

# **Environment and Social Management Plan (ESMP)**

**Strengthening the Collaborative Management of Phoupheung-  
Phouphathoun Tad Kuang Se Provincial Protected Forest  
(PPTKS-PPF)**

**Luangphabang Province**

(August 07, 2017)

## List of Abbreviations and Acronyms

CAP	Community Action Plan
CBD	Convention on Biodiversity Diversity
CCA	Community Conservation Agreement
DAFO	District Office of Agriculture and Forestry (of MAF)
DFRM	Department of Forest Resources Management
DFRMU	District Forest Resources Management Unit (of MAF)
DOF	Department of Forestry
DOFI	Department of Forest Inspection
DOFIU	District Office of Forest Inspection Unit (of MAF)
DONRE	District Office of Natural Resources and Environment (of MONRE)
DPA	District Protected Area
DPFA	District Protection Forest Area
EIA	Environmental Impact Assessment
EPF	Environmental Protection Fund
EPFO	Environmental Protection Fund Office
ESIA	Environment and Social Impact Assessment
ESMP	Environment and Social Management Plan
GOL	Government of Lao PDR
GRM	Grievance Redress Mechanism
IEE	Initial Environmental Examination
LENS2	The Second Lao Environment and Social Project
LFNC	Lao Front for National Construction
LWU	Lao Women's Union
MAF	Ministry of Agriculture and Forestry
MEM	Ministry of Energy and Mines
MONRE	Ministry of Natural Resources and Environment
MPWT	Ministry of Public Works and Transport
NPA	National Protected Area
NPF	National Protection Forest
NTFPs	Non-Timber Forest Products

P/CC-ONRE	Provincial/Capital City Office of Natural Resources and Environment
P/D-FRM	Provincial and District Forest Resources Management
PA	Protected Area
PAFO	Provincial Agriculture and Forest Office
PAMP	Protected Area Management Plan
PAMU	Protected Area Management Unit
PDFA	Production Forest Area
PDO	Project Development Objective (of LENS2)
PF	Protection Forest
PFRM	Provincial Forest Resource Management
PLUP	Participatory Land Use Planning
PPTKS-PPF	PhouPhathoun TadKuangSe- Provincial Protected Forest
PPA	Provincial Protected Area
PPF	Provincial Protected Forest
PRA	Participatory Rural Appraisal
SO	Safeguard Officer
VCF	Village Conservation Fund; This is equivalent to the Community Conservation Fund (CCF) referred to in the CEF
VDC	Village Development Committee
VFRCC	Village Forest Resources Conservation Committee
VMU	Village Mediation Unit
WB	The World Bank

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## **I. Introduction**

1. This document is the Environment and Social Management Plan (ESMP) for Strengthening the Collaborative Management of Phoupheung-Phouphathoun-Tad Kuang Se Provincial Protected Forest (PPTKS-PPF). Sub-project in Luang Prabang Province. It was prepared in accordance with the Environmental and Social Management Framework (ESMF) of the Second Lao Environment and Social (LENS2) Project<sup>1</sup>. Section II presents the sub-project development objective and description while Section III identifies the key related Government legislation and WB safeguard policy triggered for the sub-project. Sections IV and V present the environment and social background of the sub-project area and the potential negative impacts and proposed mitigation measures while Sections VI-VIII present the implementation arrangements, the grievance redress mechanism (GRM), and the consultation process. The Provincial Forest Resources Management (PFRM) of the Provincial Agriculture and Forest Office (PAFO) in Luang Prabang Province is the Sub-project Delivery Agency (SDA).

2. The ESMP implementation arrangements and budget have been incorporated into the sub-project design and they can be highlighted as follows:

- Under Component 1: Provide training on CEF and ESMP;
- Under Component 2: Incorporates mitigation measures during patrolling and providing priorities for sub-project support through the Village Conservation Fund (VCF) for poor people negatively affected by restrictions on natural resource use. Component 2 activities have been designed following the Community Engagement Framework (CEF) of LENS2; The CEF manual will be applied during implementation.
- The ESMP implementation budget is included in the sub-project budget for Components 1 and 2.

## **II. Sub-project Development Objective and Component**

### **2.1 Sub-project Development Objective**

3. The sub-project development objective is to strengthen the capacity of the PFRM at the provincial and local levels and the target villages to manage the biodiversity in Phoupheung Phouphathoun Tad Kuang Se-Provincial Protected Forest (PPTKS-PPF) through a community-based approach.

The sub-project is considered important for the protection of biodiversity as well as for supporting a number of important national strategies and action plans, including the National Forest Strategy from now to 2020 aiming at increasing forest cover at 70%; the

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<sup>1</sup> Project Development Objective (PDO) of LENS2 is *“To help strengthen selected environmental protection management systems, specifically for protected areas conservation, enforcement of wildlife laws and environmental assessment management”*

Vision up to 2030, Strategy up to 2025 and Five Year Action Plan for 2016-2020 of the Natural Resources and Environment Sector; the National Environment Strategy from now to 2020 for better Environment; the Biodiversity from now to 2020 to conserve the abundance of diversity in the conservation areas; and the National Poverty Reduction Strategy to 2020 to conserve food stuff source and generate income using forest resources sustainably.

The sub-project is a core LENS2 sub-project since it supports two Project Development Objective (PDO) results indicators and three intermediate indicators. The sub-project activities will be implemented through the three components described in the sub-project proposal, which are presented in the following three paragraphs.

## **2.2 Sub-project Outcome Indicators:**

5. There are 5 sub-project outcome indicators as follows of which 2 indicators support LENS2 new PDO indicator and 3 indicators support LENS2 new intermediate indicators:

**Indicator 1:** Score for the protected area Management Effectiveness Tracking Tool (METT) for PPTKS (score) more than 10% (cumulative) (support LENS2 PDO Indicator 1)

**Indicator 2:** Increase the score of functional capacity of Phoupheung Phouphathoun Tad Kuang Se Management Office (PPTKS-MO) and district partners as well as in village cluster (Kumban) and village level on Management PPTKS (annual) (support LENS2 PDO indicator 3)

**Indicator 3:** Number of staff of PPTKS-MO and partners in Kounban and Ban (of which 20% are women) that received formal short courses or participate in study tours (cumulative) (support LENS2 Intermediate Indicator 1.1)

**Indicator 4:** Number of 12 villages within or adjacent to PPTKS-PPF that meet the terms of conservation agreements, and as a result receive financing and implementing their community action plans (per year in the final year) (support new LENS2 Intermediate indicator 2.1)

**Indicator 5:** Area within PPTKS-PPF where gross forest loss rate are measured (hectare) (per year) (support LENS2 Intermediate Indicator 2.2)

## **2.3 Project component**

6. The sub-project will be implemented through the following three components:

### **Component 1. Strengthen the capacity of PPTKS-PPF-MO:**

This component aims to increase knowledge and capacity of PPTKS-PPF-MO on planning and management of protected areas through training of PPTKS-PPF-MO staff and its partners so that activities could be conducted on the ground. Key activities are:

- ❖ *Activity 1.1 Training on project management:* This activity is planned to participate the training provided by EPF related to the project operation and management.
- ❖ *Activity 1.2 General (collaborative) management training:* The PPTKS-PPF-MO will be trained in basic protected area management. They will understand the relationship between the unit staff and other unit staff, between unit staff and district partners,

organizing programs of work, and organizing meetings. They will understand the working relationship from provincial level to village level. They will also be trained on general management aspects including management planning, zoning and PA regulations, law enforcement and GPS use by a law enforcement expert, involving two months of inputs. This training will also link to the topic that NUoL plans for annual training for each PA/PF Management Office (each training, 12 from PPTKS-PPF-MO, 4 from PFRM and 9 from districts will be participated)

- ❖ *Activity 1.3 Nature education and outreach training:* Four PFRM Staff (PPTKS-PPF), and 18 concerned district partners will be trained in nature education and outreach techniques, involving two months of inputs by an outreach expert. This will involve an initial period of classroom training and orientation supplemented by practical training involving students. This field of protected area work is awarded the highest priority in terms of protected area programmes within PPTKS-PPF, given its high potential for tourism development.
- ❖ *Activity 1.4 Land use planning and CEF training:* Four PFRM staff from PPTKS PPF, as well as eight PFRM staff from other National Protected Areas and eight concerned district partners trained in land use planning. The target participants will be technical staff of PPTKS-PPF-MO and DAFO of Luang Prabang, Xiengngeun and Nan districts.
- ❖ *Activity 1.5 Livelihood development for conservation training:* Training will be conducted on better alternative livelihood improvement (livestock raising, cultivations, ecotourism services and other vocational trainings). More efficient and effectiveness use of land and raising livestock in another place in the country will be introduced (e.g. integrated farm, multi-seasonal cropping, spring way watering vegetables), and value-added to agricultural products (food processing) and women in-door activities for the incentive market (108 villagers will be trained).
- ❖ *Activity 1.6 In-country study tour:* An in-country study tour will be organized to the Oudomxay ecotourism site or Nam Khan NPA to see (12 staff trained) Community involvement in ecotourism at village level will be promoted.

## **Component 2. Support PPTKS-PPF General Management and Community Livelihood development:**

This component aims to engage local communities around the PPTKS-PPF to take part in communities and management of the PPTKS-PPF through community-based approach. The activities have been designed to apply CEF principles and process and details will follow the CEF manual<sup>2</sup>. Key activities will include, but not limited to, the following:

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<sup>2</sup> The CEF manual identifies 4 stages. First stage is selection of the target area and the sub-project orientation and comprise three steps i.e. 1.1) Village selection, 1.2) Orientation workshop, and 1.3) Social economic analysis. Second stage is Community Awareness and Resource diagnostic and comprises two steps i.e. 2.1) Community consultation and 2.2) Resource diagnostic. Third step is to Participatory Planning and Agreements comprising three steps i.e. 3.1)

## 2.1. Support general PPTKS-PPF management

- ❖ *Activity 2.1.1 Annual Meeting of PPTKS- PPF Steering Committee:* The PPTKS-PPF Steering Committee and the PPTKS-PPF-MO will meet annually to review the activities undertaken during the previous annual report, and assess and approve the upcoming year's plan. The annual report and the annual plan will be prepared and shared with the PPTKS-PPF steering committee prior to the end of the year, and both will be discussed, amended and approved at the PPTKS-PPF Steering Committee meeting held each year. This meeting will also discuss on the revision of the work plan with F-RED.
- ❖ *Activity 2.1.2 Formal structuring of PPTKS-PPF-MO:* The PPTKS-PPF is planned for 12 personnel (three key government staff and 9 recruited volunteers). These staff will be organized into four units by the senior staff, comprising (i) administration and finance; (ii) law enforcement, (iii) community outreach (nature education) and community development for conservation, and (iv) Biodiversity conservation and ecotourism. These staff will be provided ToRs to assist management. This activity will be done through two consultation workshops with key partners at provincial and district levels together with activity 2.1.3
- ❖ *Activity 2.1.3 Support of planning and management meetings:* The PPTKS-PPF-MO will ensure the effective implementation of the subproject implementation work plan. A launching workshop with key stakeholders will be held at the beginning of the project. Then regular six months meeting will be held at the PFRM office in Luang Prabang for planning and implementing the project activities. It also will be conducted as technical workshops prior to the Steering Committee Meeting.
- ❖ *Activity 2.1.4 Boundary demarcation of the protection forest:* The boundary of PPTKS-PPF will be demarcated by concrete posts (150 large and 200 small) and sign boards (6 large and 200 small) at strategic locations.
- ❖ *Activity 2.1.5 Prepare and implement action plan to implement PES resulted from F-RED study:* The results of PES that F-RED had studied will be reviewed and discussed with potential entrepreneurs to seek alternative support or payment for resources conservation. This activity will work closely with the Department of Culture and Information, who will be the key partner for to initiate PES in the Lao context. A variety of consultations with potential entrepreneurs and line departments at the province will be held and action plans for PES will be prepared Then, detail discussion with at least two entrepreneurs will conducted. This may include preparing a legal agreement or MOU for implementing the action plan.

## 2.2 Law Enforcement

- ❖ *Activity 2.2.1 Interagency law enforcement:* Interagency patrolling conducted in and around PPTKS-PPF four times every month in the three districts. This activity will

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Participatory Land Use Planing(PLUP), 3.2) Community Action Plan(CAP), and 3.3) Community Conservation Agreement (CCA). Fourth satag is Implementation of the action plan and comprises two steps i.e. 4.1) Implementation and 4.2) Monitoring and Evaluation

comprise staff from the PPTKS-PPF- MO, (DAFO staff), district police, and village militia and use GPS. Four patrol teams are envisaged, one operating in each district apart from Luang Prabang district (two teams). Their mode of operation will be like a mobile unit, operating inside the reserve as well as in the periphery. They will be expected to provide an update on the integrity of the provincial protection forest boundary every three months including tracking for wildlife sound/foot-prints and forest covers status.

- ❖ *Activity 2.2.2 Outreach and conservation awareness:* Awareness raising and outreach will be conducted in 25 villages; this activity will be conducted for the whole villages in and adjacent to the PPF. Key stakeholders for awareness event are: villagers who will be the key laborer for plantation, children in primary or secondary school (young generation), representatives from religious bodies (monks and novices), as well as police and military.
- ❖ *Activity 2.2.3 Special campaign events:* Support six national events comprising tree plantation days and biodiversity conservation days; this activity will planned to support the national important event as a part of national awareness raising.

### **2.3 Support Community Livelihood Intervention**

- ❖ *Activity 2.3.1 Establish and strengthen capacity of village committees and village user groups:* Due to the limited budget available, it is likely that the subproject will provide the Village Conservation Fund to only 12 selected villages. For each village, the village committee will be strengthened as a network for community-based management and conservation,. User groups will be established or strengthened as required, in each village, dependent upon the agreed interventions.
- ❖ *Activity 2.3.2 Village livelihood development planning and livelihood interventions:* As a result of the sub-project implementation with PLUP and conservation agreements to be applied, the villages located within and adjacent to PPTKS-PPF are expected to have restricted access to PPTKS, forestry resources and NTFPs collection, outside their village lands. Without alternative sources of livelihood and incomes, it would be difficult and discouraging for the sub-project affected villages to participate fully in the conservation forest management activities. Therefore, the village livelihood improvement planning and support is crucial for successful and sustainable PPTKS-PPF and forest conservation. The sub-project will support the village livelihood planning using Community Engagement Framework (CEF) as a tool for consultation. The sub-project will provide the village with some fund (capital seed) and technical support to start up their livelihood activities in the 12 villages of three districts.
- ❖ *Activity 2.3.3 Village socio-economic assessment:* CEF will be implemented in the three districts ( fourteen villages in Luang Prabang, seven in Xiengngeun district and four in Nan district by the District FRM staff, their sector partners (DAFO, LWU, LFNC and other line agencies) with the village committees and villagers.

- ❖ *Activity 2.3.4 Establish village groups for implementing action plans (through consultations and meetings):* A few consultation meetings will be conducted in village to establish the groups of farmers to implement each action plan. This may include on the job training to ensure that they are ready to implement their action.
- ❖ *Activity 2.3.5. Implement village action plan:* Each action plan, including budget plan and work plan will be explained to each group of farmers to ensure the understanding on the expected outputs/outcome and the sustainability of the activity. A technical staff of DAFO will be key partners to provide technical support and facilitate the implementation of each action plan. The budget will be managed by the project team following budget plan. Any good buying and consultancy required for village action plan must be followed EPF procurement procedure.
- ❖ *Activity 2.3.6 Reforestation/Enrichment plantation:* Due to the huge area of forest degradation by slash and burn cultivation is existed, a reforestation in 12 target villages will be planned and supported. The approach is that the project will support nursery trees (local species) or any NTFPs species that can plant for enrichment to villagers to plant in buffer zone or in the boundary that need reforest. It will ensure clear demarcation of the reforestation zone in each village and will also provide an additional income from those planted NTFPs Collecting.
- ❖ *Activity 2.3.7. Conduct regular technical support mission:* To monitor and facilitate the implementation of the village action plan. The PPF- MO will work with DAFO's technical staff to provide technical assistant to groups of villagers to ensure that all activities to be technically implemented.
- ❖ *Activity 2.3.8. Field office and Field checkpoint office:* To ensure that, the offices are effectively for subproject working, coordinating office and to facilitate the field activities of PPTKS -PPA, there are three offices. One field office, the location is prepared by PAFO for sub-project working office and two substation offices for PA patrolling, controlling of the illegal collection, smuggling of natural resources-forest products and wildlife aquatic animals in the protected area, as described in the below:

Field office is provided by PAFO, the office construction site is in the XiengMuark village Laungprabang district and adjacent with the PPTKS-PPF, the located by GPS coordinate (19°49'5.64"N, 102° 6'14.82"E), the field office area is away from Luangprabang capital 3 Km.

- The field office has a border adjacent with each below:

The North is adjacent with the Sart village and Nadat;

The South is adjacent with the zone PPTKS;

The East is adjacent with the Houythong village and PPTKS;

The West is adjacent with the PaNor village.

Total area field office is about 0.5 hectares as shown in the **Figure 4.2**. The office construction site has not impacted the environmental and social, Seeing that the activity does not have a negative impact on society and the environment, it is not necessary to do an EIA.

Field Checkpoint 1: The construction site is in the TouHor village Muang Nan district, located by GPS coordinates (19°38'22.94"N, 101°56'40.83"E), office location is inside PPTKS-PPF, the substation office construction there is not impacted to social and environmental. This area is good condition and suitable for field checkpoint office construction as shown in the **Figure 4.2**.

Field Checkpoint 2: The construction site is in the Yang village Luangprabang district, located by GPS coordinates (19°45'2.57"N, 101°59'50.21"E), office location is inside PPTKS-PPF, the substation office construction there is not impacted to social and environmental. This area is good condition and suitable for field checkpoint office construction as shown in the **Figure 4.2**.

The field offices and field checkpoint offices are the small infrastructure construction, the construction sites are not an invasion of forest and do not create a new route to the protected area, the constructions are not impacted on the social and environmental. If construction of small-scale works take place than, the Environmental Code of Practice (ECOP) will be applied and safeguard screening form (see Annex 4 and Annex 5).

