



Nam Poui National Protected Area

Collaborative Management Plan (2021-2025)



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Citation: Department of Forestry. (2023). Nam Poui National Protected Area: Collaborative Management Plan (2021–2025). Laguna, PH/Vientienne, LA: ASEAN Centre for Biodiversity and Department of Forestry, Ministry of Agriculture and Forestry of Lao PDR.



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Ministry of Agriculture and Forestry
Department of Forestry

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**ENDOSMENT
ADOPTION AND OFFICIALLY USED
NAMPOUI NATIONAL PROTECTED AREA COLLABORATIVE MANAGEMENT PLAN
FOR NAM POUI NATIONAL PROTECTED AREA**

- Pursuance to the Forestry Law (Improved Volume) No. 64/NA, dated 13/03/2019;
- Pursuance to the Wild Animals and Aquatic Resources Law No. 07/NA, dated 24/12/2007;
- Pursuance to the Decree on Protected Areas No. 134/PM, dated 13/05/2015;
- Pursuance to Agreement of Minister of Ministry of Agriculture and Forestry, No. 3822/MAF, dated 18 August 2017 on activities and organization of Department of Forestry.

Department of Forestry Agree to

Article 1. Adopt and officially use of the Nam Poui National Protected Area Collaborative Management Plan for 5 years (2021-2025).

Article 2. Assign to Protected Area Management Division as central office to coordinate all of sectors including Central and provincial levels to propagate and implement the Collaborative Management Plan that is referred in article 1 to be successful.

Article 3. Concerned Departments, Center and institutes under the Ministry of Agriculture and Forestry, the Provincial Agriculture and Forestry and District levels to have a cooperation to implement the plan based on their roles and responsibilities.

Article 4. This agreement is effective from the date of signature.

**General Director
Department of Forestry**

Foreword

The collaborative management plan of Nam Poui NPA is a strategic plan setting out a common goal, objectives and a programme of activities. It was developed through a participatory and consultative planning process involving key stakeholders of Xayabouri Province, three participating districts (Phiang, Thongmixay and Paklay), including village clusters and villagers of the NPA. All stakeholders are willing to share roles, responsibilities and benefits for ensuring that the Nam Poui NPA is sustainably managed and capable of maintaining its healthy ecosystem services.

Collaborative management is not an entirely new approach for Lao PDR, yet there is a lack of practical and succinct management plans, emphasizing the role of local practitioners in response to key issues of the government such as insufficient staffing and finance. The ultimate goal of the development of such a management plan is to take encourage sustainability whereby local authorities from district to village cluster levels, and villagers, together with the military, assist in management responsibilities. The management approach is to promote the engagement of District Implementing Teams with a District Coordination Office to be in place to work closely with Kumban “local teams”. This is an important step to ensure local ownership, capacity and sustainability. In addition, it is necessary to put sustainable financial mechanisms in place to support the management plan.

Nam Poui NPA is one of the first 18 national protected areas established in 1993 in Lao PDR, but until now, although some management practices are in place, no management plan has been produced. A collaborative management plan was developed and approved at the national level for Hin Namno NPA, which was based on evolving experience in piloting models of collaborative management. Local villagers play important roles on the ground for managing their NPA. It is necessary that a similar plan is formulated for Nam Poui NPA, appropriately in accordance with the local situation, which is then continuously monitored, reviewed and updated as necessary, in line with an adaptative management approach.

To make the collaborative management plan of Nam Poui NPA more practical, a technical team was set-up to provide precise inputs on the strategic direction and main activities of the Plan that shall be implemented over the coming five years. Furthermore, a financial plan has been elaborated through which various funding agencies can contribute to bring this plan to action.

Acknowledgments

Preparation of the Nam Poui NPA Management Plan had been conducted from December 2019 to July 2020, and involved many levels of stakeholders from Provincial to Kumban as well as village level. To make the strategic collaborative management plan, the assigned technical team has provided inputs on the strategic direction and main activities that should be implemented over the coming five years. The technical team members who have been closely involved in the preparation and contribution to the Nam Poui NPA Collaborative Management Plan consists of:

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DAFO

The technical team is under the supervision of Mr. Sangthong SOUTHAMMAKOTH (Deputy Director of DoF) and Mr. Khamkeung Phanluck (Deputy Director of Xayabouri DAFO). The preparation of the management plan was facilitated by the ACB consultant team consisting of Dr. Phaivanh Phiapalath, Protected Area Management Expert, Mr. Chris Flint (Land Use Planning Expert) and Dr. Robert Mather (Team Leader/Technical Advisor) of NIRAS for ACB. Also, inputs for this management plan were contributed from a WWF team – Mr. Khamkhoun Khounboline (Project Manager of Nam Poui Elephant Conservation Project) and Francois Guegan (Conservation Director of WWF Laos). Some technical advice to the Plan was provided by Mr. John Parr (Protected Areas Management Specialist of the World Bank) and Ms. Nosrat Ravichandran (Protected Area Management Specialist, BCAMP/ACB), Mr. Arnoud Steeman (Technical Advisor of NIRAS for ACB – Transboundary Protected Area).

Special appreciation is given to the ASEAN Centre for Biodiversity, and the EU delegation in Manila, through the Biodiversity Conservation and Management of Protected Areas (BCAMP) Project for funding and technical support. Therefore, the technical team would like to express sincere thanks to the individuals and organisations at all levels, including the donor for their fruitful cooperation and valuable inputs to develop this collaborative management plan.

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Abbreviations

ACB	ASEAN Centre for Biodiversity
ASEAN	Association of Southeast Asian Nations
ABD	Agro-Biological Diversity
ADB	Asian Development Bank
AHP	ASEAN Heritage Park
BCAMP	Biodiversity Conservation and Management of Protected Areas in ASEAN
BuZ	Buffer Zone
CA	Conservation Agreement
CLIPAD	Climate Protection through Avoided Deforestation
CoZ	Corridor Zone
CF	Community Forest
CRC	Conflict Resolution Committee
CSO	Civil Society Organisation
CUZ	Controlled Use Zone
DAFO	District Agriculture and Forestry Office
DCO	District Coordination Office
DFRM	Department of Forest Resource Management
DIT	District Implementing Team
DoF	Department of Forestry
DRC	Conflict Resolution Committee
ECC	Elephant Conservation Centre
EdL	Electric du Laos
EIA	Environmental Impact Assessment
ESS	Ecologically Sensitive Site
FALUPAM	Forest and Agriculture Land Use Planning, Allocation and Management
FMD	Foot and Mouth Disease
GDL	Green Discovery Laos
GEF	Global Environmental Facility
GEN	Generation (new generation)
GIS	Geographic Information System
GiZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Agency for International Cooperation)
GoL	Government of Laos
GPS	Global Positioning System
HEC	Human Elephant Conflict
HQ	Headquarters Office
IUCN	International Union for Conservation of Nature
MA	Management Authority
MAF	Ministry of Agriculture and Forestry
Mgt	Management
M&E	Monitoring and Evaluation
NA	National Assembly
NGD	National Geographic Department
NGO	Non-Government Organisation

NIRAS	International – Multidisciplinary Consulting
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NPA	National Protected Area
NPF	National Protection Forest
NSEDP	National Social Economic Development Plan
NTFP	Non-Timber Forest Product
NPF	National Protection Forest
LUP	Land Use Planning
PAFO	Provincial Agriculture and Forestry Office
PFS	Provincial Forestry Section
PM	Prime Minister
REDD	Reducing Emissions from Deforestation and Degradation
RECOFTC	Regional Community Forest Training Centre
SMART	Spatial, Monitoring, And Reporting Tool
SUFORD-SU	Sustainable Use of Forest and Rural Development – Scaling Up.
ToR	Terms of Reference
TPZ	Totally Protected Zone
WB	World Bank
WCS	Wildlife Conservation Society
WWF	World Wild Fund for Nature

Summary

Nam Poui National Protected Area (NPA) is located in Xayaburi Province with a gazetted area of 191,200 ha, according to the Decree for its establishment (164/PM). It is one of the largest NPAs in Lao PDR. The NPA comprises mostly mountainous areas, generally between 400m–2,000m above sea level, which support evergreen, mixed deciduous and upper dry dipterocarp forests. A number of medium and small rivers known in the area are the Nam Phoun, Nam Sing, Nam Lop, Nam Ngim, Nam Phoy, Nam Xong, Nam Lay, Nam Pheun, Houy Sanoung, Houy Pounngang, Nam Ngap, and Houy Hang. It has various habitat types that are particularly important for supporting wide-ranging, large mammal species and some bird species. The Biodiversity value of the Nam Poui NPA places it among the top 5 national protected areas in Lao PDR, but detailed biodiversity assessment has not been undertaken yet. It is estimated at least 80 bird, 47 mammal and 17 reptile species, of which there are at least 10 most important species of birds, 15 key species¹ of mammals and also some reptiles. However, these figures must be underestimate.

