area.
- Project vehicles should have a unanimous badge or logo on windscreen displaying that they belong to the project.

### I-3-4. Contractor's Obligation

The traffic management plan of the Contractor should be safe enough and widening of any access roads and construction of the detours (as applicable and practical) must be completed prior to start of project construction activities so that heavy vehicular transportation for construction activities do not hinder the normal course of traffic lanes. Contractor must ensure that road closures are carried out by a competent person. The Contractor obligation must include the display of traffic signs according to the need to divert the traffic volume and to guide the road users in advance. The traffic sign, traffic light should be placed from any diverting route or road marking.

The Contractor should consider the environmental and social impacts of the traffic during construction. It will be sole responsibility of the Contractor to implement a plan which produces minimum nuisance to the local people and to the environment. Safety of the people should be given due importance. It will be under Contractor obligation to notify the traffic management plan and its later changes to CSC, PMU/PIU, emergency services and Traffic Police, and also publish weekly programme in the local newspaper.

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<sup>i</sup> EAR Lao PDR: Road Sector Governance and Maintenance Project Local Road 6901, Salavan Province (ADB). July 2015.  
<https://www.adb.org/sites/default/files/project-documents/47085-002-iee-01.pdf>

<sup>ii</sup> Small Scale Agricultural & Rural Development Program along the Mekong River – Final Report (JICA).  
[https://openjicareport.jica.go.jp/pdf/11587045\\_06.pdf](https://openjicareport.jica.go.jp/pdf/11587045_06.pdf)

<sup>iii</sup> Bui Tan Yen, A.J. de la Gente Ferrer, S. Mienmany, L. S. Sebastian. Situation Analysis and Needs Assessment Report for Pailom Village, Savannakhet Province, Lao PDR. January 2015.

[https://www.researchgate.net/publication/312976184\\_Situation\\_Analysis\\_and\\_Needs\\_Assessment\\_Report\\_for\\_Pailom\\_Village\\_Savannakhet\\_Province\\_Lao\\_PDR](https://www.researchgate.net/publication/312976184_Situation_Analysis_and_Needs_Assessment_Report_for_Pailom_Village_Savannakhet_Province_Lao_PDR)

<sup>iv</sup> T. Waltham. The Khammouan Karst of Laos. December 2000.

[https://www.researchgate.net/publication/298687136\\_The\\_Khammouan\\_karst\\_of\\_Laos](https://www.researchgate.net/publication/298687136_The_Khammouan_karst_of_Laos)

<sup>v</sup> EAR Lao PDR: Road Sector Governance and Maintenance Project Local Road 6901, Salavan Province (ADB). July 2015.

<https://www.adb.org/sites/default/files/project-documents/47085-002-iec-01.pdf>

<sup>vi</sup> M.K. Hazarika, A. Bormudoi, S. Phosalath, V. Sengtianthr, L. Samarakoon. Flood Hazard in Savannakhet Province, Lao PDR Mapping Using Hec-Ras, Remote Sensing and GIS. November 2008.

[https://www.researchgate.net/publication/267296211\\_FLOOD\\_HAZARD\\_IN\\_SAVANNAKHET\\_PROVINCE\\_LAO\\_PDR\\_MAPPING\\_USING\\_HEC-RAS\\_REMOTE\\_SENSING\\_AND\\_GIS/link/02e7e5372fff3309ca000000/download](https://www.researchgate.net/publication/267296211_FLOOD_HAZARD_IN_SAVANNAKHET_PROVINCE_LAO_PDR_MAPPING_USING_HEC-RAS_REMOTE_SENSING_AND_GIS/link/02e7e5372fff3309ca000000/download)

<sup>vii</sup> EAR Lao PDR: Road Sector Governance and Maintenance Project Local Road 6901, Salavan Province (ADB). July 2015.

<https://www.adb.org/sites/default/files/project-documents/47085-002-iec-01.pdf>

<sup>viii</sup> ESRS: Lao PDR Climate Resilient Road Connectivity Improvement Project (WB). October 2023

<sup>ix</sup> ESRS: Lao PDR Climate Resilient Road Connectivity Improvement Project (WB). October 2023

<sup>x</sup> forests classified for the purposes of conserving nature, preserving, and propagating plant species, aquatic animals and wildlife species, protecting forest ecosystems and others of natural, historical, cultural, touristic, environmental and educational value and for scientific research experiments. Conservation Forests are rich in biodiversity, have unique natural scenery, are of outstanding importance at national, regional, and global levels and may be proposed as wildlife conservation areas, national parks, regional or world heritage sites.

<sup>xi</sup> Global Facility for Disaster Reduction and Recovery (GFDRR). Climate Risk and Adaptation Country Profile (Lao PDR). April 2011.

<https://www.gfdr.org/en/publication/climate-risk-and-adaptation-country-profile-lao-pdr>

<sup>xii</sup> ReliefWeb. Lao PDR: Floods and Landslides – Oct 2020. <https://reliefweb.int/disaster/fl-2020-000213-lao>

<sup>xiii</sup> Socioeconomic Data and Applications Center (SEAC). (Population Density) 2000 : (Laos - SECAC : NASA's Earth Data .

<https://sedac.ciesin.columbia.edu/data/set/grump-v1-population-density/maps?facets=region:asia&facets=theme:population>

<sup>xiv</sup> Lao National Unexploded Ordnance Programme (UXO Lao). THE UNEXPLODED ORDNANCE (UXO) PROBLEM.

<https://www.uxolao.org/>

<sup>xv</sup> Support for the Institutional Strengthening of the Lao National UXO Programme (UXO Lao). <https://www.undp.org/laopdr/projects/support-institutional-strengthening-lao-national-uxo-programme-uxo-lao>

<sup>xvi</sup> U.S. Department of State. 2023 Trafficking in Persons Report: Laos. <https://www.state.gov/reports/2023-trafficking-in-persons-report/laos/#:~:text=commercial%20sex%20acts,-,TRAFFICKING%20PROFILE%3A,other%20countries%20in%20the%20region.>