### **Component 3: Sub-project Monitoring and Management:**

This will support the implementation of sub-projects and responsible for ensuring compliance with LENS2 requirements regarding financial management, procurement, safeguard, M&E, and other sub-project agreement with EPF on results (Item 26 of the sub-project proposal). Key activities are:

- ❖ *Activity 3.1 Sub-project Administration and Management:* Administrative and sub-project management will be done in accordance with LENS2 project implementation manuals including financial management, purchasing-employing, and monitoring and evaluation. First of all, the PPTKS-PPF Management Unit must be established, understood each other in the team including project leaders. They must agree upon the process of sub-project implementation, and expected output will be achieved. Training and operational processes of the sub-project, including finance, monitoring, and evaluation are necessary to be done. Quarter (6 months) progress reports: assessment of sub-project indicators, financial management including purchasing-employing must be submitted to EPFO every 6 months.
- ❖ *Activity 3.2 Monitoring and assessing outputs of the project:* This activity aims to monitor sub-project regularly 4 times/year and organize a small meeting in order to assess sub-project by the PPTKS-PPF MO project management committee of the Department of Natural Resources and Environment. The results of the meeting will be summarized and reported to the PPTKS-PPF Steering Committee.
- ❖ *Activity 3.3 Project implementation meetings:* This activity aims to conduct a meeting on project introduction and discussion on the work plan in the first year for convincing related institutions and for understanding the project establishment. The meeting session will introduce general description, background, brief project proposal and discussion on project implementation. Alternatively, the activity will be arranged

for project assessment normally 2 times/year to ensure the periodical success of the project implementation. The meeting will open to discuss lesson learned from the past and to plan the next appropriate activities.

### III. Applicable WB Policy and National Legislation

#### 3.1 WB’s safeguard policy triggered by the sub-project:

7. Initial safeguard screening suggested that the following policy are triggered for the sub-project:

**Table 3.1:** Safeguard policies screening by component

No	WB Safeguard Policies	Triggered?	Remarks
1	Environmental Assessment OP/BP 4.01	Yes	Component 2
2	Natural Habitats OP/BP 4.04	Yes	Component 2
3	Forests OP/BP 4.36	Yes	Component 2
4	Pest Management OP 4.09	Yes	Component 2
5	Physical Cultural Resources OP/BP 4.11	Yes	Component 2
6	Indigenous Peoples OP/BP 4.10	Yes	Component 2
7	Involuntary Resettlement OP/BP 4.12	Yes	Component 2

#### 3.2 GOL legislation and international agreements:

8. All Government related legislation and international agreements identified in the ESMF of LENS2 project applies. It is important to note that the sub-project target is a Provincial Protected Area designated under Article 6 of the Decree on Protected Areas No.134/G (dated 13<sup>th</sup> May 2015), which itself falls under the broader Forestry Law No.6/NA (dated 24<sup>th</sup> December 2007). Both these pieces of forestry and protected area legislation are virtually unique in the South-east Asian context indeed the Asian Context in as much as (i) they clearly prescribe the maintenance of the villagers’ rights to the natural resources inside the protected areas and (ii) simultaneously promote the involvement of the villagers in the management of the protected areas. Thus, village involvement in the sustainable management of their own village lands – as defined in the designation of a Controlled Use Zone – is fundamental to effective management of the protected area in Lao PDR. In this light, support for local villagers in designating their village lands through land use planning activities combined with understanding sustainable forest management of their village lands through community outreach should be viewed extremely positively. Interventions that further support local communities to implement effective law enforcement within their village lands should also be viewed positively.

9. The proposed livelihood agenda is particularly important in relation to implementing the VIII<sup>th</sup> National Socio-economic Development Plan as well as simultaneously endorsing some highly significant international agreements. The sub-project will support the Protected Area Provisions in the Convention on Biological Diversity (CBD). However, the key ones to

be closely observed during the implementation of the sub-project are the Environmental Protection Law (2012) and its follow-up regulations, especially the one related to the Initial Environmental Examination (IEE, 2013) and pollution control; the Forestry law (2007) and the Protected Area Decree (2015) and the Protection Forest Decree (2010); and international agreement on CITES. Given the nature of the sub-project activities and very small community livelihoods and/or works that may be involved, the sub-project is not subject to comply with the IEE regulation (2013) but subject to compliance with the Protected Area (PA) decree especially provisions under Sections 4, 5, 6, 7, and 8 which could be highlighted as follows:

- Section 4 (Activity in PA) assigns the Protected Area Management Authority (PAMA) to be responsible for taking the lead in collaborating with related parties, local authority, village cluster, and villages to conduct a boundary demarcation, boundary sign installation along critical points where trespassing can happen and where is the residency of people according to a specific regulation (art. 18); inspection and patrolling (art. 19); regeneration of PA (art. 20); and prevention from bush fire (art. 21), and dissemination of information to build self-awareness for people, group of people and organizations based on their rights and functions in terms of management, protection, development and use of PA (art. 23). This section also prescribes that GOL also allows for scientific research and ecotourism development through concession agreement according to laws and regulations (art. 22-24).
- Sections 5, 6, and 7 prescribe type, rights, and obligations for utilization of PA including the obligation for the project and business to pay for protection and management cost while Section 8 describes responsibility of PA management at national, provincial/capital city, districts, and village levels. The PAMA consists of: MONRE; P/CC-ONRE; DONRE; and Village Office (art 35).

10. However, given that the Government has reallocated the responsibility for PA management from MONRE to MAF in August 2016, it is expected that all responsibilities assigned to MONRE and its local agencies as prescribed in the decree will be assigned to MAF and its local agencies. Scope of the PA decree and the relevant provision of the CBD is summarized in *Annex 1*.

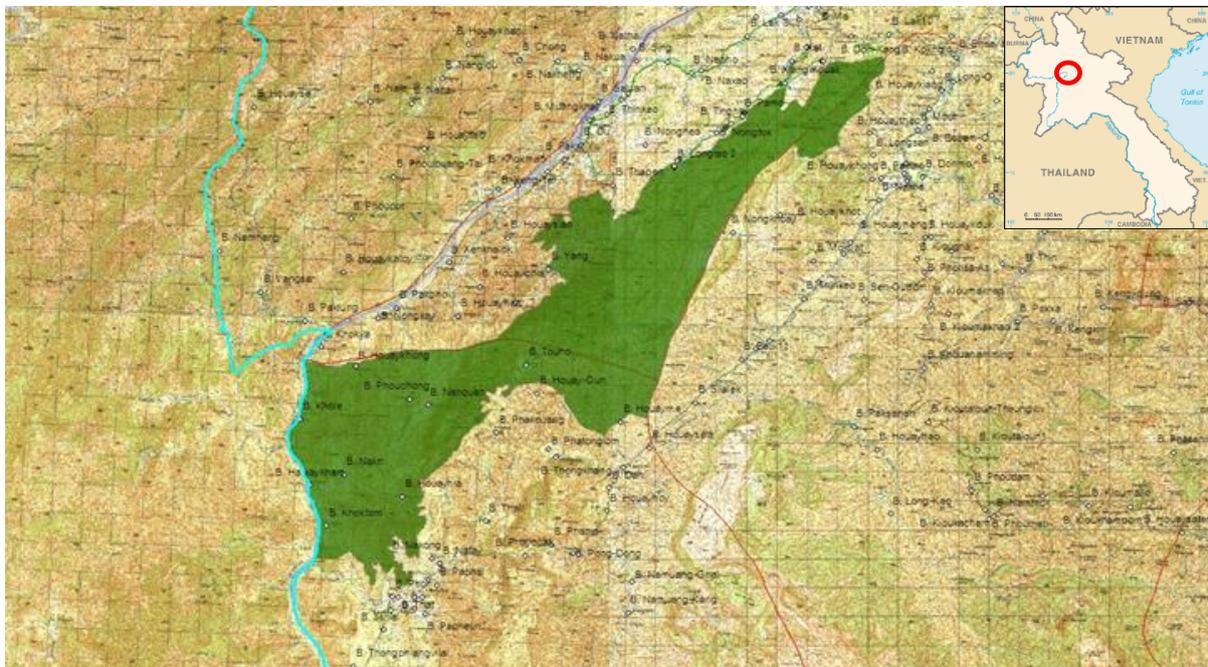
#### **IV. Description of Environmental Features of Sub-project Site (see map)**

##### **4.1 Location and environmental background:**

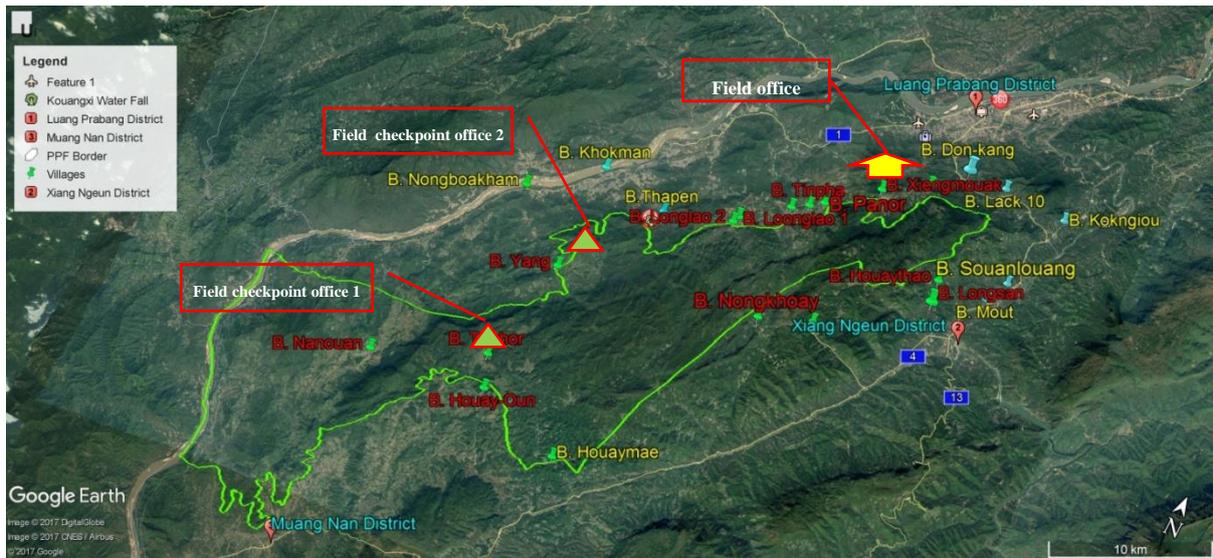
11. Phoupheung-Phouphathoun-Tad Kuang Se Provincial Protection Forest (PPTKS-PPF) was promulgated to be a Provincial Protection Forest on 18<sup>th</sup> March 2014 with the total area of 34,934.7ha, located between 19°54'52.92" - 19°33'31.08" North Latitude and 102° 7'30.30" - 101°52'38.58" East Longitude and this area covers. The protected area is covered with three districts of the province namely Luang Prabang, Xiengneun and Nan districts with a total of 25 villages (inside and overlapping to the PPF). This Protected Forest is important for the socio-economic development of the province. It is the nearest extensive tract of natural forest to the cultural World Heritage Site of Luang Prabang Heritage City; the northern tip of the provincial protected area is located only 5 km from the city. Hence the ecotourism potential

of the protected area to provide more diverse recreational options to these visitors (and make their number of nights staying in the city increase). Thus the tourism potential of this protected area is deemed extremely high; indeed it could become a national model for ecotourism development. Several famous ecotourism sites are situated inside this PPF. These include the very famous Tad Kuang Se Waterfall, which is an extremely picturesque natural tourism site located in close proximity to the World Heritage City, the Bear Rescue Centre run by the organization Free the Bears, as well as other ecotourism sites located inside the Protection Forest. (see schematic maps in **Figures 4.1** and **4.2** ).

12. The climate in the PPTKS-PPF is characterized by two distinct seasons: a wet season (May to October) and a dry season (November to April). The mean annual temperature ranges from 20 to 26°C. The area receives about 1700 millimeters rainfall annually, of which about 80% falls during the wet season, according to average of rainfall station at LaungPrabang province.



**Figure 4.1:** Major Rivers and locations of target village (planned and on-going)



**Figure 4.2:** Road, Target village, River, Field office and Field checkpoint office.

#### 4.2. Forest resource and biodiversity profile:

13. PPTKS-PPF constitutes a significant conservation area for protecting notable biodiversity found in northern Laos, particularly as the majority of the northern region's forests of the country have been converted to upland rice and other upland cultivation, and has become highly forest degraded. The management status of PPT PPF is embryonic, receiving low investment in protected forest management. It is considered among several NPAs and PPFs in Lao PDR with very low investment. Due to the site being recently established, in 2014, no management plan has been prepared for the site, making management direction unclear. Some biodiversity values of the PPF have declined because of habitat loss mainly through slash-and-burn cultivation as well as a decline in the wildlife population due to hunting.

Geographically, there are very limited lowland areas for intensive agriculture practice, which is common in the northern region of the country. The villagers just mainly do upland rice cultivation which unavoidably results in an annual decrease in forest cover due to forest conversion. Moreover, with population growth and upland crops products on the same piece of short fallows the local villagers have been compelled to move toward the forests to claim new agricultural land. The demand of maize and job's tears production by China, that made more rapid of forest area loss recently.

14. PPTKS-PPF supports forest resources, which are common utilized by the local villagers supporting their sustainable livelihoods, as well d commerce. The popular species of trees in this PPF are *Azzeria xylocarpa* (mai ter), *Paramichelia bailloii* (mai champapa), *Pterocarpus macrocarpus* (mai dou), *Chukrasia tabularis* (mai nyomhim), *Tectona grandis* (mai sak), and other type of local trees. Biodiversity species that holding globally conservation significance of wildlife species such bears and Southern Serow which are listed as endangered species in the country. Other notable endangered and vulnerable wildlife species still resent today include, Bears, Langurs, Southern Serow, Sambar, Large-antlered Muntjac, Hornbills, and pheasants, among others others (interview with villagers during the

data collection). Therefore, the PPF plays an important role in conserving biodiversity in Luang Prabang province since majority of the northern region's forests having degraded every year.

Forest quality and wildlife populations have declined annually from exploitation. Recently, the utilization of wildlife and wildlife products has increased for commercial purposes rather than for self-consumption. Many modern techniques are used for hunting and fishing. Despite these pressures, from the survey and interview with villagers, there are still many mammals, birds and aquatic species persist in this PPF, according to village interviews and feedback from forest patrols. Notable species include deer, Large-antlered Muntjac, Asiatic Black Bear, Sun bear, Langur, Yellow-bellied Weasel, Southern Serow, wild pig, pangolin, Otter species, Reticulated Python, Hill Myna, Silver Pheasant, Blue Pitta, Collared Falconet, and others.

In this PPTKS-PPF, there are no major waterways, but there are large number small streams which source from the central of the PPT and flow into the Mekong River. These include the Se river, Dong river, Huoy kachanh river, huoy Thao river (the freshwater source for water supply of Luang Prabang city), among others. These rivers support many small aquatic species, which provide a main food for the communities in the surrounding area.

#### **4.3 Socioeconomic status:**

15. Around PPTKS-PPF, there are three districts (Luang Prabang, Xiengngeun and Nan districts) comprising 25 villages with a total of 2,843 households (HHs), 2,745 Families, and population of about 14,708 persons of which 49% are women and consists of 3 ethnicities i.e. Lao Loum 35%, Kummou 53% and Hmong 12%. The population density is 19 persons/km<sup>2</sup>. The average household size is 6 persons. There are two major roads nearby to the PPF (Route No. 13 north from Vientiane on the eastern side of the reserve and another road from Luang Prabang to Nan district along the Mekong river. Basic infrastructure such as access roads, electricity and water supplied by gravity are provided to most villages. Only a few villages have poor road access (earthen roads) and no water gravity systems. For village classification, there are 10 located inside the PPTKS-PPF and 15 are adjacent to the PPF. An occupation classification: 64% of the households have lowland rice paddies, 12.22% have small business outlets along the main road, 11,75% are involved in livestock raising, and the remainders are general laborers and have other occupations. Data is collected by the PFRM, DOF and EPFO team in mid 2016 suggested the following while more details are shown in **Annex 7**.

- ❖ ***Agriculture production:*** Most people grow rice, corn, cucumbers, pineapples, sesame, beans, tapioca, lychee, tamarind and job's tears. These productions are the main staple food grown and machines are used for agriculture production. Some villages have irrigation both for wet and dry seasons for agriculture production and chemical fertilizers are used regularly for increasing yields. Vegetables are being regularly harvested from the forests and associated river banks, while others are grown in home gardens. Some peoples reported that rice production in 2016 was quite successful, with an average yield was about 3,5-4,5 tons/ha. During the 2017

consultations, about 85% of villages reported that they have enough rice for their households.

- ❖ **Livestock:** Most people have livestock comprising buffaloes, cattle, pigs, goats, poultry, and/or fisheries. The main purpose of livestock raising is for sale and savings, especially cattle, which have become the main savings and financial security for the villagers. Other domestic animals commonly kept are cattle, pigs and chickens, and fish which are mainly used for household consumption. The villagers who were interviewed mentioned that in 2016 there was a livestock disease outbreak, particularly hitting the poultry. However, due to their isolation, the lack of proper vaccination storage facilities and as well as a limited capable number of village veterinarians, the villagers continue to lose some cattle through diseases Foot and Mouth (FMD). Maintaining a healthy livestock is a challenge especially when there is a lack of pasture and water in the dry season. The people requested more assistance from the District Agriculture and Forestry Office (DAFO) vaccines, and training to village veterinarians or household owned livestock. These livestock is main product income for communities.
- ❖ **Income sources and expenditures:** Most income of village from the sales of livestock, small trade, and some agriculture products such as cassava processing pork meat processing, crops, bean, job's tears, weaving, handicraft, NTFPs and wildlife sales., the wildlife sale such as birds, rats, wild pigs, Lesser Chevrotains, crabs, and etc. Other non-farming activities are also the main source of income for the villagers. Main expenditures are necessary goods such as clothes, materials for house repair, education, medicines and other basic daily necessities (such as salt, sugar, soap and tooth paste) as well as social and traditional festival. Basic household supplies, materials for agriculture production, health care, and education are large expenditures.
- ❖ **Market linkages:** Access to markets is not a major challenge for the 25 villages located around PPTKS-PPF. One main market located in XayMongKhoun village is accessible to each village in the area by existing basic transport infrastructure. Moreover, people use their own means of transportation (vehicles, motorcycles, or tractors) during the rainy season. Nevertheless, the rainy season affects market accessibility and can consequently impact villagers incomes by limiting the agricultural products selling.