Nam Poui NPA is particularly important for supporting large mammals as one of only two NPAs in Lao PDR which support stronghold populations of Asian Elephant. Some large and medium-sized mammals were reported and some recently recorded by camera trapping are: Asian Elephant, Tiger (report only), Gaur, Clouded Leopard, Asiatic Black Bear, Sun Bear, Golden Cat, Dhole, and Grey Leaf Monkey. This NPA also holds the last small population of White-handed Gibbon in Lao PDR. Forest products of the NPA provide important food sources and household incomes for the local communities. Many non-timber forest products (NTFPs) are vital for local communities especially Mak Khor (palm *Livistona saribus*), Mak khaen (*Zanthoxylum rhetsa*), Khisii (dammar resin), Boun (Giant rattan), Wai (rattan), Kheua haem (berberine vine), Het (mushroom) etc.

The NPA has been managed quite well with technical support and funding assistance from WWF for over 10 years, focused on the conservation of Asian Elephant and other large mammals. The NPA boundary demarcation has been completed at key sections, with 13 concrete pillars and 35 signs installed. Some basic facilities for the NPA exist including its NPA Office at Ban Na Khayang with staff housing, meeting room, guesthouses, and basic equipment in place. Thus far, some management has been practised in the Nam Poui NPA, but a management plan has not been in place. Also, although some external funded projects supported the relevant government institutions in managing the NPA during the past 20 years, their sustainability has been limited. Besides, capacities and ownership of both government agencies and local communities have not been strategically built.

Due to limited education and alternative sources of household incomes, local villagers rely on natural resources for household uses and sale. The increasing demand for valuable non-timber forest products, timber products and wildlife cause high pressure on natural resources. Overharvest of forest and aquatic resources by outsiders put local people and their livelihoods under difficult conditions. The population lives mostly from subsistence farming, with rice shortage for some communities in the Navene cluster, occasionally caused by climate change induced events such as serious droughts making their lives even harder. Agricultural land in the Navene cluster is of poor quality and rice productivity is low. Meanwhile, the limited capacity of the responsible government institutions makes it hard to understand and address the issues. The constraint faced by the government in terms of manpower and financial resources does not allow them to providing sufficient livelihood assistance to local communities including agricultural extension services.

Nam Poui NPA is similar to other protected areas that have people living in the declared protected areas. There are 37 villages of 8 village clusters located in and adjacent to the Nam Poui NPA and

¹ *Key species is the species of conservation significance as globally threatened species and nationally prohibited species*

that belong to 3 districts. A total of 37,576 people living in and around the NPA, of which Phiang District has the highest population (19,283 people), then Paklay (12,643 people) and Thongmixay (5,663 people). Depending on the location, the villages were classified into three groups, consisting of 4 enclave villages, 15 straddling villages and 18 adjacent villages. The management of Nam Poui NPA is therefore not only about wildlife conservation but also requires considering livelihood development. The collaborative management approach for the Nam Poui NPA will involve working closely with at least 19 villages. The most important villages from a management perspective are located in, straddle or are immediately adjacent to the NPA, or at the periphery and having direct access roads to the NPA. Of these 19, 14 villages are considered as priority villages for livelihood support for the first Five-Year Plan – consisting of 5 villages of Phiang District (Ban Navene, Ban Pak Xong, Ban Nam Ngap, Ban Viengkham and Ban Namor); 5 villages of Paklay District (Ban Vangphamone, Ban Na Khayang Ban Na Xaeng, Ban Phon and Ban Ponkham); and 4 villages of Thongmixay District (Ban Khaen, Ban Dan, Ban That and Ban Na Peuy).

Key lessons learned from this management planning process, were that a new collaborative management plan has to consider the capacities of the GoL to implement it as well as to further strengthen the involvement and full participation of local people. It should also be based on an adaptive management planning approach, allowing for continuous improvements based on experiences gained and capacity built over time. It requires strategic direction and mechanisms to build the capacities of the NPA management team, the local communities and partners to manage the NPA. The collaborative management practice has to exercise an effective and sustainable management system that aligns ecotourism development as well as wildlife monitoring and patrolling with local communities. The Management of Nam Poui NPA will be transferred to the “District Coordination Office” with District Implementing Teams (DIT) on outreach, law enforcement and livelihood development, to help implement the Plan.

In incorporating the above lessons learned, the collaborative five-year management plan of Nam Poui NPA (2021–2025) was prepared through intensive consultations with key stakeholders at all levels from village to village-cluster (*Kumban*), district and provincial and national levels. The Plan has **Vision:** Nam Poui NPA is developed into a National Park and an ASEAN Heritage Park which sustainably protects biodiversity values while also benefitting local communities. **Goal:** Biodiversity and other values of Nam Poui NPA are maintained and protected through the putting in place of improved management arrangements This Plan consists of 4 Parts and 12 Chapters following the current DoF Guideline on Management Planning in National Protected Areas. Chapters 1 to 8 provide an introduction, background information, threats of the Nam Poui NPA including root causes of the threats; Chapter 9 presents the conservation strategy and framework as well as providing important descriptions of management approaches; Chapter 10 elaborates on types and principles of zonation; Chapter 11 focuses on institutional arrangements, and Chapter 12 describes the programme of activities. The **Chapters 9, 11 and 12** are considered as the most important core part of the Plan, and some specific descriptions are therefore provided in this summary as follows:

Chapter 9 describes the conservation and management strategy, comprising legal and policy aspects, the management approaches to deal with illegal activities, proposed management interventions, boundary demarcation as well as the approach to control development projects occurring inside the protected area which would be having an impact on the NPA. Collaborative management starts from planning together with key stakeholders in order to develop agreed mechanisms and procedures of collaborative management. The suggested collaborative management approach aims at actively involving at least the 19 villages that are considered most relevant to the management of the Nam Poui NPA. Appropriate mechanisms should be put in place to firstly enable district implementing teams to support the local villagers to fulfil their given roles and responsibilities regularly, and secondly to empower the communities by gradually handing over more responsibilities and rights to

them. Especially in the beginning some livelihood assistance is required to get the villagers' participation and ownership in

protected area management to be built. For 14 priority villages have been identified for the first five-year period, in which livelihood support and conservation agreements will be put in place for these villages. In principle, the provision of livelihood support should always be connected to conservation and better management of natural resources, otherwise conservation objectives are not met. The livelihood support for local communities shall primarily ensure a self-sufficiency of household food supply and secondly promote selling products for income from livelihood support activities.

Chapter 11 describes the organisation of the management system for effective management of the NPA. The Nam Poui NPA Management Authority is the lead institution in implementing the protected area management, with relevant district offices at site and village level. Through the mechanism of collaborative management, the Nam Poui NPA management team will coordinate and facilitate its partners to plan, develop, implement and evaluate work programmes together. At the district level, it has to establish a District Steering Committee, District Coordination Office and District Implementing Teams. The District Steering Committee for supporting the Nam Poui NPA management will be established for each participating district. The Committee will be chaired by the District Vice-Governor, and Vice-Chaired by the Head of DAFO, with members from DoNRE, Lao Women's Union, Education and Sports, Public Health Office, Police and Military. Once again, The Management of Nam Poui NPA will be transferred to district "District Coordination Office" with technical support from District Implementing Teams on outreach, law enforcement and livelihood development, to help implement the Plan. It is meant for 3 sub-technical team will be formed in each participating district. The district teams need to be well trained in building their ownership, leadership/managing role, relevant technical capacity/skills.