Due to the availability of basic infrastructure, transportation and communication within the villages and the people are using vehicles, motorcycles, a few tractors during the rainy season and boats. However, there is some limited market access and also their income from selling their agricultural products and other NTFPs during raining season.

- ❖ **Education:** In the villages surrounding PPTKS, there are 24 schools, all of the school is elementary schools and all of 25 villages can access to the public education system, the school is only one village in XiengNgeun District has no school but student can access to public school as information is shown in the **Annex 7**.

- ❖ **Health care:** Health center in the surrounding PPTKS, there are only 4 locations. Some villages have a lack of medicinal kits or village dispensaries and Most pregnant women do not go to the district hospital to the health care scheme. In the 25 villages, only four locations have dispensary or medicine kits and there are only 2 locations in Laungprabang district and the second location in XiengNgeun District. When they are strong ill, they go to the provincial hospital.
- ❖ **Roads and transportation:** Every village has year round road access and have access to the main road No.13, No. 4 and No1. They are connected to each other by roads. But, as some of them have clay roads; roads are impassable during the rainy season; which make local people travelling uncomfortable for community peoples.
- ❖ **Other public facilities:** All of the villages can access to electricity, mobile phones, clean water and other facilities.

### 4.3 Relationship with PPTKS-PPF and its resources

16. During March-April 2017 the Safeguards team from EPF, DOF and together with the PPTKS-PPF staff carried out community consultations in the seven villages and conducted short visits to 25 villages by the PPA staff. In the seven villages a PRA was conducted following the village selection criteria of CEF manual and priorities for livelihood support for conservation through CAP and CCA. These villages comprised HouyThong, LongRao1, Yhang, NongKhouy, HouyPheng, TooHor and HouyMe.

17. Community consultation and Baseline survey found About 80% of the 25 villagers use natural resources in and around PPTKS-PPF as a source of livelihood, and a source of household income, especially harvesting of NTFPs, cutting trees for house construction, wildlife hunting, and so on. It is evident that the livelihood and food security systems of all villages and ethnic groups in the PPF and peripheral area primarily involve hunting, fishing and NTFPs' collection combined with agricultural practices. Although, the livelihood methods in the surrounding villages vary according to their ethnicity and the geographical location of each village, they all rely on natural resources, including land, forests and rivers, which they combine with agricultural practices, trading, and other off-farms activities. The types of NTFPs collected include bamboo shoots, mushrooms, honey, ferns, sugar palm, rattans, including bitter rattan shoots, broom grass, fruit, and medicinal plants the information table below shown a relationship between village occupation and natural resources:

**Table 4.1:** Example: Summary of livelihood and natural resource of consultation

Village name	Population and Ethnic				Lao, Hmong, Khmu	Livelihood Activities/Natural resource Used in PPF	Village need for Mitigate measure (Village Need)
	HHs	FML	Total	Women			
HouyThong	75	78	416	215	Lao 0 Hmong 17 Khmu 399,	1. Upland rice 2. Livestock 3. Cash crop 4. NTFPs	1. Livestock 2. Agriculture
LongRao1	94	84	670	338	Hmong 100%	1. Livestock 2. Handicraft 3. Fishing	1. Livestock revolving fund

						4. NTFPs	2. Handicraft 3. Ariculture
Yhang	73	63	446	227	Lao 100%	1. Upland rice 2. Livestock 3. Cash crop 4. NTFPs	1. Livestock 2. Water supply
LongSan	51	58	357	127	Lao 4 Khumu 357	1. Upland rice 2. Cash crop 3. Livestock	1. Livestock 2. Water supply 3. Village Funds
HouyPheng	47	57	127	51	Khmu 100%	1. Upland rice 2. Livestock 3. NTFPs	1. Livestock fund
TooHor	66	56	378	137	Lao 6 Hmong 372 Khmu 0	1. Upland rice 2. Livestock 3. NTFPs	1. Water Supply 2. Livestock(Cat tle) 3. Fund for women group
HouyMe	75	73	409	229	Lao 10 Mmong 219	1. Upland rice 2. Livestock NTFPs	1. Livestock fund 2. Handicraft fund

21. The table above is shown livelihood of seven villages are related to PPTKS-PPF such as: agriculture land overlapping, upland rice, cash crop, livestock grazing, NTFPs and so on. Table above also mention village needs for mitigate or reduce using natural resource within PPTKS-PPF. Those village needs will use during Community Action Plan (CAP) and Community Conservation Agreement (CCA).

#### 4.4 Threats to the integrity of the PPTKS-PPF.

18. The PPTKS-PPF is a relatively compact protected area, with a concave intrusion (and boundary) in the southern part of the reserve and an elongated extension in the eastern portion directed southwards.

The Threats analysis was carried out during community consultation in August, 2017. Threat analysis lead by EPF and DOF safeguard team with the participant by sub-project team, head of PAFO and representative from Luangphabang, XiengNgeun and Nan DAFO, the result of threats analysis as below:

The most threat to the integrity of the habitats within the protected forest is focused on the 25 target villages within or close to a protected forest are the highest priority concave portion of the reserve, where uncontrolled slash and burn agriculture and agricultural encroachment persists in the flatter terrain of the lowlands.

19. Other threats found ubiquitously throughout the protected area include illegal selective logging (much reduced since the Prime Minister Decree regulating timber in May 2015), illegal hunting and trapping of wildlife, and unsustainable harvesting of non-timber forest products. These threats are lower among the Lao Loum villagers than the ethnic villages (Lao Theung and Lao Mong). Forest fires pose a minor threat to the site in the dry season (Feb-April). Encroachment is taking place in the northernmost forested lands, seemingly outside the reserve boundary, which needs to be monitored and managed.

#### 4.4.1. Swidden Agriculture (Rice, Cash Crop Maze and Job's tears)

Shifting cultivation has traditionally been widely practiced in the PPTKS-PPF areas and it remains the dominant agricultural system. Although there are different methods of cultivation as mentioned previously (forest swidden; upland swidden; swidden/paddy; and Cash crop), the main produce is swidden rice. Rice shortages reported by the visited villages persist because not only are the yields declining due to the low soil quality over time, but also because of access restrictions that are imposed by the government. Furthermore the land's fallow period has become shorter (3 to 4 years), and there has been an increase in the enclave and Peripheral Impact Zone (PIZ) villages' populations. These reasons have caused the villagers to expand shifting cultivation to new areas each year and this has had devastating consequences on the forest resources of the PPTKS-PPF. Shifting cultivation involves the clearing and burning of the forest and during this time, many fires become uncontrollable causing untold damage to the PPF. The PIZ villagers reported some incidents in recent years when large forest areas have burned off in only a few days. When this happens, a healthy forest is replaced by impetrate grass that is threat reason in PPTKS-PPF.



**Figure 4.3:** Swidden Agriculture in PPTKS-PPF

#### Hunting

27. Hunting pressure in PPTKS-PPF is high. Mostly animal hunting for wildlife and subsistence, and to protect crops and domestic livestock from depredation, Base on community consultation found that many households in the villages did not produce enough food to feed a population over the course of a whole year. Villagers have some understanding of the conservation concepts and principles, but due to their low income and also sources of food felt they has no choice but to supplement their diet with wild food and kill wild animals responsible for crop damage and livestock predation. As table threatened wildlife species recorded in Laos

**Table 4.2:** Most threatened wildlife species recorded in Lao PDR

Scientific Name	Common Name	Global Threat Status		At Risk in Lao PDR
		Critically Endangered	Endangered	
<i>Amblonyx cinereus</i>	Oriental Small-Clawed Otter	-	-	√
<i>Arctictis binturong</i>	Binturong	-	-	√
<i>Bos gaurus</i>	Gaur	-	-	√
<i>Bos javanicus</i>	Banteng	-	√	√
<i>Cuon alpinus</i>	Dhole	-	-	√
<i>Elephas maximus</i>	Asian Elephant	-	√	√
<i>Felis chaus</i>	Jungle cat	-	-	√
<i>Lutrogale perspicillata</i>	Smooth-Coated Otter	-	-	√
<i>Manis javanica</i>	Sunda Pangolin	-	-	√
<i>Manis pentadactyla</i>	Chinese Pangolin	-	-	√
<i>Miniopterus schreibersii</i>	Common Bent-Winged Bat	-	-	√
<i>Neofelis nebulosa</i>	Clouded Leopard	-	-	√
<i>Panthera pardus</i>	Leopard	-	-	√
<i>Panthera tigris</i>	Tiger	-	√	√
<i>Pseudoryx nghetinhensis</i>	Soala	-	√	√
<i>Pygathrix tanae</i>	Douc Langur	-	√	√
<i>Rhinoceros sondaicus</i> / <i>Dicerorhinus sumatrensis</i>	Rhinoceros sp.	√	-	-
<i>Ursus malayanus</i>	Sun Bear	-	-	√
<i>Ursus thibetanus</i>	Asiatic Black Bear	-	-	√
<i>Aceros nipalensis</i>	Rufous-necked hornbill	-	-	√
<i>Aceros undulatus</i>	Wreathed hornbill	-	-	√
<i>Anser anser</i>	Greylag goose	-	-	√
<i>Buceros bicornis</i>	Great hornbill	-	-	√
<i>Cairina scutulata</i>	White-winged Duck	-	√	√
<i>Ciconia nigra</i>	Black stork	-	-	√
<i>Ducula aenea</i>	Green imperial pigeon	-	-	√
<i>Ichthyophaga humilis</i>	Lesser fish eagle	-	-	√
<i>Ichthyophaga ichthyaetus</i>	Grey-headed Fish Eagle	-	-	√
<i>Milvus migrans</i>	Black kite	-	-	√
<i>Pavoninus</i>	Green Peafowl	-	-	√
<i>Rheinardia ocellata</i>	Crested argus	-	-	√
<i>Vanellus duvaucelii</i>	River lapwing	-	-	√
<i>Cuora galbinifrons</i>	Indochinese box turtle	√	-	√

Cuoratrifasciata	Chinese three-striped box turtle	√	-	-
Indotestudoelongata	Elongated tortoise	-	√	√
Manouriaimpressa	Impressed tortoise	-		√
Platysternonmegacephalum	Big-headed turtle	-	√	√
Pyxideamouhotii	Keeled box turtle	-	√	√
Sacaliaquadriocellata	Four-eyed turtle	-	√	-
Notes:				
i) Species falling into IUCN categories "Vulnerable" or "Near Threatened" are not marked or included in this summary table.				
ii) Global Threat Status is recorded in IUCN 2003 Red List of Threatened Animals. National status follows <i>Duckworth et al. 1999</i> .				

#### 4.4.4. Non-Timber forest productions

31. NTFPs are very important sources of income and sources of food for the 25 villages inside and surrounding PPTKS-PPF. During focus group discussions convened with men and women groups participant reported that more than 20 species of NTFPs are collected for food (vegetables, bamboos, fish, rattans, mushrooms, small wildlife, birds, rats, and insects), and more than 12 species are collected for selling (rattans, Fan Palms (possibly *Licuala* spp.), bamboo, broom grass, mushrooms, wild cardamom, wild fruits, roots etc.). The locations of harvest NTFP is inside and surroundings PPTKS-PPF. The villager reported that harvested of some kind of NTFP is over harvesting according to market needs, and community reported that some of NTFP are declines and spend more time to collect.

**Table 4.3:** Major NTFPs and tType of Use in Northern Lao PDR

List of Product NTFP	Trade		Remark
	Local	Export	
Cardamom ( <i>Amomum spp</i> ) (Dry)		++	+
Bamboo ( <i>Various</i> )	++	-	-
Medicinal Plants and spices	++	-	++
Broom grass ( <i>Thysanolaena maxima</i> )		-	+
Benzoin ( )		++	++
Sapan (( <i>Debregeasia hypoleuca</i> )		++	++
Wild tea		++	++
Bitter Bamboo shoots	++	+	+
Sugar palm fruits ( <i>Arenga pinnata</i> )	+	++	++
Mushroom (6 types of mushroom)	++	++	++

Key: - less important; + important; ++ very important

32. Regarding the location of harvested NTFPs inside and surroundings PPTKS-PPF, the villagers reported that the harvesting of some kinds of NTFPs are being over harvested according to market needs, and the villagers reported that some of NTFPs have declines and require more time to collect.

## V. Sub-project Impacts and Proposed Mitigation Measures

### 5.1 Positive impacts:

20. Implementation of the sub-project will be positive. Building the management capacity of the PPTKS-PPF-MO staff and their district partners responsible for the management of the protected area will result in effective management of the protected area in the longer term. Effectively protected area management will reduce forest destruction in the target area. Social assessment and participatory land use planning in the process of CEF will assure concerned state organizations and communities to separate the PPTKS-PPF from forest that community use and community will be supported to improve their livelihood from dependence on forest resources. Conservation Contracts will be established with the selected target communities to limit forest resources uses and encourage people to implement the activities through grants to the communities for conservation of natural resources and environmental quality while maintaining and/or improving their livelihoods. The sub-project will also enhance the conservation of natural habitats and/or biodiversity.

### 5.2 Negative impacts and proposed mitigation measures:

21. Minor negative impacts may occur during patrolling and implementation of small scale livelihood activities which could be mitigated through proper training and active consultation and participation of stakeholders through the CEF process to be applied during the implementation of Component 2. However, given that the livelihood development activities to be implemented under Component 2 will be identified during implementation of the sub-project, specific safeguards screening for the eligible LENS2 support and specific mitigation measures will be identified and conducted during the CEF process. Mitigation measures identifies for patrolling will be incorporated as the operations guideline for patrolling and included in the final design of the Community Conservation Agreement (CCA) and the use of the Community Conservation Fund (CCF). Given limited budget (about \$12,000 for each village) it is not possible to create any Livelihood Development Fund (LDF) as originally planned in the CEF. “Potential social and livelihood impact is largely due to the restriction of access among the local communities to the natural resources, especially land, wildlife and forest products which they mainly rely on. Impact mitigation measures will be identified through participatory process of social impact assessment, PLUP, planning consultation to identify needs and alternative livelihood priorities and implementation of CAP. This process is clearly spelled out in the CEF and its implementation manual.” Detail of the process look at the **stage 3: Participatory Planning and Agreements**, and **stage 4: Implementation of Community Action Plan** in CEF manual.

22. In this context, during the implementation of Component 2, the following mitigation measures will be applied:

- ❖ Screening for eligible activities for sub-project support (Annex 2 applies full negative list of LENS2 and Annex 5 for safeguard screening form);
- ❖ Apply the mitigation measures proposed in Annex 3 according to the selected activities;

- ❖ If the proposed activities works, the environmental code of practice (ECoP) identified in *Annex 4; and*
- ❖ For livelihood development activities that require the application of agrochemicals, training on IPM and pest management plan will be provided.

23. These proposed measures are consistent with those provided in the ESMF. Safeguard training to be provided under Component 1 will be developed in close consultation with the safeguard officers of DOF and EPFO (DOF/EPFO-SO).

25. *Table 8.1* summarizes the potential impacts of the sub-project and the proposed mitigation measures to be carried out by the sub-project management team, including those related to reducing pressure from the external sources and the responsible entities. During the training to be conducted under Component 1, all key messages from the LENS ESMF and CEF will be used as the basis for the training. The ESMP of the sub-project will be submitted for WB clearance before signing and/or extension of the subgrant. Key specific impacts and mitigation measures are discussed in Sections 5.3, 5.4, and 5.5 below.

### **5.3 Impacts and mitigations during patrolling:**

24. Land use planning will be a prerequisite activity which will determine the patrolling activities undertaken inside the Provincial Protected Forest. This activity will identify the Controlled Use Zones of each village, which in turn will define the village lands to be patrolled by the villagers themselves. Patrolling in the core zone or Total Protected Zone will be undertaken by district law enforcement staff. These district-level patrols will be concentrated on various threatened area in the PPTKS to prevent hunting, endangered wildlife trade and illegal logging, and slash and burn agriculture. Implementation will focus on important targets particularly big traders who like to trade wildlife and timber. Patrols will be done in coordination with military, police and related parties. If needed a temporary checkpoint will be established.

25. The Patrol Team will comprise 5-7 persons, it may last from 1-3 days, and sometime working at night may be required. Membership of the patrol team will be changed periodically so that junior can learn experience from senior people. The provincial Team and District teams will work together to share knowledge and experience, detail procedures will be established. Modern GPS equipment and communication tools will be used as appropriate. During and after the patrolling and suppressing activities, a summary patrol report will be prepared and submitted to the Director of the Provincial Protected Forest. The training will enhance awareness and knowledge of villagers who will conduct patrolling on ways to mitigate potential negative impacts during patrolling.

### **5.4 Impacts and mitigation involving the VCF/LDF.**

26. During the safeguard screening and assessment, special attention and priority support will be given to the following:

- ❖ ***Ethnic groups support:*** The sub-project area is home to native ethnic groups, mainly Kum Mu who are strongly dependent upon to the natural resources. Consequently effective consultations will be made through the CEF process and the livelihood

development plan or ethnic development plan will be included in the Community Action Plan. The sub-project will not require any land acquisition. However the development of village rules and regulations developed and approved by the villagers themselves will restrict resource access and may cause negative impact on people who are dependent on the resources. The CEF process will mitigate these potential impacts and training will be provided during the planning and development of the village regulations. Close supervision by the EPF safeguard officer as well as the WB social safeguard specialist will be conducted periodically.

- ❖ **Local cultural resources:** The sub-project will not impact on physical cultural resources already recognized (such as historical, cultural antique relics, primeval, religion and outstanding natural values at the national and/or regional level. However, the project will target village lands where ethnic communities reside such as: Hmong, Mian, Lao-Tai and Kum Mu. These ethnic groups may have graves in limited numbers, village cemeteries and /or community assets in spirit forest areas of the project that may receive impacts from project activities. If small works are needed, a simplified ECoP as defined in the ESMF will be applied for this.
- ❖ **Livelihood development:** Large-scale infrastructure development is not anticipated to be undertaken under this initiative. However, small-scale development interventions may involve small use of pesticides, fertilizers and other agrochemicals. Potential impacts on national physical cultural resources are also not expected. Training on the safe use of these chemicals will be provided as part of Components 1 and 2. However, the sub-project will include area where ethnic people (i.e. Hmong, Mian, Lao-Tai and Kum Mu) live where there may be a limited number of graves, village cemeteries and/or assets of communities cemetery that may be affected by sub-project activities. Consultation on procedure to minimize negative impacts will be discussed and considered during the CEF process. If small civil works are involved, a simplified ECoP (see Annex 4) will be applied. These ECoP has incorporated a “chance finds” procedure.
- ❖ **Wildlife species:**

This sub-project will promote the conservation of species which are currently threatened with the Provincial Protected Area including: Jaures, Gibbon *Nomascus leucogenysis* (Critically Endangered) species, Bears, Langurs, Serows, Sambar, Hornbill, Pheasants among others. The sub-project will also support species available in the localities and no import from outside. Mitigating potential impacts on *wildlife trade, wildlife hunting, and illegal NTFP harvesting* will be as follows: Land use Planning, development of village Regulations, Agreement and Conservation Contract together with the villagers; Organize patrols with the villagers’ participation; dissemination and awareness raising (See CEF Manual).

## 5.5 Other impacts.

27. Potential negative impacts due to external sources will be limited to slash and burn agriculture, illegal hunting and cutting of wood/trees, and unsustainable collection of NTFPs that have been causing problems in PPTK-PPF as shown in **Figure 5.1**. However *forest fire*

has not been observed for many years since actions have been carried out against forest fire such as establishment of anti-fire alignment, notification to the village to watch out and protect forest fire during dry season, awareness raising for the people to take part in struggle against forest fire, establishment of regulation and use measures against violators, and establishment of Village Volunteers, and establishing clear role and responsibility with reporting system in case forest fire occurs. *Consolidation of villages* is not happening and/or planned in PPTKS-PPF. *Construction of new roads* is also not anticipated. Efforts will be made during the implementation of the sub-project to address the impact due to external pressure.



**Figure 5.1:** Other threats in the PPTKS-PPF

## **VI. ESMP Implementation and Monitoring**

### **6.1 Implementation, monitoring, and reporting:**

28. The PFRM sub-project team, including consultants to be hired for the sub-project will be responsible for implementation of the ESMP. The PFRM sub-project management team (Component 3) will ensure effective implementation of the ESMP and include the safeguard implementation progress in the sub-project progress report to be submitted to EPFO periodically (with a copy to DOF safeguard officer). The safeguard officer of EPFO and DOF (EPFO/DOP-SO) will periodically monitor the implementation of the ESMP. The EPFO-SO will incorporate the implementation progress in the safeguard monitoring report of LENS2 to be submitted to WB. The EPFO/DOF-SO will also provide clarification and training and reporting related to safeguard requirements and CEF activities to the sub-project team and community team as much as possible.

29. The Sub-project Steering Committee (SSC) will be established to oversee the implementation of the sub-project including safeguard activities. The organization structure will therefore be the same as those proposed for the implementation of the sub-project.

## **6.2 Grievance Redress Mechanism.**

30. This sub-project involves a total of about 25 villages and about 14,708 peoples in 2016. Community members are ultimately the participants and beneficiaries of the sub-project and play a key role in promoting the sustainable management of PPTKS-PPF and the conservation of wildlife and other natural habitats so as to preserve the resources for the benefit of future generations. The villagers will all have the opportunity to play a role in the community development fund, livelihood support programmes, engage in patrolling activities and be included as Village Development Committee (VDC) members and/or other farmer action groups.

31. Village Development Committees (VDCs) have been formed by GoL, but there is a need to strengthen their capacity as they are the key representative of the villages in the process of preparing the Protected Forest Management Plan (PFMP), Community Action Plan (CAP), and Community Conservation Agreement (CCA). Furthermore, they also participate in grievance committee meetings and are involved with monitoring and evaluation. The VDCs are the main local institutions that support the sub-project at the village level and are responsible for organizing village teams to work with the sub-project team. Each VDC is headed by a village head and also includes a deputy chairperson, secretary and treasurer. Village representatives of LWU and LFNC will also participate in the VDC. The VDC is the sub-project's entry point at the village level and it is responsible for organizing village sub-committees to work with the sub-project in various areas. These include law enforcement, the livelihood fund, monitoring and evaluation and the village development fund. Additionally, two villagers who have been appointed by the VDC will be responsible for the village-level monitoring of the sub-project's implementation and participate in village level meetings for participatory monitoring and evaluation.

32. The Village Mediation Units (VMUs) were established in 1997 under a Decision of the Minister of Justice (No. 304/MOJ). New guidelines for the VMUs were issued by Decision No. 08/MOJ, dated February 22, 2005. The VMU is an institution which plays a role in resolving disputes at the village level. They seek to mediate disputes through negotiation and consensus, in line with both the state's legal framework and acceptable local traditions. The VMUs have jurisdiction to resolve civil and family disputes, and minor criminal cases. In the sub-project areas, disputes and complaints arising from the sub-project's implementation will first of all be dealt with by the existing VMUs before proceeding onto the next step as indicated in Section 7.6 in this ESMP. The GRM organization and process for the sub-project will be established after consultation with the province and local authority.

## **VII. Consultation and Information Disclosure**

33. During preparation of the sub-project, first consultations with community surrounding PPTKS-PPF were carrying out in March 2017 with three villages detailed data collection the Houythao village, TouHor village and Thapen village. Number of people attend about 42% representatives from village including 30% of women, the community within the target village willing to actively participate in the sub-project implementation (see list in Annex 6).

As soon as the sub-project is effective and the fund is available, the sub-project team will continue to conduct community consultation of the sub-project with local community and ethnic groups particularly village in LaungPrabang, XiengNgeung and Nan districts to ensure that they support the sub-project and are willing to actively participate in the sub-project implementation as shown on Annex 7. The sub-project proposal and ESMP will be translated into Lao language and disclosed in EPFO website as well as PFRM website after EPF Board approval.

### **VIII. ESMP Implementation and Summary of Sub-project Budget**

34. ESMP implementation, proposed mitigation measures, and monitoring responsibility (Table 8.1), and the ESMP implementation budget is about safeguard work 57.9% of the Sub-project cost (Table 8.2) comprising \$ 27,500 (51.4% of Component 1) and \$319,800 (67.6% of Component2).

**Table 8.1:** Potential impacts, proposed mitigation measures, and monitoring responsibility (ESMP)

<b>Sub-project Activities</b>	<b>Potential Impacts</b>	<b>Proposed Mitigation Measures</b>	<b>Implementing Agency</b>	<b>Monitoring Entities</b>	<b>Remarks</b>
<b>Component 1: Strengthen the capacity of PFRM staff and concerned district partners for PMPSK-PPA management.</b>					
1.1 Training on project management	Positive	- This activity is planned to participate the training provided by EPF related to the project operation and management.	PFRM	DOF/EPFO-SO	
1.2 General (collaborative) management training	Positive	- This training will also be trained on general management aspects including management planning, zoning and PA regulations, law enforcement and GPS use by a law enforcement expert.	PFRM	DOF/EPFO-SO	The trainings will be designed and conducted in consultation with DOF and EPFO. Knowledge regarding external pressures will also be provided. .
1.3 Nature education and outreach training	Positive	- The participant will be trained specific topic in nature education and outreach techniques, involving two months of inputs by an outreach expert	PFRM	DOF/EPFO-SO	

1.4 Land use planning and CEF training	Positive However, it will have to plan carefully to avoid adverse effects may occur	- The specific topic of land use planning for training and detail of CEF manual step.	PFRM	DOF/EPFO-SO
1.5 Livelihood development for conservation training	Positive	-The livelihood activities will be based on PRA Report that safeguard team conducted during community consultation and can review during conduct CAP  - At least 108 villagers will be trained on better alternative livelihood improvement	PFRM	DOF/EPFO-SO
1.6 In-country study tour to Nam Kan NPA (12 staff participated)	Positive	-The specific topic of study tour will be identify of field visit	PFRM	DOF/EPFO-SO

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**Component 2: Support PPTKS- PPF General Management and Community Livelihood development**

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**Support general PPTKS- PPF management**

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2.1 Activities, Annual Meeting of PPTKS-PPF Steering Committee	Positive	- The annual report and the annual plan will be prepared and shared with the PPTKS-PPF steering committee prior to the end of the year,	PFRM, Districts, Villages	DOF/EPFO-SO	CEF process will enhance consultation among key stakeholders and increase understanding on benefits of conservation activities.
2.2 Formal structuring of Phoupheung-Phouphathoun-Tad Kuang Se PPF Management Office	Positive	-	PFRM, Districts, Villages	DOF/EPFO-SO	<ul style="list-style-type: none"> <li>• See paragraph 19 above while safeguard screening during CEF process and proposed mitigations will follow measures provided in Annexes 3, 4, and 5 which have been designed to address potential impacts from external activities and/or sources\ pressures.</li> </ul>
2.3 Support PPTKS-PPF planning and management meetings	Positive	-	PFRM, Districts, Villages	DOF/EPFO-SO	<ul style="list-style-type: none"> <li>• These measures are expected to result in reduction of slash and burn and other illegal activities in PMPSK.</li> </ul>
2.4 Boundary demarcation of the protection fores	Positive	-Villagers and authority will by participant in this activity - PPTKS-PPF will be demarcated by concrete posts (150 large and 200 small) and sign boards (6 large and 200 small) at strategic locations	PFRM, Districts, partner and Villages	DOF	<ul style="list-style-type: none"> <li>• DOF and EPFO safeguard officers (SO)</li> </ul>

2.5 Prepare action plan to implement PES resulted from F_RED study	<p>Positive.</p> <p>However, activities involve works will require mitigation measures and ensure safety from UXO. Development of irrigation, rice, and/or other agriculture products may result in increasing use of agro-chemicals, but this will be small.</p>	<ul style="list-style-type: none"> <li>• If development of rice/agriculture production is involved, provide knowledge and safe use of agro-chemicals (as provided in the ESMF).</li> <li>• If small road is build and/or civil works is involved, apply <u>Annex 4</u>. UXO clearance\ safety will be considered.</li> <li>• If water supply is involved, safe and sustainable sources of water will be protected (<u>Annex 3</u>).</li> </ul>	PFRM, Districts, Villages	DOF/EPFO-SO	will provide the overall guidance throughout the CEF process.
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**Law Enforcement**

2.6 Interagency law enforcement	Positive	-If civil work in involved, the environment code of conduct (ECOP) will be apply Village patrolling team will including	PFRM, District Villages	DOF/EPFO-SO
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		representative from village and CAP will combined patrolling plan		
2.7 Outreach and conservation awareness	Positive	-	PFRM, PAFO District partner, DAFO,	DOF/EPFO-SO
2.8 Special campaign events	Positive	This activity will be planned to support the national important event as a part of national awareness raising	PFRM, PAFO District partner, DAFO,	DOF/ EPFO-SO
Support community livelihood Intervention				
2.9 Establish and Strengthen Capacity of Village Committees and village user groups	Positive	If have the some impact the DOF and EPF will be support to them	PFRM, PAFO District partner, DAFO,	DOF/ EPFO-SO
Support community livelihood Intervention				
2.10 Establish and Strengthen Capacity of Village Committees and village user groups	Positive			DOF/EPFO-SO

2.11 Village livelihood development planning and Livelihood Interventions	Positive		DOF/EPFO-SO
2.12 Village Socio-economic Assessment	Positive	CEF will be implemented in the three districts	DOF/EPFO-SO
2.13 Establish village groups for implementing action plans (through consultations and meetings)	Positive		DOF/EPFO-SO
2.14 Implement village action plan	Positive		DOF/EPFO-SO
2.15 Reforestation/ Enrichment plantation	positive		DOF/EPFO-SO
2.16 Conduct regular technical	Positive		DOF/EPFO-SO

support mission

**Component 3. Sub-project Monitoring and Management.**

3.1 Sub-project Monitoring and Management.	Positive	- The EPFO will supervise and monitor the process at least one time per year and include the results in the Project annual reports	PFRM, Districts, Villages	DOF/EPFO-SO	Administrative and project management will be undertaken done in accordance with project implementation manuals including financial management, purchasing-employing, and monitoring and evaluation.
3.2 Monitoring and assessing outputs of project	Positive	-Incorporate ESMP implementation in the sub-project progress report -	PFRM, Districts, Villages	DOF/EPFO-SO	
3.3 Project implementation meetings	Positive	- Biannual progress report (six months), two times/year to ensure the periodical success of the project implementation. The meeting will open to discuss lesson learned			

**Table 8.2:** Summary of sub-project budget and an estimate budget relate to safeguards

<b>Sub-project Components</b>	<b>Total budget of Project (US\$)</b>	<b>Direct local contribution (US\$)</b>	<b>LENS2 Budget (US\$)</b>	<b>Est. % for safeguard (US\$)</b>
<b>Component 1.</b> Strengthen the capacity of PPT Management Office	53,500	0	53,500	51.4%
<b>Component 2.</b> Support PPT PPF Management and Community Livelihood intervention	473,354	0	473,354	67.6%
<b>Component 3.</b> Management and Administration of sub-project	129,600	129,600	18,600	-
<b>Total</b>	<b>675,054</b>	<b>129,600</b>	<b>545,454</b>	<b>-</b>
Contingency (10%)			<b>54,545</b>	<b>-</b>
<b>Grand Total</b>	<b>675,054</b>	<b>129,600</b>	<b>599,999</b>	<b>57.9%</b>

## **Annex 1: Summary of PA Decree and Relevant Section of CBD**

### **A1.1 Summary of PA Decree (No.134/G, dated 13/5/2015)**

#### ***Sections 1, 2, 3:***

Describe provision regarding to general provision (objective, definition of terms, and scope of application); Levels, categories, and zoning of PA; and determination and registration of PA.

#### ***Section 4 Activities in PA:***

This describes activities related to PA (art 15), survey of PA (art. 16), and allocation planning and use of PA (art. 17) which shall follow the 5 key 5 principles of PA management (i.e. be consistent with the socio-economic development plan, national defence & security strategy, forestry strategy and the forest land use plan; sustainable protection and development of PA; sustainable use of forest products without drought nor impact on the forestry structure; and protection of watershed, biodiversity, and environmental protection. Other key provisions are highlighted as follows:

- This section also assigns the PA Management Authority (PAMA) to be responsible for taking the lead in collaborating with related parties, local authority, village cluster, and villages to conduct a boundary demarcation, boundary sign installation along critical points where trespassing can happen and where is the residency of people according to a specific regulation (art. 18); inspection and patrolling (art. 19); regeneration of PA (art. 20); and prevention from bush fire (art. 21), and dissemination of information to build self-awareness for people, group of people and organizations based on their rights and functions in terms of management, protection, development and use of PA (atr. 23).
- GoL allows individuals, legal entity and organizations to conduct a science research, such as insects, plant species, aquatic and wildlife species that get rare and nearly extinct, geology, relic of history and culture, Forestry Carbon Stock and other in the arranged area. Specifically, people who get permission shall follow the related law and regulation and report in written format to the PAMA of each level within 60 Days after completing the research (art 22).
- GoL also allows for the use of PA for ecotourism development (art 24) in the area where there is potential to be a natural tourism site and development of infrastructure such as resorts, hotels, and others could be made in accordance with the allocation plan so that they can provide services to society. With regard to this development, it shall maintain the natural condition and does not create negative impacts on PA and PA land.
- GoL also promotes individuals, legal entity, and organizations from domestic and overseas to invest in developing the PA, where there is potential for lease or concession of PA in order to develop into an eco-tourism site. People who get

permission shall fulfil the obligations in a correct and complete manner as determined in the related law and regulations.

#### ***Section 5 Utilization of PA:***

The government allows to use PA only in a allocated zone and must use in accordance with related regulation and law and ensure that there is no negative impacts on forest, quality of soil, natural and social environment (art 24). The use of PA is classified into 3 types i.e. the use for public benefit; the use of family; and the use for business (art. 25). Key provisions are as follows:

- The use for public benefit (art. 26) is the use for a research & testing, use as a recreation and tourism site, a source of medicines, a place for protecting watershed, biodiversity, natural & historical environmental and cultural source and MONRE will be responsible for issuing the permitted based on the law and regulation.
- The use for business (art 28) is the use by individuals, legal entities, and organizations in a way that does not impact on natural eco-system such as the use for developing into a natural, cultural and historical tourism site, use for filming a movie or documentary and use for other activities. Specifically, the use for these purposes shall be permitted from related organizations and shall follow the allocation plan, regulated law and regulation. At the same time, it shall contribute the fund to the management and protection of Protected Areas as determined in article 32 of this decree. MONRE is also responsible for issuing the permit in accordance with law and regulation.
- The use of family (art. 27) is the use by local people who resides in and around Protected Areas and contribute to the protection and regeneration of forest and Non-Timber Forest Products (NTFPs) in the PA as determined in the allocation plan of PA and related regulation and law.