Chapter 12 describes the overall programme of activities. There are seven sub-programmes: General Management and Capacity Building; Collaborative Management; Biodiversity Conservation and Monitoring; Outreach and Conservation Awareness; Law Enforcement; Land Use Planning and Zoning; and Sustainable Livelihood Development. They cover a variety of topics, such as general NPA management, staffing and training needs, financing, biodiversity research and monitoring, law enforcement, community outreach, livelihood development, and ecotourism development. For each sub-programme action, the objective of the action, the desired outcome(s) and the management responses are described. Nam Poui NPA is considered to be appropriately qualified for consideration as a National Park and ASEAN Heritage Park based on its biodiversity values with high potential for ecotourism. Access to the NPA is easy from Luang Prabang, Vientiane and even Thailand. Furthermore, Nam Poui NPA has potential to be developed as a model of best practice for effective NPA management.

The total cost estimate to fully implement the management plan between 2021–2025 is about USD3.9 million which does not include the GoL kind-contribution of USD 1.2 million. The basic operational costs for the GoL are close to USD 400,000 for the 5 - Year Plan, requiring a little under an average of USD 80,000 per annum. To implement this plan requires investment costs for improved infrastructure, purchasing additional vehicles, equipment, and support for consultancies. The annual costs will reach a peak in 2023 at USD 1.14 million, and then reduce to about USD 0.29 million in 2025. In terms of budget allocation for the sub-components and programmes, the largest budget is allocated to the Livelihood Development sub-programme (USD 0.62 million, 16.77 percent), followed by Investment costs (USD 0.53 million, 14.77 percent) and Biodiversity Conservation and Monitoring (USD 0.47 million, 13.06 percent).

In conclusion, this management plan is a collaborative management plan in which local communities will play a key role under the professional and managerial leadership of the NPA Management Office, DIT with support from key relevant district government offices. The

plan is a strategic and living document which shall be subject to regular updating and incorporation of lessons learned in line with an adaptive planning approach.

PART I: BACKGROUND TO THE PLAN AND ITS MANAGEMENT OBJECTIVES

1. INTRODUCTION, DESIGNATION AND STATUS OF THE NPA

Nam Poui National Protected Area (NPA) is situated in Xayabouri Province, in Northern Lao PDR and to the west of the Mekong River. It is one of the original 18 National Biodiversity Conservation Areas (now called NPAs) of Lao PDR established on 29th October 1993 by Prime Minister Decree No. 164/PM. According to the Decree, the Nam Poui NPA covers an area of 191,200 ha (at latitudes 13°55–14°47 N and longitudes 105°54 –106°29 E) as shown in Figure 1 and with an extension area of ca. 10,743 ha proposed in the eastern boundary at around Ban Na Khayang. The NPA has an overland border to Thailand that connects to Doi Phou Kha National Park and Phou Fa non-Hunting Area of Nan Province in Thailand (see Fig. 1).

Nam Poui NPA has important habitat types that are particularly important for supporting wide-ranging, large mammal species and some bird species (Duckworth et al. 1999). It is one of the top five NPAs of the country that support high biodiversity – a high number of wildlife species, although no comprehensive studies have been undertaken. Although some sources mentioned 80 bird, 47 mammal and 17 reptile species these figures are considered as low estimates, especially for forest birds.

At least 10 most important species of birds, 15 species of mammals and 7 species of reptiles warrant special management attention. A number of large and medium mammals were reported and some recently recorded by camera trapping including: Asian Elephant, Tiger, Gaur, White-handed Gibbon, Clouded Leopard, Asiatic Black Bear, Sun Bear, Dhole, Grey Leaf Monkey etc. Most importantly, the NPA supports important populations of Asian Elephant, and Gaur and this is the only NPA that holds the last small population of White-handed Gibbon in Lao PDR.

A total of 37,576 people in 37 villages of 8 village clusters belonging to 3 districts, are located in and adjacent to the Nam Poui NPA. Of the populations in and around the NPA, Phiang District has the highest number (19,283 people), followed by Paklay (12,643 people) and then Thongmixay (5,663 people). Depending on the location, the village types of the NPA were classified into 4 enclave villages, 15 straddling villages and 18 adjacent villages.

The protected area management in Lao PDR was designed to be implemented in a participatory approach which local communities to play a key role with technical support from the local government especially provincial and district authorities. The staff of protected areas and relevant government offices will support the implementation in their mandates especially for outreach, law enforcement and livelihood development.

Thus far, the NPA has been managed quite well with technical and funding assistance through WWF for over 10 years, focused on the conservation of Asian Elephant and other large mammals. However, neither proper zones are in place and nor is an approved Management Plan available. Some basic facilities for the NPA exist, such as its Office at Ban Na Khayang with staff house, meeting room, guesthouses, staff and basic equipment in place.