#### ***Section 6. Rights and obligations of people who get permission to use PA:***

According to Article 29, individuals, families, and organizations, which use PA and PA land, have rights to: (1) Protect the PA based on the allocation plan, law and regulation related to PA; (2) Use forest, forest products and forest land in PA as determined in article 26, 27 and 28 of this decree; (3) Get benefit from the involvement and from taking a lead in the implementation of PA activities in accordance with the allocated plan as well as the lease & concession plan based on the law and regulation. The government organizations have the rights to manage, protect and use natural forest in accordance with the law and regulation but have no rights to transfer, inherit, lease or having concession unless in the case where it is determined in related law. Article 30 requires the people who get permission to use PA to have the following obligations: (1) Use the PA in compliance with the permission and the allocation plan of PA, as well as the related law and regulation; (2) Regenerate, protect and develop PA to be abundant and sustainable; (3) Protect the environment, upper watershed, source of water, NTFPs, and aquatic and wild life in the PA; (4) Collaborate and cooperate with related sectors; (5) Take a lead, participate or contribute to the protection and resistance of deforestation, bush fire, illegal logging & harvesting of NTFPs, aquatic and wild life in

PA; (6) Entrepreneurs in PA shall pay for obligations and other fees in compliance with law and regulation and shall contribute to the management and protection of PA; (7) Entrepreneurs who run a business nearby the PA and have some negative impacts on PA shall contribute the fund to the management and protection of PA in compliance with law and regulation; and (8) Fulfil other obligations as determined in the law and regulation.

***Section 7. Fund used in the management and protection of PA:***

Article 31 identifies Source of fund for the management and protection of PA from: (1) Government budget; (2) Forest and forest resource development fund; (3) Environmental conservation fund; (4) Contribution from business or projects operating in the Protected Area or nearby areas where there is impact on Protected Areas; and (5) The contribution of individuals, legal entities and government, private sector from domestic and overseas. The contribution rate for business or projects in the PA (art. 32) are as follows: (1) The operator of hydropower project, mining extraction, road construction, electric line transmission and development projects that has negative impact to the PA will provide fund for regeneration and tree planting at a rate of eight hundred USD per hectare (US\$800/ha). In addition, the hydropower project shall also pay two USD /ha/year (US\$200/ha/year) for the management and protection of the PA for the watershed area. (2) Entrepreneurs in the field of natural tourism who run business within or surrounding the PA shall contribute the fund for 1% of revenue generated from the natural tourism in each year. (3) Entrepreneurs, who make a film, documentary and others in a commercial way inside the PA, shall contribute the fund for 1% of project value; and (4) People who conduct a science research in a non-business way shall pay the fee as determined in the regulation.

***Section 8: Management of PA:***

(Art 33) MONRE collaborates with related sectors and local authority and takes a lead in setting up a particular unit in order to be responsible for the management of each PA. For each National Protected Area (NPA), it shall consists of at least 20 technical staff, one field office with equipment, vehicles, weapons and allocated budget for serving their work performance. This will mainly rely on people forces as a main factor in implementing the work. (Art 34) MONRE collaborates with related sectors and local authority as well as takes a lead in managing the PA throughout the country. Provincial and Capital City Of Natural Resources and Environment (P/CC-ONRE) collaborate with related sectors and local authority and takes a lead in managing PA in the Provincial and Capital City level. Village Forest Unit (VFU) collaborates with related parties and other organizations within the village and village cluster and take a lead in managing the Village Protected Area (VPA). The government centrally manages the PA and have a consensus throughout the country by assigning the natural resource and environmental sector to be a focal point in collaborating with MAF, Ministry of Energy and Mines, Ministry of National Defence, Ministry of Security, Ministry of Civil Works and Transportation, Ministry of Information, Culture and Tourism, local authority and related parties. The Protected Area Management Authority (PAMA) consists of: MONRE; P/CC-ONRE; DONRE; and VFU (art 35).

In managing the PA, MONRE has rights and functions (art 36) as below: (1) Make a strategic plan, policy plan and the law and regulation on PA in order to propose the

government for consideration; (2) Disseminate the law and regulation of PA throughout the country; (3) Propose to the government for considering an area to be a NPA; (4) Issue a decision, order, notice and instruction related to PA based on its roles, rights and functions; (5) Make an allocation plan for the NPA in collaboration with other related parties; (6) Direct, monitor and inspect the implementation of laws and regulations related to PA throughout the country; (7) Inspect and prepare the a case document of trespassers who break the PA decree and send to People Prosecutor Authority in order to sue in the court based on the justice procedure; (8) Survey and develop a database of PA as well as train and upgrade technical level related to PA to the related government officials; (9) Collaborate with sector, local authority and other related parties in implementing the work of PA; (10) Coordinate and cooperate with international and regional levels concerning the PA work as being assigned; (11) Summarize and regularly report on the implementation of PA works throughout the country to the government; and (12) Perform rights and other functions as determined in the law and regulation.

In managing the PA, P/CC-ONRE have rights and functions (art 37) as below: (1) Scale up and implement the strategic plan, policy plan and laws and regulations of PA throughout the country under the scope of its responsibility; (2) Disseminate the laws and regulations of PA under the scope of its responsibility; (3) Propose to the Provincial and Capital City governor so as to consider the determination of a particular place to be a Provincial PA; (4) Propose to the Provincial and Capital City governor to consider and approve the Provincial PA allocation plan in collaboration with other related parties; (5) Direct, monitor and inspect the implementation of PA works under the scope of its responsibility; (6) Inspect and prepare a case document of trespasser who breaks the laws and regulations of PA and send such document to People Prosecution Authority in order to sue the defendant based on the justice procedure; (7) Provide comments on the operation of business in the NPA in order to propose to MONRE for consideration; (8) Survey, collect information, and develop a database concerning the PA under the scope of its responsibility; (9) Collaborate with sector and other related parties in implementing the management and protection of PA; (10) Summarize and regularly report on the implementation of management and protection of PA under the scope of its responsibility to MONRE and the Provincial or Capital City Authority; (11) Perform rights and other functions as determined in the law and regulation.

In managing the PA,, DONRE has rights and functions (art 38) as below: (1) Implement the plans, programs and projects related to PA under the scope of its responsibility; (2) Disseminate the laws and regulations of PA under the scope of its responsibility; (3) Propose to the Head of District to consider the determination of a particular place to be a District PA; (4) Propose to the head of District to approve the allocation plan for District PA in collaboration with other related parties; (5) Monitor and inspect the implementation of PA under the scope of its responsibility; (6) Inspect and prepare the case document of trespasser who breaks the laws and regulations of PA and send such document to the People Prosecution Authority in order to sue the defendant based on the justice procedure; (7) Survey and collect information related to PA under the scope of its responsibility; (8) Collaborate with sector and related parties in the implementation of

management and protection of PA; (9) Summarize and regularly report on the implementation of management and protection of PA under the scope of its responsibility to the P/CC-ONRE as well as District authority; and (10) Perform rights and other functions as determined in the law and regulation.

In managing the PA, VFU has rights and functions (art 39) as below: (1) Propose to village authority to issue the management and utilization regulation for its Village; (2) Disseminate about the significance and benefit of PA to people in the village; (3) Follow the order, instruction, decision and regulation related to PA; (4) Arrange people force or volunteer to participate in the management and protection of village PA as well as to prevent from bush fire; (5) Monitor and keep an eye on the change of forest and the environmental condition as well as the situation of forestry works within its village areas; (6) Take a lead in monitoring, inspecting, resisting and opposing the breaking of laws and regulations related to PA namely the smuggling of NTFPs, illegal cutting, burning and hunting of animals; (7) Summarize and regularly report on the implementation of management and protection of PA under the scope of its responsibility to DONRE and village authority; (8) Perform rights and other functions as determined in the laws and regulations.

#### **A1.2 Summary for relevant section of the CBD (Protected Area Provisions in the Convention on Biological Diversity (CBD)).**

- Article 8 of the Convention contains specific references to protected areas by encouraging Parties to: (a) Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas; (b) Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use; (c) (indirectly) Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity; and (d) (indirectly) Develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures need to be taken to conserve biological diversity;
- Goal 2.2 of the Programme of Works on Protected Areas (PoWPA) of the CBD states: To enhance and secure involvement of indigenous and local communities and relevant stakeholders. Target: Full and effective participation by 2008, of indigenous and local communities, in full respect of their rights and recognition of their responsibilities, consistent with national law and applicable international obligations, and the participation of relevant stakeholders, in the management of existing, and the establishment and management of new, protected areas.
- Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets
  - Aichi Biodiversity Targets: In decision X/2, the tenth meeting of the Conference of the Parties, held from 18 to 29 October 2010, in Nagoya, Aichi Prefecture, Japan, adopted a revised and updated Strategic Plan for Biodiversity, including the Aichi Biodiversity Targets, for the 2011-2020 period. This plan provides an overarching framework on biodiversity, not only for the biodiversity-related

conventions, but for the entire United Nations system and all other partners engaged in biodiversity management and policy development.

- The livelihoods component of this intervention supports: (a) Aichi Biodiversity Target No.2 states: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems; (b) Aichi Biodiversity Target No.14 states: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable; (c) Aichi Biodiversity Target No.18 states: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.
- The initiative also provides a model to respond to the Millennium Development Goal 7: Ensure Environmental Sustainability states that this Goal aims to ensure environmental sustainability, which is closely linked to poverty and livelihoods of the people especially in rural areas that relies heavily on nature for a living.

## Annex 2: LENS 2 Safeguard Screening for Sub-project Support

Table A2.1 identifies non-eligible item to be supported by the sub-project while Table A2.2 identify the infrastructure that may be considered during the preparation of the Community Conservation Agreement (CCA). Table A2.1 is equivalent to the negative list of ESMF.

**Table A2.1:** Negative List of Prohibited Activities

1	New settlements or expansion of existing settlements outside the area defined by the PLUP or in any zone not gazetted for agriculture or habitation in the macro zoning of the NPA.
2	Creation of adverse significant impacts on local people including ethnic groups that are not acceptable to them, even with the mitigation measures developed in their participation.
3	Physical relocation and/or demolition of residential structures of households
4	Use of PAW sub-projects or activities as an incentive and/or a tool to support and/or implement involuntary resettlement of local people and village consolidation. Project finance can be used in villagers that were consolidated only if the requirements provided in Section 9.1, Stage 1 of the CEF have been fully met.
5	Significant damage or loss to cultural property, including sites having archaeological (prehistoric), paleontological, historical, religious, cultural and unique natural values.
6	Construction of new roads, road rehabilitation, road surfacing, or track upgrading of any kind inside natural habitats and existing or proposed protected areas and in general any construction expected to lead to negative environmental impacts.
7	Introduction of non-native species, unless these are already present in the vicinity or known from similar settings to be non-invasive, and introduction of genetically modified plant varieties into a designated project area.
8	Forestry operations, including logging, harvesting or processing of timber and non-timber 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.
9	Forestry operations on land or in watersheds in a manner that is likely to contribute to a villages increased vulnerability to natural disasters.
10	Conversion or degradation of natural habitat and any unsustainable exploitation of natural resources including NTFPs.
11	Production or trade in wildlife products or other products or activity deemed illegal under Lao PDR laws, regulations, or international conventions and agreements, or subject to international bans.

11	The production, processing, handling, storage or sale of tobacco or products containing tobacco.
12	Trade in any products with businesses engaged in exploitative environmental or social behaviour; or engaged in any unauthorized activities especially those related to natural resources.
13	Purchase pesticides, insecticides, herbicides and other dangerous chemicals exceeding the amount required to treat efficiently the infected area and which are not on the national list of chemicals allowed to be used in country or if the pesticides are banned in line with WHO regulations. However, if pest invasion occurs, small amount of eligible and registered pesticides in Lao PDR is allowed if accompanied with a training of farmers or villagers to ensure its safe uses and World Bank's clearance is needed. If the use of pesticide is necessary, the SDA will refer to the Pesticide Management Plan.
14	Purchase of guns; chain saws; asbestos, dynamites, destructive hunting and fishing gears and other investments detrimental to the environment and in general purchase of goods intended for a military purpose or luxury consumption.
15	Labor and working conditions involving harmful, exploitative, involuntary or compulsory forms of labor, forced labor <sup>3</sup> , child labor <sup>4</sup> or significant occupational health and safety issues
16	Sub-projects or activities that require a full EIA (category A).
17	New settlements or expansion of existing settlements outside the area defined by the PLUP or in any zone not gazetted for agriculture or habitation in the macro zoning of PAs.
18	Irrigation over 10 hectares and water supply capacity over 50 liters per second

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<sup>3</sup>Forced labor means all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

<sup>4</sup>Harmful child labor means the employment of children that is economically exploitive, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health, or physical, mental, spiritual, moral, or social development.

**Table A2.2:** List of eligible and in-eligible items for sub-project financing

<b>Investment Type</b>	<b>Eligible Items</b>	<b>In-Eligible Items</b>
Access and Transport	Small bridges, tracks, culverts, ramps, piers, road repairs and small up- grading (to avoid flood)	New roads and road surfacing, sealing, and large road
Livestock raising (buffalo, pig, goat, chicken, etc.)	Those that does not creat serious impacts on nearby natural resources and people	Those that can create serious impacts
Sustainable farming, fish farming,	Those that does not creat serious impacts on nearby natural	Those that can create serious impacts
Flood emergency shelter with facilities	Small community building, necessary furniture, toilets, and	Gasoline and diesel for generators
Community irrigation and/or drainage	Weirs, canals, bunds, gates, spillways, and other structures	Electrical pumps
Water supply and sanitation systems	Wells, small gravity water supply (Nam Rin), small weirs, ponds, community toilets, community garbage collection and/or disposal, 3R (recover, recycle, reuse) facilities, and community manage solid waste	Household piped water connection
Small check dams	Cement, steel, wire, and construction materials	Chain saw
Village/community protection forest and/or conservation fisheries conservation	Demarcation sign post, and small structure	Chain saw
Wetland improvement	Small excavation, maintenance, and/or rehabilitation	Large excavation
River bank protection	Cement, steel, concrete/ wooden poll, wire, and construction	Chain saw
Community electrical and/or energy supply	Mini-hydro generator, village wiring, and community biogas	Gasoline or diesel generators

### Annex 3: Issues and Mitigation Measures for the Sub-project

(Parts I and II applied Appendix 3 of the ESMF for LENS2) while Part III applied Appendix 5.

Protected Area (PA) covers conservation areas as well as protection forest area at national and local levels. Conservation area is considered the most sensitive area where careful consideration will be necessary. This annex outlines the potential impacts and mitigation measures to be applied for the activities to be carried out in PA (Part I Section A3.1-A3.9) including to address pressure from the outside threats nearby the PAs (Part II Section A3.10-A3.14) as well as the mitigation measured for small infrastructure (Part III). The issues and mitigation measures identi

fied in this annex are similar to those approved for PAW and LENS2 (Appendixes 3 and 5).

#### Part I: Potential Project Impact and Mitigation

##### A3.1 NPA Macro zoning and demarcation activities

To achieve its conservation aim of sustainable natural resource management and to protect natural habitat and wildlife, as per the requirements of the Forest law, sub-project will review existing macro zoning of NPAs in Total Protection Zone and Multiple Use Zone and Village Areas followed by physical demarcation.

#### Objective

To mitigate potential disagreements and conflicts that could delay activities related to forest, land use zoning and demarcation of NPA boundaries.

Issue	World Bank Triggers	Safeguards Response Summary
Land use planning at NPA level	Environmental Assessment (4.01) Forests (4.36) Natural Habitats (4.04) Involuntary Resettlement (OP4.12)	<ul style="list-style-type: none"> <li>- Zoning to follow national regulations on Pas</li> <li>- Zoning to reserve enough land for food security of affected households</li> <li>- Zoning process to follow free, prior, and informed communication</li> <li>- Zoning to be depicted on a map communicated to the villagers</li> <li>- Zoning map to be annexed to Community Action Plans and Conservation Agreements, which will be developed during the project implementation</li> <li>- Demarcation process to ensure all villages with existing usage inside NPAs are consulted</li> <li>- Minutes of consultation meetings on demarcation to be prepared and shared with communities</li> <li>- Exclusion and loss of access to NPA areas to be</li> </ul>

		negotiated with communities and appropriate alternatives provided.
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### **Mitigation Process**

The following mitigation measures are identified. The CEF should be used first to prepare CAPs geared at mitigation of these issues:

- Forest and land use zoning should follow national regulations on protected areas, and approved regulations and guidelines for the management of the PA
- Process of land use planning should use approved and current guidelines for Participatory Land Use Planning (PLUP)
- Forest and land use zoning should aim to ensure there are enough areas for meeting food security requirements of affected households, subject to environmental carrying capacity and technical considerations
- Forest and land use zoning process should follow free, prior, and informed communication and establish broad community support through the CEF process
- All agreements related to forest and land use zoning should be agreed, written, and depicted on a map that is communicated to the villages in appropriate cultural context and local language
- All agreements related to forest and land use zoning should be annexed to the Community Action Plan, which will be prepared during project implementation
- Demarcation process should ensure all villages with existing usage inside PAs are brought together for consultation process
- Minutes of consultation meetings related to demarcation should be prepared and shared with communities in appropriate cultural context and language
- Exclusion and loss of access to PA areas should be negotiated with communities and appropriate alternatives provided.

### **A3.2 Increased patrolling activities**

To improve law enforcement especially against wildlife trade, and timber, amongst other activities, enhanced forest patrolling will be used in PA areas that are especially targeted by wildlife traders, hunters, and poachers. Prime Minister’s Decree No 111/PM determines location of geographical landscapes to ensure that the strategic areas of national defence and security are managed in accordance with the national defence strategic plan including a 15 km borderline zone from the international border where patrols must be carried out in the presence of military officers.

## Objective

To ensure enhanced PA patrolling does not have an unintended negative impact on fragile habitat and species without compromising the need for increased patrols.

Issue	World Bank Triggers	Safeguards Response Summary
Increased patrolling	Forests (4.36) Natural Habitats (4.04)	<ul style="list-style-type: none"><li>– Zoning to follow national regulations on PAs</li><li>– New tracks based on evidence and after considering alternative options</li><li>– Camps to follow environmental protocols and to be dismantled after use</li><li>– Location of camps to avoid fragile habitats</li><li>– Manage fire hazard from forest patrol camps.</li><li>– Provide training and orientation to rangers.</li></ul>

## Mitigation Process

### Key measures include:

- Forest patrolling to establish new tracks and access based on adequate evidence and after considering alternative options
- Camps for forest patrols should follow all environmental protocols and should be dismantled completely
- Number of rangers in patrol and size of camps should be moderated to ensure very large camps are not required
- Location of camps should take into account fragile areas, and habitats
- Fire hazard from forest patrol camps should be managed as per protocols
- Provide training and orientation to ranger's related to fragile habitat, garbage management and disposal, and fire risk mitigation
- Learn well the Decree, especially the overlaps with project districts that are listed in the Decree; invite the representative of the Ministry of Defence to participate in the provincial and district institutional arrangements; and establish constructive communication with local military authorities by sharing project goals and objectives with them and eliciting their cooperation.

### A3.3 Alternative livelihood development activities

Alternative livelihood development activities by the project may lead to minor environmental impacts such as soil erosion, small clearing for houses, etc. that are well with mitigation capability of the project. Some of the likely development activities to be supported by the project will be small agriculture improvement, small irrigation facilities, improved access through repair of trails and tracks, livestock development, and small scale water supply. Sustainable harvesting and first stage processing of NTFPs may also be included in livelihood development.

## Objective

The overall objective will be to avoid and/or minimize negative environmental impact on forests, biodiversity, and natural habitats.

Issue	World Bank Triggers	Safeguards Response Summary
Livelihood development	Environmental Assessment (4.01) Forests (4.36) Natural Habitats (4.04) Involuntary Resettlement (OP4.12)	<ul style="list-style-type: none"> <li>– Use CEF process to explore livelihood development options</li> <li>– For livestock related livelihood activities undertake livestock survey, assess several options, and ensure livestock option does not enhance grazing pressure on the PA.</li> <li>– For NTFPs assess harvesting practices, and introduce sustainable harvesting protocols through awareness and training.</li> <li>– For the construction of small infrastructure such as laying of pipes, small hydro, trail maintenance, etc.</li> <li>– PMP should be applied as required if supported irrigation development and agriculture extension.</li> <li>– Chance finds procedures to be applied as required.</li> </ul>

## Mitigation Process

The following mitigation measures are identified. In most cases, social issues are more relevant. Then, the CEF should be used first to prepare CCAPs geared at mitigation of these issues:

- Use CEF process to explore livelihood development options that have the least negative impact on natural resources (see Annex 2 of the CEF on negative list)
- For livestock related livelihood activities undertake livestock survey to identify number and livestock diversity; access carrying capacity of existing grazing areas, assess supply of fodder from different sources and pay special attention to seasonal availability of fodder, including fodder banks during dry season. Ensure livestock programmes do not enhance grazing pressure on project areas. Assess options for stall-feeding, breed improvement and enhanced veterinary care
- For NTFPs assess high conservation areas, undertake biodiversity surveys, assess harvesting practices, and introduce sustainable harvesting protocols through awareness and training. Identify NTFP usage and delineate domestic use from commercial collectors. Include collectors who depend on NTFPs for additional income in awareness and training programmes. Explore of first-stage drying, sorting, and processing can be undertaken in buffer zones and undertake commodity-based value chain analysis

- For livelihood activities that will involve construction of small infrastructure, laying of pipes, use of construction material use PAW negative checklist for prohibited activities; screening questions for minor, potential impacts, and mitigation measures for very small civil works, as well as for buildings.
- In addition, if the project activity is to support the development/rehabilitation of irrigation system and agriculture extension, which pesticide maybe applied by villagers themselves; the simplify PMP should be applied as required. Training will be provided during project implementation to the Khumban agriculture extension staff and village production group.

### **A3.4 Development of small infrastructure activities**

The project will not finance any major civil work investments. Small civil works such as construction/rehabilitation of office buildings, stores and such structures that will contribute to effective management and implementation of sub-project activities may be financed. The environmental impacts of these structures will be minor, temporary, localized and the impacts will be mitigated through mitigation measures during the sub-project preparation, design and construction. In additions an Environmental Code of Practice (ECOP) will be integrated into sub-project activities and contract documents. Several simple mitigation measures for small sub-projects for diverse civil works have been developed and will be applied by the project. Appendixes 4 and 5 provide mitigation measures for civil works and the ECOPs.

Some sub-projects will support PA development. Those sub-projects will try to avoid any form of construction as far as feasible. However, in order to meet some of its project objectives of improved law enforcement against wildlife trade and timber, strengthening of livelihood options from tourism etc., some minor construction and small infrastructure works may be necessary. These could include check points in selected locations of PA areas, tourist camps, and improvement of access and safety for tourists, etc.

#### **Objective**

The objective will be to avoid and/or minimise negative environmental impact of any infrastructure on people, waterways, groundwater, forests, biodiversity, and natural habitats.

<b>Issue</b>	<b>World Bank Triggers</b>	<b>Safeguards Response Summary</b>
Small infrastructure development	Environmental Assessment (4.01) Forests (4.36) Natural Habitats (4.04) Involuntary Resettlement (OP4.12)	<ul style="list-style-type: none"> <li>– All proposals for small infrastructure to be reviewed against the LENS2 negative checklist for prohibited activities.</li> <li>– All proposed infrastructure to use the tools provided in appropriate <u>appendixes of this ESMF</u></li> <li>– If land must be acquired, follow the Resettlement Policy Framework found in Annex 1 of the CEF</li> </ul>

## Mitigation Process

All proposals for small infrastructure should first be reviewed against the LENS2 negative checklist for prohibited activities followed by the screening questions for projects. All small infrastructures must follow mitigation measures for very small civil works, and mitigation measures for buildings. In addition ECOP has been provided and these must be followed as required.

### A3.5 Ecotourism activities

The objective of eco-tourism is to generate local employment, and sustainable finance for management of protected areas. The LENS2 project funds will be used to supplement existing investments in eco-tourism in, and in areas adjacent to the PAs. However fragile, highland areas are prone to accompanying negative impacts that need mitigation.

#### Objective

To avoid negative, direct and indirect impacts, on forest resources, biodiversity, NTFPs caused by project activities to enhance eco-tourism.

Issue	World Bank Triggers	Safeguards Response Summary
Illegal Wildlife Trade	Environmental Assessment (4.01) Forests (4.36) Natural Habitats (4.04)	<ul style="list-style-type: none"><li>– Assess availability of infrastructure for tourism and regulate inflow of tourists as appropriate</li><li>– Assess impact of increased tourists</li><li>– Ensure proposed tourism sites are not in fragile natural habitat areas</li><li>– Undertake orientation and training of local people involved in eco-tourism</li><li>– Ensure all tourist camps have signage, garbage disposal arrangements, and fire management equipment</li><li>– Provide orientation and briefings to tourists about PA</li><li>– Apply ECOP to all infrastructures that will be built by the project</li><li>– Apply CEF procedures if Community grants are mobilized to develop tourism ventures.</li></ul>

## Mitigation Process

#### Key measures include:

- Assess availability of infrastructure for tourism and regulate inflow of tourists as appropriate
- Assess impact of increased tourists and accompanying demand on fuel wood from PA areas, increased harvesting of selected NTFPs, or wild fruits, herbs et al for consumption and sale

- Assess emergence of local forest, bamboo, NTFP-based household production for tourists and its impact on unsustainable harvesting
- Assess location of tourist spots and ensure sites are not in fragile natural habitat areas
- Undertake seasonal analysis of tourist inflow and co relate with breeding cycles of species those are attractive to tourists
- Undertake orientation and training of local people involved in eco-tourism especially with relation to negative impacts of tourism on the environment and forest resources
- Ensure all tourist camps are clearly marked with signage, have garbage disposal arrangements, and fire management equipment
- Provide orientation and briefings to tourists about PA, make available educational and awareness material in appropriate language
- Apply ECOP to all infrastructures that will be built by the project.

### **A3.6 Increased poaching and illegal logging from roads and trails**

No road construction or development is planned under any sub-project. But existing PA management roads or tourism/patrol trails would be maintained. Significant overharvesting of wildlife typifies NPAs with repeated violations of wildlife protection and trading laws. In terms of catalysts for wildlife hunting, roads are among the most damaging changes to an area. Road and track development potentially completes links between the markets and new sources of wildlife or logs where roads and track upgrades have been put into new areas.

#### **Objective**

To plan and implement access infrastructure and equipment not to increase opportunity for illegal wildlife trade or illegal logging within LENS2 project areas.

<b>Issue</b>	<b>World Bank Triggers</b>	<b>Safeguards Response Summary</b>
Illegal Wildlife Trade	Environmental Assessment (4.01) Forests (4.36) Natural Habitats (4.04)	<ul style="list-style-type: none"> <li>– Limit new road developments and road/track upgrades to areas where surveillance can be organized.</li> <li>– Avoid opening tracks that can be used with transport equipment such as hand tractors especially if the area has evidence of threats.</li> <li>– Avoid road network development of any kind in or near key landscape features identified as HCV1-6</li> <li>– Ensure that Conservation Contracts are signed before purchasing any equipment that may be used to transport illegally harvested NTFPs, wildlife or logs as part of a Community Grant for CAP implementation.</li> <li>– Apply Negative Checklist and Project Screening procedures for new road and track developments.</li> <li>– Using data from “occupancy survey” undertake annual review of wildlife threats, illegal logging activities and</li> </ul>

		<p>report findings to DoFI and relevant line agencies</p> <ul style="list-style-type: none"> <li>– Using satellite images every 3 years, review the evolution of forest cover and report findings to DoFI and relevant line agencies</li> <li>– Form and maintain relationships with line agencies and collaborate on matters relating to NPA management</li> <li>– Assess community grants through project screening procedures (see Annex 2 of CEF)</li> </ul>
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## Mitigation Process

### Key measure includes:

- Avoid unnecessary access facilitation.
- Limit road network developments, road upgrades and track construction to a minimum for livelihood development activities.
- Comply with the Negative Checklist and Project Screening Procedures, and Table below, where new roads and upgrades will be required.
- After review of the proposed biodiversity assessments, full compliance to agreed recommendations, which may include restriction to key landscape features.

At the time of ESMF preparation, information relating to the design requirements and location of new access roads, tracks in the two selected NPAs were not concluded. This information will be formulated as part of the planning and consultation phase. Below provides a list of key landscape features identified as warranting special consideration for conservation/protection.

### Road Access Restriction to Key Landscape Features (from MAF, 2010)

Habitat Feature	Zonation response	Priority
Mineral licks	No roads, road upgrades, tracks or track upgrades	Acute
Permanent natural pools and swamps	No roads, road upgrades, tracks or track upgrades	Acute
Seasonal natural pools and swamps	No roads, road upgrades, tracks or track upgrades	High
Swamp-forests and swamp-bush lands (permanently or seasonally inundated)	No roads, road upgrades, tracks or track upgrades	Acute
Seasonally inundated grassland	No roads, road upgrades, tracks or track upgrades	Acute
Caves	No roads, road upgrades, tracks or track upgrades to caves; no material to go into caves; no alteration of entrances	Mid

Habitat Feature	Zonation response	Priority
Small karsts far from any large karsts	No roads, road upgrades, tracks or track upgrades; no quarrying whatsoever.	High
Large water bird nest trees	No harvest of adults or nestlings or eggs	Mid
Large karsts	No roads, road upgrades, tracks or track upgrades	Mid
Level lowland forest (4+ km <sup>2</sup> contiguous)	No roads, road upgrades, tracks or track upgrades	Acute
Areas with large parts (25 km <sup>2</sup> +), more than half-a-day's travel from any village, road or navigable river	No new access roads into the area or its ½-day travel buffer.	Acute
Conservation and protection areas	No access or tracks to intersect conservation or protection status land areas of any description	Acute

### A3.7 Pesticide management

The project will not support procurement of any pesticides; however, pesticide and fertilizer use by villager's themselves in the PAW project may not be totally avoided since the village grant may finance agriculture extension and investment (see also the CEF). All sub-project activities will be screen through the Negative Check List and Project Screening Process. In addition if rice farming and/or other agriculture development activities will be involved, training will be provided during project implementation to the Khumban agriculture extension staff and village production group on integrated pest management (IPM) approaches and the simplified Pest Management Plan (PMP) prepared for LENS2 ESMF (Appendix 8).

#### Objective

The objective will be to minimize use and reliance on non-biological controls of pests. The primary aim of pest management will be not to eradicate all organisms, but to manage particular pests and diseases that may negatively affect forest, land and water resources so that these resources remain at a level that is below an economically and environmentally damaging threshold.

Issue	World Bank trigger(s)	Safeguard Response Summary
Improper use of pesticides and	Pest Management (OP.4.09)	<ul style="list-style-type: none"> <li>– Avoid pesticide use where ever and whenever possible.</li> <li>– Identify through CEF high-risk villages and forest landscapes.</li> </ul>

fertilisers that may cause harm to humans, biodiversity and the environment		<ul style="list-style-type: none"> <li>– Negative Checklist and Project Screening Procedures for all sub component projects.</li> <li>– Develop Integrated Pest Management Plans where pesticides are required.</li> <li>– Provide village training and safety equipment for sub-projects that require pesticide and fertilizer use</li> <li>– Poison and contamination testing.</li> </ul>
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### Mitigation Process

The project will adopt the Regulation on the Control of Pesticides No 2860/MAF, Lao PDR that was promulgated on 10 February 2010. This regulation is an important tool and monitors activities related to pesticide including import, export, transit, trade and use. Pesticides should be managed to avoid their migration into off-site land or water environments by establishing their use as part of an Integrated Pest Management Plan, which would include a description of cultural practices, biological control, and resilient genetic strains.

Where feasible, the following alternatives to pesticides should be considered:

- Provide those responsible for deciding on pesticides application with training in pest identification, weed identification, and field scouting
- Introduction of crop and tree inter-planting
- Use of pest-resistant crop varieties
- Support and use of beneficial organisms, such as insects, birds, mites, and microbial agents, to perform biological control of pests
- Protect natural enemies of pests by providing a favourable habitat, such as bushes for nesting sites and other original vegetation that can house pest predators

If large amount of pesticide application is warranted the following precautions to reduce the likelihood of environmental impacts should be used:

- Train personnel to apply pesticides and ensure that personnel have received applicable certifications or equivalent training where such certifications are required
- Review the manufacturer's directions on maximum recommended dosage or treatment as well as published reports on using the reduced rate of pesticide application without loss of effect, and apply the minimum effective dose
- Apply pesticides based on criteria such as field observations, weather data, time of treatment, and dosage, and maintain a pesticide logbook to record such information
- Avoid the use of pesticides that fall under the World Health Organization Recommended Classification of Pesticides by Hazard Classes 1a and 1b.
- Avoid the use of pesticides that fall under the World Health Organization Recommended Classification of Pesticides by Hazard Class II
- Avoid the use of pesticides listed in Annexes A and B of the Stockholm Convention, except under the conditions noted in the Convention

- Use only pesticides that are manufactured under license and registered and approved by the appropriate authority and in accordance with the Food and Agriculture Organization's (FAO's) International Code of Conduct on the Distribution and Use of Pesticides
- Use only pesticides that are labelled in accordance with international standards and norms, such as the FAO's Revised Guidelines for Good Labelling Practice for Pesticides
- Select application technologies and practices designed to reduce unintentional drift or runoff only as indicated in an IPM program, and under controlled conditions
- Maintain and calibrate pesticide application equipment in accordance with manufacturer's recommendations
- Establish untreated buffer zones or strips along water sources, rivers, streams, ponds, lakes, and ditches to help protect water resources
- Avoid use of pesticides that have been linked to localized environmental problems and threats.

To prevent, reduce, or control the potential contamination of soils, groundwater, or surface water resources, which may result from accidental spills during transfer, mixing, and storage, pesticides should be stored and handled in accordance with the recommendations for hazardous materials management in the FAO Guidelines.

Integrate specific enquiry in CEF process to village use of pesticides and fertilizers. This includes an assessment of the knowledge base of those villages that work within local commercial crop plantations. Evaluate locations of possible land and water contamination, causes and effects. Erect signboards in local language that caution risks related to potential chemical poisoning and contamination.

It is recommended that within high-risk project villages chemical incidence observation committees be established. Priority villages include:

- Villages that store and use chemicals for their own needs
- Villages that store chemicals within their village boundaries on behalf of local agribusiness,
- Villages within 5 km of commercial crop plantations, and
- Villages affected by incidences of poisoning and contamination.

The village based monitoring group will require basic training to respond to reports of adverse events related to pesticides within a reasonable period of time. The community-based approach will ensure the most effective mechanism for surveillance and providing immediate health care.

### **A3.8 Physical cultural resources**

Sub-project activities may cover diverse ethnicities, cultures, and spiritual practices that have the potential to impact on Physical Cultural Resources (PCR). For example, opening new tracks in a NPA for patrolling a new areas may stumble of an old stupa, or a new paddy field enables by a community grant irrigation scheme may unearth artefacts or old

grave yards. PCR are defined as 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. Chance Find Procedures' have been developed to mitigate against damage or loss to PCRs.

### Objective

Assist in preserving Physical Cultural Resources (PCR) and in avoiding their destruction or damage. PCR includes resources of archaeological, paleontological, historical, architectural, religious, including graveyards and burial sites, aesthetic, or other cultural significance.

Issue	World Bank trigger(s)	Safeguard Response Summary
Loss, damage, theft, of physical cultural resources from project related activities	Physical Cultural Resources (OP.4.11)	<ul style="list-style-type: none"> <li>– Negative Checklist and Project Screening Procedures for all sub component projects.</li> <li>– Evaluations of cultural and archaeological significants to be undertaken as part of ESMF chance find procedure</li> </ul>

### Mitigation Process

The general approach regarding physical cultural property is to develop management and mitigation measures to assist in their preservation, and to avoid their elimination. In some cases this may require that project features or activities are redesigned in order that sites, objects and structures can be preserved, studied, and restored intact in situ. In other cases, structures may need to be relocated, preserved, studied, and restored on alternate sites. In other cases, scientific study, selective salvage, and museum preservation before destruction may be necessary in the detection, reporting of, and the prevention of disturbance and damage to objects and sites of physical and cultural significance.