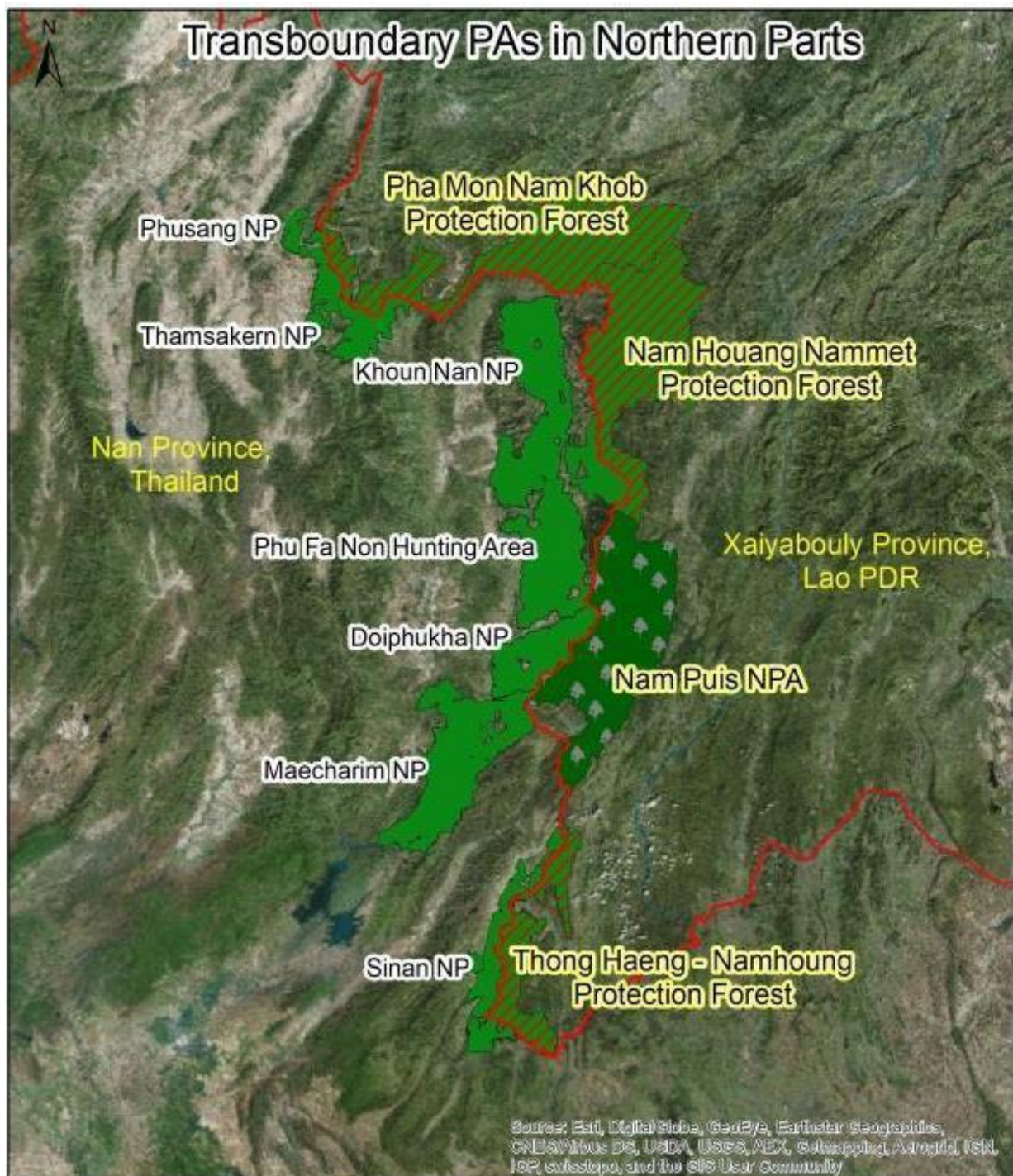


Figure 1: Forest conservation areas of Nam Poui NPA and its adjacent areas

2. JUSTIFICATION FOR THE SELECTION OF THE NPA

Nam Poui NPA has been recognized as a site of global significance for the conservation of biodiversity, holding stronghold populations of large mammals especially Asian Elephant and Gaur, also the NPA has the highest diversity of hard wood species of the country. It supports a high diversity of animals and plants, including a number of globally threatened species. The NPA is the largest forest area of the region and it also connects to other conservation areas in the province and neighbouring country (see Fig. 1 and Fig. 2).

Detailed biodiversity surveys have not been conducted in the NPA, but at least ca. 80 bird, 47 mammal and 17 reptile species are known. At least 33 mineral licks have been found in the Nam Poui NPA which are considered as Ecologically Sensitive Site² (ESS) (Boonratana, 1998). The main ecologically sensitive sites are the upper Nam Ngim, Upper Nam Lop, Upper Namxong and Pong Pa Yao, located along Lao-Thai International Border. Also, others are Pong Mak Yeun, Pong Sa-at, Pong Kok, Houy Sanoung, Houy Serna, Houy Pong Nang, Phou Pod, Phou Pu, and Phou Sankhiew. A number of small streams and rivers are important water sources for many downstream communities which therefore means Nam Poui watershed forest is crucially significant.

Tiger has also been reported in recent years, and some other cat species were currently recorded by camera traps. Rhino was reported in the area in the past. The NPA is one of two conservation areas (together with Nakai-Nam Theun National Park) in the country that support the largest remaining Asian Elephant populations in Lao PDR. Nam Poui NPA and its richness of wildlife makes it the stronghold of biodiversity conservation in the northern landscape that also connects to Nam Houng-Nam Mad National Protection Forest in the north and partly to Phou Phadam National Production Forest in the east. Together with its connections to Thailand, this creates the potential for a large international transboundary conservation landscape (see Fig 1). The NPA holds the last small population of White-handed Gibbon in Lao PDR which is on the point of being extirpated in the country (see Annex 8). Archaeologically, some sections of the Nam Poui NPA were reported to contain fossilized wood (*Mai kai pen hin*). In addition, Nam Poui NPA is the only NPA where the Indigenous people “Yellow Leaf tribe” still exists, and a very small population of this tribe remains today – about 30 people who live in deep forest of Nam Poui NPA. However, with improved communication and relationship built with them, they can play an important part in the Nam Poui NPA management.

Nam Poui NPA was classified as among the five most important protected areas of Lao PDR (Ling, 1999). It is not only a nationally important conservation area but also regionally since the NPA has an overland international border to Thailand with forest landscape connectivity. Wildlife in the region used to cross back and forth, especially the large mammals such as Asian Elephant and Gaur. (see Fig. 1 and Fig. 6). So far, there has been some discussion on cooperation between Xayabouri Province and Nan Province for transboundary conservation (Nam Poui NPA and Doi Phukha National Park). Transboundary conservation with Thailand is necessary to ensure wildlife community in the area can freely use the shared habitats. Monitoring movement of some large mammal species through technical exchange is the most important activity to be conducted concurrently.

Meanwhile, the Nam Poui NPA has high potential for designation as a National Park, as well as an ASEAN Heritage Park due to its biodiversity values and high potential for ecotourism development, with good access to the NPA from Luang Prabang, Vientiane and even from Thailand crossing at Phou Dou International Border of Paklay District. There is strong interest in ecotourism development by private firms such as Nam Tien Elephant Conservation Centre and Green Discovery Laos (GDL); as well as Manda Lao who are all interested in investment

² *Ecologically sensitive site is the critical habitat for wildlife and that is sensitive to human disturbance.*

in the Nam Poui NPA.

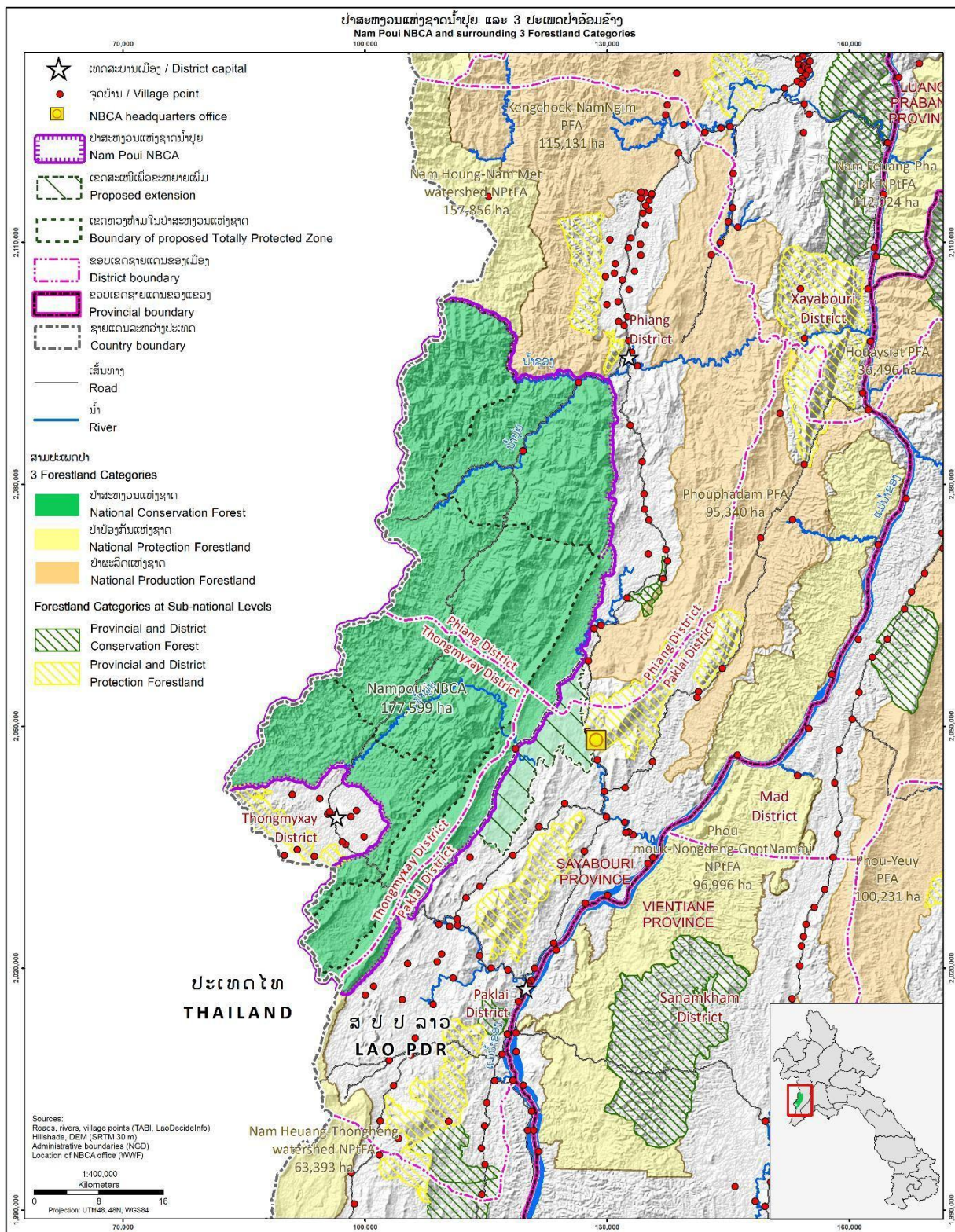


Figure 2: Forest conservation areas in Xayabouri Province

3. THE PLAN AND OBJECTIVES FOR NAM POUI NPA MANAGEMENT AND REGULATIVE FRAMEWORK

3.1 Nam Poui Collaborative Management Plan

This is the first Management Plan of Nam Poui NPA and it applies a collaborative management approach whereby local communities play a key role for the site management. The present Nam Poui NPA Collaborative Management Plan was supported and financed through the EU project – Biodiversity Conservation and Management of Protected Areas (BCAMP) in ASEAN, implemented by the ASEAN Centre for Biodiversity (ACB) with technical support provided by NIRAS International Consulting. It is designed as a Collaborative Management Plan for 2021–2025 which was prepared in close consultation with key stakeholders and relevant district offices of the Province and 3 participating districts in Xayaburi Province. The consultations were conducted through a series of stakeholder workshops at Kumban (village cluster) to District and Provincial levels and with some field visits during the consultations.

Priority activities for Nam Poui NPA management during the first Five-Year Plan (2021–2025) include restructuring the organisation of the Nam Poui NPA; developing mechanisms for enhancing collaborative management, staff and district team capacity building; complete land use planning; initiation of conservation outreach; biodiversity surveys setting up biodiversity monitoring and patrolling; forest rehabilitation; forest fire prevention; and participatory boundary delineation. It is important to strengthen the district capacity and provide some necessary equipment for supporting the implementation of the Plan.

Implementation of the Plan is challenging since the NPA management authority has a very limited operational budget and management authority. Effective management of Nam Poui NPA needs to have better management authority with a continuous funding stream from the GoL to maintain at least the basic operation. Local communities are expected to play a key role, but will also require technical support from competent government offices.

3.2 Relationship to other Plans

The Nam Poui NPA Collaborative Management Plan follows the regular planning phase of the Five- Year Plan of the GoL namely the 8th National Social Economic Development Plan (NSEDP). It is in line with the five-years planning cycle of the GoL and the NSEDP (2021–2025). The plan will establish the foundation for collaborative management during the first few years, after which collaborative management shall become fully operational in the Nam Poui NPA.

3.3 The Purpose of the Plan

The purpose of the Plan is to provide clear guidance on the programme of activities to be implemented in the five years period, to achieve the defined goal and objectives of the Plan. The NPA Management team has to work with relevant government agencies and local communities to implement the Plan. It gives strategic guidance on the shared responsibilities for the Nam Poui NPA management.

Nam Poui NPA Collaborative Management Plan applies the collaborative management concept designed for local communities to manage and protect their forest resources with technical and financial support from relevant government offices and donors. The planning process involved the responsible government agencies including military, relevant villages

and other major stakeholders. A District Coordination Office will be established for each participating district to help coordinate, facilitate, and support the implementation of the Nam Poui NPA Management Plan. Therefore, these Offices will take ownership to support the works of NPA in their district

administrative territories through village/village cluster base management and patrolling. All areas of work related to protected area management were oriented and discussed in the orientation workshop and consultation during the planning process workshops at different levels, including Kumban/village consultations.

The Plan sets out a framework for PA mgt and a programme of activities which will ensure that Nam Poui NPA's conservation values are protected. During the village consultations the rights, roles and responsibilities of local communities were discussed and agreed.

3.4 Structure of the Plan

Following the Guideline on NPA Management Planning of the Department of Forestry (DoF, 2017) and the example of Hin Namno NPA Collaborative Management Plan (DFRM, 2015), the structure of the Plan has been separated into four main parts and 12 Chapters as follows:

Part I. Background and Its Management Objectives

- Chapter 1. Designation and status of the national protected area;
- Chapter 2. Justification for the selection of the national protected area;
- Chapter 3. The Plan and objectives for the NPA management.

Part II. The Setting of Nam Poui National Protected Area

- Chapter 4. The setting and history of the national protected area;
- Chapter 5. The bio-physical environment;
- Chapter 6. The socio-economic environment;
- Chapter 7. Local livelihoods and current use of the natural resources;
- Chapter 8. Threats and constraints to the national protected area

Part III. Management Prescriptions

- Chapter 9. Conservation strategy and framework;
- Chapter 10. Zoning

Part IV. Management Arrangements and Programmes

- Chapter 11. Protected area management arrangements
- Chapter 12. Overall Programme of activities

3.5 Preparation of the Plan

This Collaborative management Plan was developed in accordance with the national policy and regulatory framework, relevant laws and decrees on forest, biodiversity, wildlife and environment protection as well as other relevant laws and decrees of Lao PDR.

3.5.1 Policy and Regulative Framework

3.5.1.1 National policies relevant to protected area management

- *National Biodiversity Strategy and Action Plan for 2025 (revised 2016)*

The implementation of this strategy is based on the protection of biological diversity which is the key to sustainable poverty reduction. The goal is to enhance the role of biodiversity as a national heritage and as a substantial contributor to poverty alleviation, as well as sustainable and resilient economic growth. Therefore, protecting biodiversity also means protecting the ecological, economic, social, cultural and spiritual values and aspirations of the people of the Lao PDR. It is a key element of livelihood strategies and food security and is best assured

through in-situ conservation efforts, made possible by respecting and supporting the knowledge, innovations, and practices of local people who depend on them. The conservation and sustainable use of biodiversity resources requires stakeholder participation and cooperation at all levels.

- *Forestry Strategy for the year 2020 (2005)*

Forest protection is the main task of society to increase forest cover by 70 percent of the country in 2020. The implementation of conservation is through the creation and management of the protected areas for protection of natural areas, species of fauna and flora to ensure the balance of nature, protecting watersheds, natural sceneries, historical and cultural values and for education and scientific research.

- *Socio-Economic Development Plan (2015)*

The implementation of this strategic plan is based on the natural resource potentials as a factor in socio-economic development. The sustainability of national economic development needs to go hand-in-hand with environmental protection.

- *National Poverty Reduction Strategy (2004)*

The implementation of this strategy is based on both the management of natural resources and social and cultural development.

- *National Ecotourism Strategy (2005)*

The implementation is for sustainable development in the utilization of natural resources and poverty reduction.

3.5.1.2 [Decrees most relevant to protected areas management](#)

There are two main decrees that support the protected areas management in Lao PDR:

- Decree 164 / PM on the establishment of the Lao PDR Protected Area System (29/10/1993)
- Decree 134 / PM on Protected Areas (13/05/2015).

Decree 134 / PM on Protected Areas (13/05/2015), Under the Decree 164/PM, stating national forestry reservation over the country by determining limit of forestry reserves in different areas as to protect and conserve natural resource, abundance of nature, biodiversity – species and beauty of forest landscape. Therefore, any human activities, especially infrastructure development projects that might impact on the area are prohibited unless allowed by the government.