To minimize impacts to artefacts Chance Find Procedures have been developed. The objectives of the Chance Find procedures are:

- Minimize impacts to resources from all project related activities
- Ensure that artefacts uncovered are appropriately recorded, documented and reported to appropriate agencies.

To identify and manage any chance finds and comply with the relevant regulations, the following actions will need to be employed by the project:

- The done and Village Chief, with assistance from the sub-project owner will mobilize a consultant specialist in artefact to remove the PCR to a secure location. If the artefact is large and cannot be easily removed, or is one of a number of objects, then the Ministry of Information and Culture must be informed as soon as possible to allow them to investigate the find in situ.

- Should a chance find or investigation interfere with forestry operations or livelihood enhancement activities, or affect the planned location of facilities etc., then the DoNRE and Village Chief will need to liaise with the Ministry of Information and Culture to determine the best course of action.
- The DoNRE and Village Chief should advise any contractors of any changes to PCR procedures or forestry operations as a result of the chance find. For disputed PCR artefacts, the Ministry of Information and Culture of Lao PDR will determine ownership.
- The Project Screening Process and the Chance Find Procedures will assist local project implementers to determine if the PCR will be affected and the action required for conservation.

#### Box A3.1: Chance Find Procedures

- A suspected PCR find should not be moved or interfered with.
- A suspected PCR find should be reported immediately to the Village Chief and DoNRE representative.
- All work potentially impacting on the find should be suspended whilst these parties assess the find.
- The DoNRE and Village Chief will immediately mark the location of the find and take necessary precautions to protect the site from further disturbance, including limiting access to the site.
- If the find contains suspected human remains the DoNRE and Village Chief will be required to notify the relevant District Administration immediately and take instructions from the District Administration.
- The DoNRE and Village Chief will need to record the depth of the artefact and document and photograph the artefact in situ.
- The DoNRE rep and Village Chief will need to prepare a Chance Find Report
- The Chance Find Report must be submitted to the Provincial Ministry of Information and Culture, and PoNRE within 48 hours.

### **A3.9 Guidelines, policy and human resources development**

The essence of the project is to build the GoL institutions capacity to address better the management of biodiversity in the target PAs and prevent wildlife trafficking. This implies significant resource allocation to sub-project that will help educate the people of Laos and the staff (also future staff) of the public agencies such as DOF and DOFI and their provincial and district emanations. As guidelines, regulations, policies are reviewed and as curriculum for short courses or bachelor are developed, there is a risk that the set up systems or deliver knowledge that is in opposition with the safeguard, or at least with the “spirit” of the Bank safeguards. The risk is minor as safeguards laws of Laos mirror the World Bank safeguard laws.

## Objective

To avoid that training curricula and policy development deliver knowledge and practices that lead to actions on the ground that may not be compatible with customary safeguards standards.

Issue	World Bank Triggers	Safeguards Response Summary
Knowledge and policy development	Environmental Assessment (4.01) Forests (4.36) Natural Habitats (4.04) Involuntary Resettlement (OP4.12)	<ul style="list-style-type: none"><li>– Screening of proposed activities at sub-project proposal stage</li><li>– Commitment by sub-project owner in the ESMPs that all proposed curricula, guidelines, regulations, practices, are to remain fully compatible with the Laos environment laws and possibly with international safeguard standards.</li><li>– Sub-project owner commit in the ESMP to full transparency, adequate consultations so partners and people of Laos have the opportunity to comment and improve proposed instruments.</li></ul>

## Mitigation

### Key measures include:

- Sub-project owner proposing capacity building sub-project will need to document that no policy, knowledge, guidelines and practices developed with sub-project funds would be fully aligned with, and verification will be carried out, the Laos PDR environment laws.
- External consultation, with full transparency, on all instruments proposed, curriculum developed, legal framework designed, etc. so the PAW project partners can exercise due diligence on this standard.

### A3.10 Water pollution, land/water uses, and safety

There are concerns regarding potential negative impacts on water quality, water quantity, soil erosion, land/water uses in upstream/downstream areas, and safety regarding to public health and/or safety risks due to UXO. These impacts are expected to be small since the sub-project will be identified/ prepared through active participation of local authorities and key stakeholders in line with IWRM principles. There are on-going processes to develop a river basin management organization and approach to be applied in several river basins, and this approach will be supported under LENS 2 sub-projects.

## Objective

To ensure that water resources related sub-project will not create adverse impacts on water quality, water quantity, soil erosion, etc.

Issue	World Bank Triggers	Safeguards Response Summary
Water quality, water quantity, soil erosion, safety	Environmental Assessment (4.01) Natural Habitats (4.04) Involuntary Resettlement (OP4.12); ethnic groups (OP 4.10)	<ul style="list-style-type: none"> <li>– Apply the Negative List screening during the sub-project identification/appraisal</li> <li>– Provide basic knowledge on the water resources management issues related to IWRM concept, potential impacts on water quality, water quantity, public health, soil erosion, water and/or land uses upstream and downstream as part of safeguard training.</li> <li>– Establish and conduct consultation/ communication mechanism to ensure that the local community especially the ethnic groups do not have objection to the sub-project.</li> <li>– Consult local authority, local community, and responsible agencies with respect to the risk regarding UXO.</li> </ul>

## Part II: Potential External Impact and Mitigation

The project itself, especially the PA sub-project, proposes to build the various stakeholder capacity to progress toward the mitigation of external threats. These external threats (or risks) are (a) village consolidation, (b) road construction/renovation and concession-granting, (c) illegal wildlife trade, (d) illegal logging, (e) undesirable fires, (f) increased shifting cultivation. The alleviation of all will be incorporated in the PA management plan that will be developed during sub-project implementation.

### A3.11 Village consolidation

In one of the selected NPAs, village consolidation has been monitored by the Nam Theun Two Dam Project. This monitoring will continue at least until the end of 2017. It should be noted that the Governor of Khammouane Province has issued in 2012 an Instruction to desist from further village consolidation in the NNT watershed area. In 2013, this instruction has been implemented and verified by the annual NT2 project supervision mission (cf. NT2 wrap up meeting to GoL).

The CEF provides extensive treatment of the project approach to village consolidation. On the subject of village consolidation, the CEF primes over the ESMF. The sub-project owners are invited to refer to the CEF first when dealing with the issue of village consolidation as what follows is a summary.

Keeping in mind the above, the project will apply the following criteria related to resettlement and village consolidation:

- Villages consolidated in the past

-Identify such villages and determine through participatory consultation, and on the basis of such consultations:

- Include villages if (i) land and tenure issues associated with the consolidation have been resolved to the satisfaction of communities, (ii) adequate land for agriculture or other means of livelihood to improve, or at least maintain their livelihoods, has been made available, and (iii) communities provide their broad community support for participating in LENS2 project.
- Exclude villages if outstanding issues related to land for agriculture and natural resource are identified, and convey findings to Provincial Authorities for appropriate action. Such villages can subsequently become project beneficiaries if, (i) Provincial Authorities demonstrate that issues have been resolved, (ii) communities confirm such resolution met standards of free, prior and informed consultation, and (iii) communities provide their broad community support for participating in LENS2 Project.

- Villages scheduled for consolidation

- Exclude all villages scheduled or proposed for consolidation during the project life.

### **A3.12 Roads and concessions**

National, provincial and district road may cross NPAs provided they follow the national laws on EIA, obtain an Environment Compliance Certificate from PONRE which implementation and compliance is then monitored also by PONRE. The 2007 Forest law and draft PA decree are clear that hydropower, mining or agriculture concessions are not among the possible business activities, or concessions, authorized in PAs although there is no language of such concessions being prohibited.

However, due to unclear jurisdictional concession granting mandates, insufficient communication between departments particularly between province and central tiers, and weak monitoring and compliance enforcement, PAs and adjacent areas have experienced incompatible concession planning and granting. Most often, road and hydropower projects are considered strategic and are part of long terms country development plans (even if those plans are not always readily available).

Undoubtedly, those road projects and concessions constitute a threat to many NPAs in Laos. Because of their strategic importance most will proceed. However, the GoL is more and more committed to ensuring that these projects and concessions comply with national environmental and social legislations. Already most hydropower project are attaching Standard for Environmental and Social Operation (SESO) to their concession contracts. Some hydro power and mines have also started providing voluntary financial contribution to the Environment Protection Fund.

Improvements to monitoring and reporting, strengthening governance and interagency coordination, enforcement and legal frameworks will be used as mitigation approaches.

### **Objective**

To build constituency, knowledge and public sector capacity to reduce the likelihood and consequence of incompatible concession grants impacting on the work activities, timeframes deliverable and overall objectives of the LENS2 project.

#### Concession Grants - Safeguards Response Summary

Issue	World Bank Triggers	Safeguards Response Summary
Incompatible concession granting in PAs and adjacent areas	Environmental Assessment (4.01) Natural Habitats (4.04) Forests (4.36)	<ul style="list-style-type: none"> <li>– Review and update plans for road construction and concession granting.</li> <li>– Prepare and maintain a national database of roads and concessions through PAs and possibly publish it one a year and on a web site.</li> <li>– Establish, with concerned public authorities, a participatory Strategic Environment assessment of the district development of all districts that include PA land.</li> <li>– Contribute to strengthening government institutions and policies (mostly other WB projects such as HMTA, M-IWRM)</li> <li>– Periodic meetings with relevant line agencies, donor projects, and private investors, engineers and contractors, to identify concession and roads before feasibility are initiated.</li> <li>– Demarcations of PA limits and zones.</li> <li>– Establish early response mechanisms with local communities on road construction and concession plans.</li> <li>– Avoid seeking unrealistic objective which would easily be reversed by roads and concessions (the PAW project PDO seeks to build capacity to reverse biodiversity degradation and not to actually achieve reversal during the life time of the project)</li> <li>– Suggest that the decision maker awareness sub-project includes information about the costs of road and concession overlaps with PAs.</li> </ul>
Impact of Roads construction through PAs		

#### Mitigation Process

As per government legal and administrative position, several requirements are needed for the legal granting of concessions. These include, but are not limited, to the following:

- Completion of a land survey to identify existing land use types
- Preparation of a land map that presents the resources of the concession area along with the proposed development, and

- Preparation of a land use plan that defines the existing land use arrangements, and the proposed impacts and mitigations.

It is recommended, as part of the PA processes of preparing Protected Area Management Plans, that this information is obtained and the risk potential from road planning and concession granting in project areas be evaluated.

Utilize the concession area database under GIZ – Land Management and Registration Project (LMRP), with the Natural Resources and Environment Information Center (NREIC) under MoNRE.

Hold quarterly multi-jurisdictional dialogue with relevant agencies to ascertain the extent of concession grants and road construction in or near PAs. Key institutions involved will include:

- Provincial Land Management Authority
- Provincial Ministry of Planning and Investment
- Provincial Ministry of Agriculture and Forestry
- Provincial Ministry of Transport and Civil Work
- Provincial Ministry of Energy and Mines
- Representations from central Government agencies are also recommended.

Obtain copies of all road plans, and concession management plans, approved or planned.

Demarcation of PAs has proven to be an effective tool against concession granting. The demarcation sign or marking stone provides tangible physical evidence of a NPA that assists local managers and villagers to negotiate alternative land use with strong developer interests.

### **A3.13 Illegal wildlife harvesting and trafficking/ illegal logging**

Most of the sub-projects are expected to have an impact on strengthen the country capacity to address illegal use of wildlife and timber for commercial purpose. Significant overharvesting of wildlife and timber typifies most PAs in Laos with repeated violations of wildlife and timber protection and trading laws.

#### **Objective**

To build the capacity of Laos PDR institutions to reduce the opportunity for illegal wildlife and timber trade within the project areas.

<b>Issue</b>	<b>World Bank Triggers</b>	<b>Safeguards Response Summary</b>
Illegal wildlife and timber harvesting and trade	Environmental Assessment (4.01) Forests (4.36)	<ul style="list-style-type: none"> <li>– Eligible sub-projects all address wildlife and NPA threat mitigation capacity building from all angles.</li> <li>– Sub-project all hope to help GoL mitigate the threat through better laws enforcement on trafficking</li> <li>– In provinces, enhance POFI capacity to work with</li> </ul>

	Natural Habitats (4.04)	<p>partners organization against wildlife trafficking</p> <ul style="list-style-type: none"> <li>– Enhance capacity of PA staff and villagers to monitor, control, report and suppress illegal harvesting of wildlife and timber</li> <li>– Train and incentivise villagers through implementation of Conservation Contracts</li> <li>– Share information from village monitoring with law enforcement agencies</li> <li>– Using occupancy surveys and satellite imagery monitor wildlife threats and logging /forest cover</li> <li>– Form and maintain relationships with line agencies and collaborate on NPA management.</li> </ul>
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## Mitigation Process

### Key measures include:

- Eligible sub-projects addresses wildlife and NPA capacity building from (a) institutional angle (DOF, DOFI, Lao WEN, etc.), (b) the regulatory and practices angle, (c) the knowledge and human resources development angle and (d) the on-the-ground implementation angles in 5 provinces.
- Sub-project all hope to help GoL mitigate the threat through improvement and implementation of various GoL laws and regulations relating to conservation.
- In provinces, the POFI capacity to work with partners organization against wildlife trafficking will be enhances.
- In NPAs, the capacity of protected area staff and villagers to monitor, control, report and suppress illegal harvesting of wildlife and timber will be improved.
- Villages will receive training and incentive, through a step-wise approach that aims to help them implement a Conservation Contract whereby payment in Village Development Funds are made based on compliance with agreed conservation behaviour, including NPA laws.
- Village situation monitoring and results shared with law enforcement agencies and relevant line departments and agencies
- Using occupancy surveys and satellite imagery undertake review of wildlife threats and logging activities/forest cover assessment and report findings to DoFI and relevant line agencies

### A3.14 Undesirable fires

PA forest types are located in landscapes that are not especially fire-prone ecosystems (e.g. dense humid forests) or where periodic fires are considered as ecological agents (e.g. grassland in NEPL). However current fire frequencies are believed to exceed natural levels. From a wildlife habitat perspective fire events could reduce habitat suitability for species.

Information on fire events will be integrated in the CEF, and community based fire management will be introduced. Indigenous fire management practices will be supplemented with training and early warning. Improved communication and response protocols will be established with forest department staff. High-risk areas will be identified and appropriate fire management plans developed during project implementation.

**Objective**

Build knowledge and capacity to reduce undesirable fire events inside PA.

Issue	World Bank Triggers	Response Summary
Increased fire frequency	Natural Habitats (4.04) Forests (4.36)	<ul style="list-style-type: none"> <li>– Situational analysis of fire use, monitor and record fire patterns</li> <li>– Document and share experience of successful fire management from other Pas</li> </ul>

**Mitigation Process**

**Key measures include:**

- Document fire and management practices that have demonstrated sustainable fire management practices. Disseminate this information to project villages and resource managers.
- Discuss fire management with local villages through situational analysis. High-risk villages – those with excessive use that risks high quality environment – should be considered for behavioural change interventions.
- Consider fire risks, fire sensitive areas and fire management practices when drafting the PA Management Plans.
- Build community members and PA staff capacity in fire detection, prevention and suppression.

**A3.15 Shifting cultivation**

Shifting cultivation involves cutting down vegetation, burning it in situ and then planting crops on the cleared land. Once crops are harvested, the land is left ‘fallow’ for natural vegetation to re-grow. This agricultural system has traditionally been widely practiced in many parts of Lao PDR. Shifting cultivation (rotational) practices have been developed to account for these conditions, however conversion of land for concessions and other forms of development (mining, hydropower etc) is making even less land available for farming and food production. This is having a two-fold affect. The first is that it is forcing villages to reduce the fallow periods. A shorter fallow period produces lower yield rates than longer fallow. The second response is that to make up for the short fall in food availability, shifting cultivation is now expanding more rapidly into new areas, vis. pioneer shifting cultivation.

The dilemma that will be faced by the project is that should it pursue stronger enforcement to protect forest resources, it may have the very negative consequence of reducing people’s food resources.

The CEF provides extensive treatment of the project approach to village development compatible with PA management. On this subject of mitigating the threat from increased shifting cultivation, the CEF primes over the ESMF. The sub-project owners are invited to refer to the CEF first when dealing with this issue as what follows is a summary.

**Objective**

Build the community capacity and incentive to reduce incidence of forest conversion by reducing expansion of shifting cultivation practices, while simultaneously ensuring adequate areas and suitable land resources are provided to local communities to maintain food security.

Issue	World Bank Triggers	Safeguards Response Summary
Shifting cultivation is driver of forest cover reduction.	Natural Habitats (4.04) Forests (4.36)	<ul style="list-style-type: none"> <li>– Implement the CEF which includes participatory land use planning (PLUP) to ensure adequate land is available for food production but also for natural habitat conservation.</li> <li>– Prepare Community Action Plan (CAP) and provide community grants whereby, if it is a community priority, assistance is provided toward livelihoods less reliant on shifting cultivation such as paddy irrigation, fish management and production, etc.</li> </ul>

**Mitigation Process**

Land use planning will need to ensure that adequate lands, both quality and quantity, are retained for the purpose of food security including shifting cultivation. This includes regulating land use in restored and regenerated forests.

Livelihood Grants will be used to build the capacity and infrastructure requirements of securities to expand livelihood opportunities as a means to offset dependency on shifting cultivation.

**Part III: Mitigation Measures for Small Infrastructure Sub-projects**

(Applied Appendix 5 of the ESMF)

These mitigation measures provide technical guidelines for a simple impact assessment and mitigation measures of the sub-projects that do not require an IEE preparation as required by the Government’s EIA regulation. An assessment threshold of civil works for sub-projects is described in Table A5.1; mitigation measures for very small civil works below the threshold are described in Table A5.2; and mitigation measures for buildings are provided

in Table A5.3. In addition a simple environmental code of practices (ECoP) to be included in the grant agreement either with the local community and/or a contractor is provided.