The current decree on protected areas (134/PM 2015) defines “Protected Area” as forest classified for conserving the nature, preserving plants and animal species, forest ecosystems and other valuable sites of natural, historical, cultural, tourism, environmental, educational and scientific importance.” Under it, there are various categories of protected areas namely (1) national park protected area; (2) natural heritage protected area; (3) historical and cultural protected area; (4) protected area with focus on conservation of fauna; (5) protected area for the management of the utilization of natural resources. The decree requires payment by any infrastructure project that is located in any part of a protected area or even its buffer zone. The payment is to support the regeneration and/or planting of trees (with a specified cost of USD800/ha) and additional USD2 /ha for the management and protection of forests in the watershed. Any entrepreneur in the field of natural tourism who runs a business within or surrounding the protected area shall contribute 10 percent of revenue generated from the business annually. However, this decree is being revised as more detailed and specific payment by particular types of infrastructure projects will be identified and it will fully support protected area management. To implement the law and as a legal framework for protected

area

management, the Ministry of Agriculture and Forestry issued the Regulation on the Management of Protected Areas, Aquatic and Wild Animals, a revised version No. 0360 (2003) and Decree 134 / PM on Protected Areas (2015). Zoning or classification of Conservation Forests is provided in Article 24 of the Forestry Law (2019) where 3 types are distinguished: Total Protection Zone (TPZ), Controlled Use Zone (CUZ) and Buffer Zone. The TPZ and CUZ are located in the NPAs while the corridor and buffer zone are located outside of the NPA. Although not specifically stated, there is the implication that CUZs be jointly managed by villagers with support from the government, while the TPZ remains the direct responsibility of NPA authorities.

A new decree on protected areas being prepared is updated from the current Decree 134/PM (2015) which the most relevant articles are to promote PA registration, zoning, payments for PA management and its management authority. The registration of PA will be officially recognised as a state land with a title. The zoning for CUZ requires for 2 types as forest use zone and agricultural use zone which some activities are used. Livestock is not allowed to raise in even a CUZ type 1 (forest use zone) and certainly prohibited for TPZ. The payment for PAs can be sourced from various uses of protected areas and the PA management authority which official stamp, logo and uniform will be in place.

3.5.1.3 Relevant laws

- *Law on Wild Animals and Aquatic Resources (2007) No. 07/NA, dated 24/12/2007*
 - General principles for the protection of wildlife and aquatic resources
 - Species on list 1 (protected species) of Lao PDR are banned for hunting and trading (except government has issued a permit and for research purpose).
 - Species on list 2 (managed species) shall be managed, monitored, protected and controlled used. The species on this list can be hunted in a certain number for household consumption and only outside of a totally protected zone.
 - Species on the list 3 (generally managed species) can be used according to the regulations.
- *Forestry Law (2019), No. 64/NA dated 13rd June, 2019*

Conservation Forest (i.e mainly protected areas) is to protect forest abundance as well as fauna and flora species, biodiversity and ecosystems that are valuable for their nature, history, cultural significance and the beauty of landscapes that can have potential for tourism and research. The law promotes customary utilization of forests, and allows the use of timber and harvesting of forest products in conservation forest, but only for household utilization and without adverse impact on forest resources and the environment. This reflects the rights and interest of individuals or organisations, but shall not happen in a Totally Protected Zone. However, customary utilization of forest and forest products shall be practiced in accordance with a designed plan, zones, village regulations/laws and regulations on forests and forms part of the legal framework.

- *Environmental Protection Law (Revised 2012), No. 29/NA, dated 18th December, 2012*

The bodies who generate environment impact shall be responsible for the damage. Any development projects including government funded projects prior to the project construction should conduct Environmental Impact Assessment (EIA) with sound environment impact measures. The Investor is required to deposit financial Guarantee to be used in case of operator cannot fulfil the obligation and comply with the Laws of Lao PDR, including compensation to damage and loss of social and environmental assets.

- *Water and Water Resource Law (1996), No. 02/NA, dated 11st October, 1996*

Promote protection and rehabilitation of water resources and environments. Environmental

Impact Assessment (EIA) should be carried out on large development projects and requires that funds to be provided for protection and enhancing water resources, catchment, for settlement compensation associated with the projects.

- *Land Law (2003) No. 0457/NA, dated 27th February, 2019*

Land in Lao PDR is the property of national community; persons have rights to use but not for trading purpose. Individuals have to preserve land in good condition. Environmental Impact Assessment (EIA) shall be required for medium and large projects and be licensed by the government. The project shall contribute to the national socio-economic development objectives, in green and sustainable direction and there shall be no detrimental environmental impacts. It strongly requires for protection of environment, society and nature, with ensuring of no soil degradation. The project developer shall be paid for taxes, environment tax, fees and charges in compliance with relevant Laws of Lao PDR.

- *Electricity Law (2012) No. 03/NA, dated 20th December, 2013*

Environmental Impact Assessment (EIA) shall be carried out for medium and large electric dam development projects and be licensed by the government. The project shall contribute to the national socio-economic development objectives, and there shall be no detrimental environmental impacts. It strongly requires for protection of environment, society and nature, with ensuring of safety (Article 6). The environment assessment shall be associated with proposals of methods and measures for solving or mitigating any adverse impact on environment e.g water, water resources, ecology, biodiversity, habitat (Article 31), and social and cultural assets. The project developer shall be paid for environment tax in compliance with relevant Laws of Lao PDR.

- *Mining Law (2011) No. 02/NA, dated 20th December, 2011*

The development and operation of a mine shall be compatible with environment protection and needs to demonstrate national socio-economic development and improved local livelihoods (Article 60). Protected areas, wildlife sanctuaries and watershed are illegal for mine development (Article 17, item 3).

- *Tourism Law (2005) No. 10/NA, dated 9th October, 2003*

Development of tourism shall strictly respect and comply with the Laws of Lao PDR, to ensure protection and maintenance of natural environment, society, national traditions, cleanliness, safety and social order (article 65).

3.5.2 Promoting Collaborative Management

Due to the fact that local people live in and depend on natural resources of the protected areas of Lao PDR, the collaborative management approach is promoted nationwide for the country's protected area management system. Local communities are a key player with support from the relevant government agencies for ensuring sustainability. Appropriate arrangements and mechanisms for the operation of collaborative management should be made with clear and shared rights, roles, and responsibilities. Besides, the local communities' ownership should be built through outreach, benefit-sharing and livelihood assistance as incentives for protecting and managing the protected area. Therefore, the local villagers who are closely connected to nature, know the area and possess knowledge how to effectively manage the NPA have been consulted in the Nam Poui NPA management plan preparation.

So as not to leave all tasks including livelihood development of the defined NPA villages for the Nam Poui NPA Management Authority the participating districts have to play a better role for the NPA management, to ensure natural resources as sources of food for their people are used in a sustainable manner. Thus, District Coordination Offices for the NPA will be

established at each participating district to help coordinate, facilitate, and support the implementation of the Nam Poui NPA Management Plan. These District Coordination Offices with assigned district staff and some equipment in place will work with relevant district offices for community development, outreach and law enforcement, as well as to support staff teams at relevant sub-stations to manage their district administrative territories through village/village cluster base management and patrolling. All areas of work related to protected area management during the planning process were oriented and discussed in the orientation workshop and consultation workshops at different levels.

The plan sets out a framework for PA management and a programme of activities which will ensure that Nam Poui NPA's conservation values are protected. During the village consultations the rights, roles and responsibilities of local communities were discussed and agreed. During the village consultations the rights, roles and responsibilities of local communities were discussed and agreed.

3.5.3 The Planning Process

Management planning is a participatory process involving all key stakeholder groups. It strives at building a common understanding among stakeholders about the values, purpose and objectives of the protected area and of their role in its management. The stakeholder groups include not only communities living in or depending on the protected area, but also government agencies with responsibilities relevant to management of the area as well as NGOs, CBOs, academia and private sector.

This management plan has been developed in consultation with key stakeholders of Nam Poui NPA at village cluster, district and provincial level, led by a national technical team of the Department of Forestry. Six village cluster meetings were conducted in December 2019 that placed at Na Khayang, Phou Sa-at, Navene, Bouaban and Thongmixay. Participants (3–5 villagers) from each village were participated in their perspective village cluster meetings. The district consultation workshops were conducted in December 2019 after the Inception Workshop in the Province. After the Kumban meeting and field visits were completed, District Fact-Finding Meetings were conducted in January 2020. All relevant district offices participated and contributed to the development of the Plan. In line with an adaptive management approach, this management plan should be reviewed every five years. Data and results from assessments and lessons learnt from the Plan implementation will be fed into the further development and review of the Plan.

The process of Nam Poui NPA management plan preparation included various steps:

1. A management planning task force consisting of technical team with experts were formed to support the preparation of the Nam Poui NPA management plan. Orientation workshop with stakeholders was conducted in Xayabouri Province on December 17th, 2019, conceptualized by defining vision, goal, mission, objectives, and key activity programmes and management approaches for Nam Poui NPA. The vision, goal, mission and objectives for Nam Poui NPA were formulated through stakeholder consultation workshops.
3. Village and village cluster consultations were completed in 6 events of 3 districts which identified together the key issues/threats and possible management interventions. Agreement on principles of management, zoning, tasks and responsibilities.
4. Short field visits to some sections, critical habitats of the Nam Poui NPA were conducted by the national technical team.
5. Findings from the village cluster workshops and village consultations were reported back, confirmed at district workshop in January 2020, and incorporated in the draft management plan by the national technical team.

6. Draft Chapters of the Nam Poui NPA management plan with activities were prepared and assigned for each district to draft their necessary activities and budgets to support the management of Nam Poui NPA.
7. The first draft of the Nam Poui NPA Management Plan was circulated to the national technical team of the Nam Poui NPA and relevant experts/expatriates.
8. Prior to the second consultation workshop, a national technical team meeting was held on March 25th, 2020 at the Department of Forestry.
9. The first draft of the Plan was revised and sent to the key technical team of the Nam Poui NPA and staff of Department of Forestry, and second draft was circulated again.
10. The Third draft were prepared and sent to key technical staff prior to the Second workshop.
11. The Second workshop with wider stakeholders was held in July 28th, 2020 at Nam Poui NPA's HQ, Ban Na Khayang in Paklay District.
12. A national technical team meeting on NPA boundaries and zoning was held on September 10th 2020 through a video conference prior to the final consultation workshop.
13. Four draft of the Plan was prepared and circulated prior to the Final workshops.
14. A Final workshop will be prepared was held on December 25th 2020.
15. Final version of the Nam Poui NPA Management Plan was prepared and submitted for obtaining a final approval from Department of Forestry.
16. Approval of the Nam Poui NPA Management Plan for implementation.



Figure 3: Consultations for Nam Poui NPA management planning

3.6 The Goal and Objectives of the NPA Establishment

The objectives of the NPA establishment are to protect and conserve biodiversity – fauna and flora species, ecosystems, watershed and other natural and environmental values, as well as historical, tourism and socio-cultural, education and research values. The uses of the natural

values shall be in a sustainable manner so as to provide a continuous supply of natural

resources to local communities. The NPA management and its establishment in accordance with Decree 164/PM fulfils three main objectives, namely:

1. Protection of the area's biodiversity and natural values, forest and wildlife.
2. Promotion of scientific research, as well as cultural values and tourism.
3. Ensuring the sustainable use of natural resources by local villagers.



Figure 4: Field mission in the Nam Poui NPA for management planning

3.7 The Vision, Goal, Mission and Objectives for Nam Poui NPA Management

Vision: Nam Poui NPA is developed into a National Park and an ASEAN Heritage Park which sustainably protects biodiversity values while also benefitting local communities.

Goal: Biodiversity and other values of Nam Poui NPA are maintained and protected through the putting in place of improved management arrangements

Mission: To manage the Nam Poui NPA through building of local communities and other stakeholder's ownership in "collaborative management".

- Management Objective 1: To strengthen overall management and capacity building
- Management Objective 2: To conserve biodiversity through management measures and monitoring
- Management Objective 3: To improve sustainable livelihoods of local communities for conservation.

PART II. THE SETTING OF NAM POUI NATIONAL PROTECTED AREA

4. THE SETTING AND HISTORY OF THE NPA

4.1 Location of the Nam Poui National Protected Area

Nam Poui NPA is located in north-western Lao PDR at 18° 13' to 19° 02' N; Longitude: 101° 05' to 101° 31' E, just along the west Bank of the Mekong River, and the Road A4 from Paklay to Xayabouri. It connects to Thailand overland (Doi Phou Kha National Park and Phou Fa non- Hunting Area). The NPA covers 191,200 ha according to the Decree 164, however, the current estimate based on the recognized boundary of the NPA including its extension is only 187,684 ha. The participating districts are Phiang District which has the largest area (99,424 ha), followed by Thongmixay (83,745 ha) and Paklay District (8,030 ha).

The Headquarters Office of Nam Poui NPA is located at Ban Na Khayang, just by the Road A4 from Paklay District to Xayabouri District, situated about 60 km from the town of Paklay District. The entire NPA is located west of the Road A4 (see Fig. 2). The road access from Paklay District to Thongmixay District runs through the southern section of the NPA; from Thongmixay District to Ban Navene of Phiang District runs along the western section of the NPA; and from Ban Nam Poui to Ban Navene that runs through the north section of the NPA.

4.2 Summary Description of the Nam Poui National Protected Area

The Nam Poui NPA is considered a large NPA in northern Laos, consisting of largely mixed deciduous and evergreen forests that are particularly important for supporting a wide-range of large mammal and forest bird species. As mentioned earlier, the Biodiversity values of the Nam Poui NPA place it among the top five national protected areas in Lao PDR (Ling, 1999). Based on the previous surveys and with the current village interviews about some large mammals, it was identified that 50 years ago, Nam Poui NPA had the largest population of Asian Elephant and Gaur in Lao PDR, with estimates of about 400 wild Asian Elephants and 250 Gaurs, and probably 20 Tigers at that time (Pholam from Ban That, 2019). After the area was established as an NPA in 1993, it was still reported to have some good populations of these large mammal species in the area (Duckworth *et al.*, 1999). As recently as 1995, a herd of 40+ Gaurs were counted at one time while they were crossing the mountain ridge at Phou Pod. Mr. Pholam from Ban That who worked for the road construction from Thongmixay to Ban Navene saw the herd. Also, while camping for 2 years at Phou Pod he heard gibbon songs every morning from both east and west of the mountain “Phou Pod” – suggesting there were at least 5–7 groups around that mountain at that time. However, today no gibbon song could be heard at this site which indicates some changes in biodiversity value of the NPA.

The local communities living in and adjacent to the Nam Poui NPA largely depend on the natural resources and many households of some villages in the northern NPA have fairly low incomes. A total of 37 villages are relevant for the management of Nam Poui NPA (see Table 2 and Fig. 5), most of which are not really poor villages, with the exception of the Navene village cluster. The majority of the villages in the NPA are ethnically Lao Loum who are Buddhist, and Lao Thueng who are animist. The main livelihood activities are paddy field cultivation, cash crop plantations (maize and job's tears) and cattle raising. Apart from the agriculture, the local people rely on collecting forest and aquatic resources from the NPA for their incomes and food supply.

4.3 Management Sub-areas for Village Responsibilities of Nam Poui NPA

Six Management Sub-areas were defined based on district boundaries, different geographical features and group of villages sharing the same natural resources (see Annex 9). The purpose of defining these management sub-areas is to strengthen the presence of the Nam Poui NPA Management Authority (NPA MA) on-the-ground. These Sub-areas have been defined and used by Nam Poui NPA MA before as patrol sections. The management zone arrangements assign clear responsibility to relevant village groups as following:

West of Thongmixay: it consists of a mountain chain along the Lao-Thai border with a number of streams and small rivers which drain from those mountains to Nam Sing and Nam Phoun, and then to the Mekong River. It covers the whole part of the south-west NPA along the access road from the Sub-station Office of the NPA at Nam Sing to the district border between Thongmixay and Navene at the bridge of Houy Pong Nang. It is just some distance of 8.6 km before the Pom Pad Hoi “the mountain at 800m a.s.l.”. This section holds very critically important wildlife habitat of the NPA as it is the remotest and most mountainous area, and contains many mineral licks. It is classified as Totally Protected Zone (TPZ) of the Nam Poui NPA. Notably, it is entirely within the military zone. Also, it has an overland border to Doi Phou Kha National Park of Thailand. The key villages³ are Ban That, Ban Dan and Ban Khaen.