**Table A3.1:** Assessment thresholds for civil works

	Type of investment	Thresholds
<b>SCALE</b>	Village rural roads, tracks and footpaths (wider than 3.5 m)	> 10 km
	Small bridges and piers	> 20 m
	Village water supply	> 2,000 users
	New construction of irrigation schemes	All
	Community Buildings (halls, health centres, schools, markets)	> 400 m <sup>2</sup>
	Sanitation Facilities ( <i>latrines</i> )	> 200 users
	Mini-hydro generators	All
Changes likely to occur in water use and/or water availability		All
Protected area or area proposed for protection by the Government		All

**Table A3.2:** Mitigation measures for very small civil works

Key issues to consider	Mitigation measures
<i>Location &amp; possible impact</i>	
- Land and biodiversity degradation in conservation area	No animal killing
	No land occupation
	No forest cutting
	Solid waste management
	No camping
- Flooding area	Provide adequate drainage system
	Include appropriate measures to accommodate floods such as retention pounds, diversion ditches, small dike, raising houses on stilts, etc.
- Soil erosion in mountainous area	Design slope should be less than 17%
	Side drain
	Slope protection
	Guard rail (simple type)

- Security risk to community	Speed limit sign
	Dust control
	Accident prevention
- Land property	Minutes of meeting on conflict resolution and copy of land certificate attached
	Cultural area, history
-Disturbance of fish spawning areas and migration routes	Avoid negative impacts such as disposal of spoil and tree uprooting that could silt up watercourses. Ensure optimal design.
<i>Construction phase</i>	
- Burrow pit	Select suitable site
	Avoid new burrow pit
	Back fill as instructed
- Erosion risk	Provide adequate slope protection
	Provide maintenance procedure
- Solid waste	Provide appropriate waste collection and disposal
- Waste oil	Do not allow to drain into soil and river
- Camp	Secure agreement with local community
	Provide water supply, mosquito net, and adequate sanitation (toilet, washing space, etc.), and good housekeeping to prevent rodents, insect, etc.
-Storage of construction material	Store toxic wastes and materials in safe place.
<i>Operation phase</i>	
- Public health, road safety, and other negative impacts on the village	Consult community and develop mitigation measures
- Speed control	Install measures to control speed limit (sign, bumper, etc.); education campaign
- Dust control	Control speed limit, periodic watering, plant appropriate trees, surfacing
- Accident	Awareness training in cooperation with the Police and local authorities

**Table A3.3:** Mitigation Measures for Buildings

<b>Key issues to consider</b>	<b>Mitigation measures</b>
Loss of land ownership	Land use certificate
Disturbance or pollution of water system	Detail study and proper design
Clogging of drainage system	Proper design
<b>Location</b>	
Increase risk of land slide	Proper design and slope protection
Construction	
Unmanaged waste materials with health risks	Provide appropriate waste collection and disposal
Safety	Provide training
Operation	
Unorganized waste management	Set up committee
	Allocate suitable area for waste
	Separate recyclable waste
	Set up rules and regulations
Water system, drainage system	Detail study and proper design to protect rivers and underground water

## **Annex 4: Environmental Code of Practices (ECoP)**

(Apply Appendix 4: ECoP of the ESMF)

1. The following good housekeeping practices (Part A) and “chance find” (Part B) are required for all contracts. The practice of housekeeping involves proper storage, use, clean up, and disposal of the various materials used during construction for human and environmental safety.

### **Part a Good Housekeeping Practices**

#### **2. DO:**

- Limited working hours during the day, especially in residential areas, and control driving speed
- Minimize earth excavation and appropriate disposal of spoil
- Minimize opening of new burrow pits and ensure proper closure
- Minimize traffic congestion, dust and noise generation
- Proper maintenance of construction equipment and vehicles
- Provide appropriate safety signs (day and night) and inform local residents
- Avoid spill of used oil and other toxic materials, including safe transportation and storage
- Apply good housekeeping in the construction and/or storage sites to ensure safety of workers and peoples. Remove debris to keep the work site orderly and safe. Plan and implement adequate disposal of scrap, waste and surplus materials. Keep work area and all equipment tidy. Designate areas for waste materials and provide containers. Keep stairways, passageways and ladders free of material, supplies and obstruction. Secure loose or light material that is stored on roofs or open floors. Keep materials at least 2m (5ft) from openings, roof edges, excavations or trenches. Remove or bend over nails protruding from lumber. Keep hoses, power cords, welding leads, etc. from laying in used walkways or areas. Ensure structural openings are covered/protected adequately. Provide appropriate fire extinguishers for materials found on-site. Keep fire extinguisher stations clear and accessible.
- Ensure access to clean water and latrines for workers and provide mosquito nets.
- Avoid social/cultural conflict between workers and the local population.
- 

#### **3. DO NOT:**

- Do not permit rubbish to fall freely from any locations of the project and/or access by animals (dogs, cats, pigs, etc.). Use appropriate containers.
- Do not dispose off tools or other materials in the environment.
- Do not raise or lower any tool or equipment by its own cable or supply hose.
- Use grounding straps equipped with clamps on containers to prevent static electricity build-up.
- Do not allow hunting of animals by workers in protected areas.

#### **4. SPECIAL NOTE ON FLAMMABLE/EXPLOSIVE MATERIALS**

- Store flammable or explosive materials such as gasoline, oil and cleaning agents separate from other materials.
- Keep flammable and explosive materials in proper containers with contents clearly marked.
- Dispose of greasy, oily rags and other flammable materials in approved containers.
- Store full barrels in an upright position.
- Store empty barrels separately.
- Post signs prohibiting smoking, open flames and other ignition sources in areas where flammable and explosive materials are stored or used.
- Store and chain all compressed gas cylinders in an upright position.
- Mark empty cylinders and store them separately from full or partially full cylinders.
- Ventilate all storage areas properly.
- Ensure that all electric fixtures and switches are explosion proof where flammable materials are stored.
- Ensure compliance with good practices on Occupational, Health and Safety provisions for small civil works which is acceptable

#### **Part B The “Chance Find” Procedures:**

5. If the Contractor discovers archaeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:

- Stop the construction activities in the area of the chance find;
- Delineate the discovered site or area;
- Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the National Culture Administration take over;
- Notify the supervisory Project Environmental Officer and Project Engineer who in turn will notify the responsible local authorities and the Culture Department of Province immediately (within 24 hours or less);
- Responsible local authorities and the Culture Department of Province would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists of National Culture Administration. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;
- Decisions on how to handle the finding shall be taken by the responsible authorities and Culture Department of Province. This could include changes in the layout (such as when finding an irremovable remain of cultural or archaeological importance) conservation, preservation, restoration and salvage;

- Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the relevant local authorities; and
- Construction work could resume only after permission is given from the responsible local authorities or Culture Department of Province concerning safeguard of the heritage.

**Annex 5: Sub-project Safeguard Screening Forms**

This sub-project proposal to use Form 2.

**FORM A2: LOW IMPACT PROJECT**

EPF: LENS2 Sub-project application and declaration form

SP-Number .....
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Sub-project Safeguard Screening

For proposals that will involve moderate and localized social or/and environmental impacts. These could be land type conversions, negative impacts on indigenous populations, Physical cultural resources, and natural habitats.

<b>SDA:</b>	<b>Proposal name:</b>	<b>Proposal number:</b>
<b>Sub-project funding window:</b>	<b>CBI</b> <input type="checkbox"/> <b>PICE</b> <input type="checkbox"/>	<b>Amount requested:</b>
I certify that this Sub-project does not involve any of the twelve activities identified in the negative checklist in Step 1 of the ESMF. The Sub-project will not affect ethnic groups. If the Sub-project involves small-scale land acquisition, an abbreviated RAP is required (as described in ESMF Annex B). If other minor social or environmental adverse impacts are likely, good engineering and management practices have been incorporated into the project design to minimize or mitigate them. Details of the potential impacts and mitigation measures are listed below.  Screen by: .....		Date:
<b>Remarks:</b>  1. Briefly describe objective, scope, and/or location of the proposal  2. Briefly describe the mitigation measures		

## Form A2: Screening Questions for Low Impact Project

SCREENING QUESTIONS	No	Unknown	Yes	Proposed Measures	Mitigation
Do the proposed activities or budget include any of the following:					
<b>A. Social Issues</b>				If yes, see information in proposal and CEF guidelines. If unknown, collect more information.	
• Small land acquisition or may induce new settlements or expansion of existing settlements inside natural habitats and existing or proposed protected areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Briefly describe key mitigation measures	
• Restriction on access to, or use of, natural resources in legally designated parks or protected areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Briefly describe key mitigation measures	
• Potential social conflicts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Briefly describe key mitigation measures	
• Likely to involve Ethnic Groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Briefly describe key mitigation measures	
<b>B. Environmental Issues:</b>				If yes, see information sub-project proposal and ESMF guidelines. If unknown, collect more information.	
• Involve small civil works and requires contractors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Briefly describe key mitigation measures	
• Introduction of non-native species, but there are already present in the vicinity or known from similar settings to be non-invasive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Briefly describe key mitigation measures	

SCREENING QUESTIONS	No	Unknown	Yes	Proposed Measures	Mitigation
Do the proposed activities or budget include any of the following:					
• Sustainable use of forest products, including tree cutting, harvesting of NTFPs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Briefly describe key mitigation measures	
• Protected Area, Wildlife Reserve, Buffer Zone, or other conservation area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Briefly describe key mitigation measures.	
• Wetland and/or other sensitive areas (schools, hospitals, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Briefly describe key mitigation measures	

SIGNING OFF:

EPFO Safeguard Officer:

SDA Focal Point:

Name:.....

Name:.....

Position:.....

Position:.....

Date: .....

Date:.....

## **Annex 6: List of Persons Met During the Consultation and Information Disclosure**

### **6.1 List of Persons Met at the Province Level:**

1. Mr. Douangkham, Technicain Staff of PAFO
2. Mr. Soulideth, Technicain Staff of PAFO.
3. Mr. Phonchan, Technicain Staff of PAFO.
4. Mr. Phonphaisith, Technicain Staff of PAFO.
5. Mrs. Phone, Technicain Staff of PAFO.

### **6.2 List of Persons Met at the District Level:**

6. Mr. DoneNgeum, Technicain Staff of DAFO, LuangPrabang District.
7. Mr SonePheth, Technicain Staff of DAFO, LuangPrabang District.
8. Mr. Sisamout, Technicain Staff of DAFO, LuangPrabang District.
9. Ms. Phouvanh, Technicain Staff of DAFO, LuangPrabang District.
10. Mr. Syvone, Technicain Staff of DAFO, Xiengneun District.
11. Mr Sonephet, Technicain Staff of DAFO, Xiengneun District.
12. Ms. Phouvanh, Technicain Staff of DAFO, Xiengneun District.
13. Mr. Phonesak, Technicain Staff of DAFO, Nan District
14. Mr. Khamko, Technicain Staff of DAFO, Nan District.
15. Mr. KedPherb, Technicain Staff of DAFO, Nan District

### **6.3 Some Pictures of Persons Met at the Village Level:**



- Houy Thao village attended 64 persons, 14 women 22%



o TouHor Village attended 38 persone, 24 women 63%



o Thapen Village attended 25 persons, 6 women 24%

**Figure A6.1:** Consultation and information disclosure with communities

**Annex 7: Sub-project data collection of (PPTKS-PPF), Luangphabang Province**

**Sub-project Delivery Agency (SDA):** Provincial Department of Agriculture and Forestry (PAFO) of Luang Prabang Province

**SDA focal point:** Mr. Douangkham Douangdara, PAFO Technician

**Total of PPTKS-PPF:** 34,934 ha.

**Table A7.1:** Sub-project village data collection of (PPTKS-PPF).

No.	Districts / Villages	Number of HHs	Number of Fammilles	Number of population		Number of Ethnic Group									Road	Village Makets	Electricity	Health Center	Elementary School	Number of Poor Fammilles	Villages within or close to a protected area are the highest priority				Current occupation of the village						Return	
				Lao		Khamu		Hmong		Lao	Khamu	Hmong	I Enclave village	II Straddle village							III Adjacent village	IV External village	Farmer (%)	Animal (%)	Community trade (%)	Workers (%)	NTFPs (%)	Other (%)	Total (%)			
				Total	Women	Total	Women	Total	Women	%	%	%																				
<b>I</b>	<b>Luangphabang District</b>	<b>1,668</b>	<b>1,668</b>	<b>8,995</b>	<b>4,186</b>	<b>2,621</b>	<b>1,391</b>	<b>4,605</b>	<b>2,792</b>	<b>968</b>	<b>458</b>	<b>34</b>	<b>55</b>	<b>12</b>	<b>14</b>	-	<b>14</b>	<b>2</b>	<b>14</b>	-	<b>0</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>66</b>	<b>10</b>	<b>7</b>	<b>13</b>	<b>3</b>	<b>8</b>	<b>1</b>	
1	B. HouyThong	75	75	416	215			416	215			-	100	-	1				1						65	10		10	15		100	Project village
2	B. XiengMurk	145	145	660	312	647	310	9	4			98	1	-	1				1		1				80	10	5	5	5	100		
3	B. PaNor	76	76	376	177			376	177			-	100	-	1				1						70	10	5	5	10	100		
4	B. TinPha	57	57	308	138	14	6	294	132			5	95	-	1				1		1				75	5	5		15	100		
5	B. NongTok	74	74	426	196	20	10	283	133	123	53	5	86	29	1				1		1				65	10	5	10	5	5	100	
6	B. LongRao 1	94	94	670	338	5	1	665	337			1	99	-	1				1		1				70	15	5		10	100	Project village	
7	B. LongRao 2	91	91	668	330					668	330	-	-	100	1				1		1				85	5	5	5	5	100	Project village	
8	B. Lak io	95	95	481	244	40	21	441	223			8	92	-	1				1		1				50	5	30	5	10	100		
9	B. Yhang	73	73	446	227			425	217	21	10	-	95	4.71	1				1		1				80	5	5	5	5	100	Project village	
10	B. ThaPen	121	121	549	260	166	81	358	169	25	10	30	65	5	1				1		1				15	5	60	10	10	100		
11	B. NongBurKham	270	270	1033	548	738	248	300	653			71	29	-	1				1		1				80	5	10	5	5	100		
12	B. KhongMun	165	165	890	470	784	406	106	64			88	12	-	1				1		1				75	5	10	5	5	100		
13	B. KokNgew	186	186	1033	518	211	114	758	379	62	25	20	78	6	1				1		1				70	10	15	5	5	100		
14	B. DorKang	76	76	439	213	196	194	174	89	69	30	45	40	15.72	1				1		1		1		65	10	10	5	10	100		
<b>II</b>	<b>XiengNgeun District</b>	<b>889</b>	<b>740</b>	<b>4,217</b>	<b>2,049</b>	<b>1,573</b>	<b>744</b>	<b>1,620</b>	<b>938</b>	<b>551</b>	<b>274</b>	<b>37</b>	<b>38</b>	<b>19.07</b>	<b>7</b>	<b>-</b>	<b>7</b>	<b>2</b>	<b>6</b>	<b>15</b>	<b>1</b>	<b>-</b>	<b>6</b>	<b>-</b>	<b>57</b>	<b>19</b>	<b>8</b>	<b>5</b>	<b>11</b>	<b>1</b>	100	
1	B. HouyThao	60	50	293	192			293	192			-	100	-	1				1		1				50	15	5	10	20	100	Project village	
2	B. LongSan	51	48	357	127	4	2	253	125			1	71	-	1				1		3				50	20	5	15	10	100	Project village	
3	B. HouyKhong	62	60	343	160			316	149	27	11	-	92	6	1				1		4				30	35	5	5	25	100		
4	B. HouyPheng	47	47	128	51			128	128			-	100	-	1				1		3				70	20			10	100	Project village	
5	B. NongKhouy	55	52	283	175	10	5					9	-	-	1				1		3				85	25			10	100	Project village	
6	B. Mout	178	163	818	392	608	386	10	6			99	1	-	1				1		-				70	10	15	5	5	100		
7	B. SaunLaung	380	320	1895	952	751	351	620	338	524	263	40	33	28	1				1		1				65	10	15	5	5	100		
<b>III</b>	<b>Nan District</b>	<b>412</b>	<b>407</b>	<b>2,098</b>	<b>1,009</b>	<b>760</b>	<b>400</b>	<b>564</b>	<b>474</b>	<b>372</b>	<b>195</b>	<b>36</b>	<b>27</b>	<b>17.75</b>	<b>4</b>	<b>-</b>	<b>3</b>	<b>-</b>	<b>4</b>	<b>18</b>	<b>-</b>	<b>-</b>	<b>4</b>	<b>-</b>	<b>58</b>	<b>15</b>	<b>10</b>	<b>5</b>	<b>8</b>	<b>5</b>	100	
1	B. TouHor	66	66	378	137	6	2			372	135	2	-	96	1				1		5				65	10	10	5	5	5	100	Project village
2	B. NaNuan	198	198	909	446	731	380	177	66			80	19	-	1				1		2				60	15	10	5	5	5	100	Project village
3	B. HouyMo	75	73	400	229	5	10	68	219			1	77	-	1				1		4				55	20	10	5	5	5	100	Project village
4	B. HouyOun	73	70	409	197	18	8	319	193			4	78	-	1				1		5				50	15	10	5	15	5	100	Project village
<b>Total 26 Villages</b>		<b>2,843</b>	<b>2,745</b>	<b>14,708</b>	<b>7,244</b>	<b>5,154</b>	<b>2,535</b>	<b>6,789</b>	<b>4,204</b>	<b>1,691</b>	<b>867</b>	<b>35</b>	<b>46</b>	<b>12.86</b>	<b>26</b>	<b>-</b>	<b>24</b>	<b>4</b>	<b>24</b>	<b>31</b>	<b>10</b>	<b>-</b>	<b>15</b>	<b>-</b>	<b>61</b>	<b>14</b>	<b>10</b>	<b>4</b>	<b>9</b>	<b>2.4</b>	<b>100</b>	