North-West at Navene: it covers the upper Nam Phoui River and its tributaries drain from the high mountains of the west along Lao-Thai International border to the east. It includes the whole part of the northwest along the access road from Ban Navene to the district border between Navene and Thongmixay. It also borders with Doi Phou Kha National Park of Thailand. This section receives some pressures from agricultural expansion and cattle farming by the Navene village cluster and some military families. Some part of this section especially where it is close to the Lao - Thai border is mainly classified as Totally Protected Zone (TPZ) of the Nam Poui NPA. Notably, it is entirely within the military zone. The key villages are Ban Navene (including its sub-villages: Ban Na Ngeun and Ban Na Samphan).

North at Nam Xong: it covers the Nam Xong watershed area and its tributaries as a cluster of high mountains connecting to Nam Houng-Nam Mad National Protection Forest. This zone receives some pressure from agricultural expansion and cattle farming by the Navene village cluster and some military families. Some part of this zone especially where it is close to the Lao - Thai border is partly classified as Totally Protected Zone (TPZ) of the Nam Poui NPA. Notably, it is entirely within the military zone. The key villages are Ban Navene, Ban Nam Ngap and Ban Pakxong.

North-East, at Phonsa-at: it comprises some important habitats for wildlife species (Poung Kok, Phou Pu, Houy Pong Nang, Nam Hang, Nam Pheud etc.). Poung Kok (mineral lick) is one of most important sites of the NPA for wildlife and Phou Pu (Mountain) is the highest mountain where a herd of Gaur was reported occasionally. A small herd of Gaur was detected during the gibbon survey in 2010 (Phiapalath and Saysavanh, 2010). This zone is mainly classified as Totally Protected Zone (TPZ) of the Nam Poui NPA. The key villages are Ban Nam Oum, Ban Vangkham, Na Kong, Ban Phonthong and Ban Phonsak.

Southeast, at Na Khayang: it comprises critically important habitats for wildlife species (Poung Sa-at, Poung Mak Yeun, Nam Sanoung and upper Sanoung. This zone, to the west of Phou Tong is classified as Totally Protected Zone (TPZ) of the Nam Poui NPA. The key villages are Ban Mai Vongphamone and Ban Na Xaeng. The Poung Sa-at mineral lick is located at Buffer Zone – just the eastern NPA boundary of Ban Vongphamone. It is one among several of the most important mineral licks of the NPA especially for Asian Elephant. This mineral lick is defined as a special protected site (ecologically sensitive site) but it was likely degraded in recent years due to some forest in the area was slashed and

³ *Key village is the priority village for collaborative management and includes enclave and straddling villages as well as the poorest villages.*

burned for agricultural practice.

South, at Phou Sankhiew-Phou Lekfai: it comprises mainly of upper dry dipterocarp forest, some evergreen and mixed deciduous forest. This section is important for large mammals especially for Asian Elephant. Along the mountain range of Phou Sankhiew which is naturally self-protected for a number of wildlife species besides the Asian Elephant. This mountain connects to Phou Lekfai that ends at Phou Khaokatam of Ban Ponkham and runs to the west towards the Lao-Thai border. The key villages are Ban Ponkham, Ban Houy Khouey, Ban Houy Saikhao, Ban Na Peuy and Ban Phon.

4.4 History of the Area

4.4.1 Settlement and Land-Use Prior to Establishment of the NPA

The pattern of today's settlement in and around the Nam Poui NPA remains the same as in the past but land use is different and some populations and villages have expanded. Navene village cluster of Phiang District has claimed more agricultural land due to rapid growth of its population as a number of families migrated from Luang Prabang and Vientiane Provinces. Ban Navene is composed of three separate settlements/sub-villages (Ban Navene, Na Ngeun and Na Somphan), together creating a larger village and occupying a larger expanse of agricultural land. Prior to the establishment of Nam Poui NPA, it was only a small community located in a remote area with dirt road access and the people did only hill rice cultivation and some cattle raising, as well as collecting forest products around their villages for household consumption. However, a lot of changes in their practices have happened since then.

A majority of the villagers of Nam Poui NPA rely on paddy field cultivation, cash crop plantation (maize and job's tear), cattle raising, and collecting non-timber forest products (NTFPs) for their livelihoods. The forest encroachment was limited as one household usually requires only 2 ha paddy land and cash crop plantation. Nevertheless, with an increase of population, the demand for land increases nowadays resulting in some land shortages and land use conflicts. The utilization of natural resources by villagers changed from household consumption to commercial use.

4.4.2 National Protected Area Management since Establishment

Management of Nam Poui NPA has been in progress since establishment in 1993 with some funding support. The first initiative was funded by the Lao-Swedish Forest Programme/IUCN and since then there has been continuous technical and funding support from World Wildlife Fund for Nature (WWF) Lao PDR as indicated below:

1993	NBCA declared and management team established with support under Lao-Swedish Forestry Programme (Phase III). A Simple Management Plan was
1996- 2000	Field Office opened at Ban Na Khayang in 1996. Support continued under the Lao-Swedish Forest Programme IV. The boundary was surveyed, training in wildlife survey techniques and participatory management was provided. Intensive land-use planning was carried out, population surveys and extension activities were implemented at Ban Navene, led by NOFIP/LSFP Land-use Planning Sub-programme. Some Checkpoints
2001-	Management interventions of Nam Poui NPA were conducted with some

2010	support from Forest Development Fund and the initiative of WWF project on Asian Elephant survey and conservation. A White-handed gibbon survey was conducted in 2010 with technical assistance from IUCN and the Division of Forest Resource and Conservation (DFRC) of DoF.
2010-	The Management interventions improved with continued support from WWF

2015	especially on outreach, law enforcement and monitoring. Some monitoring on Asian Elephant with camera trap was set up from 2010 to 2011. The law enforcement was conducted in cooperation with the military. Two sub-stations were established at Nam Sing sub-station of Thongmixay, and Vang Phamon substation of Paklay District with funding support from the WWF project. During this period, German funded Project on REDD+ conducted a feasibility study in the NPA prior to launching the CliPAD project in 2018; Land use planning and some field
2016 - present	Management interventions are ongoing with continued support from WWF on outreach, law enforcement and monitoring. Biodiversity monitoring using camera traps was reset in the NPA with technical support from the WWF project especially for large mammals. Collaborative operation with the military was strengthened, particularly with the military units 201, 411 and 412, and Frontier military 156.

5. THE BIO-PHYSICAL ENVIRONMENT

5.1. Physical Features of the Area

5.1.1 Climate

Nam Poui National Protected Area lies in the Southeast Asia monsoon zone with one distinct dry (late October to early May) and one distinct wet season (late May to October). During November to February, the northeast monsoon brings cold, dry air and infrequent light rain. In the summer (May to August), the southwest monsoon brings warm winds carrying moisture from the Andaman Sea and the Gulf of Thailand to Lao PDR. Vertical convection causes large amounts of rainfall during the height of the monsoon season. Temperatures can range from approximate 23°C to 26°C during cold months, but as low of 15°C in December and January; and from approximate 29°C to 31°C during hot months, but as high of around 35°C in April. Average annual rainfall at Thongmixay District is around 1,700 mm (1,500–2,000mm). Lowest monthly rainfall of 35.5mm occurs in May and highest rainfall of 150mm in August.

5.1.2 Hydrology

Nam Poui NPA is a mountainous area with high terrain mostly in the west where most water sheds drain from flowing towards the east and then south at the Mekong River. The average height of the mountains is 900m above sea level., with the highest peaks at Phou Khoun Nampon (1,700m above sea level), Phou Khoun Nam Xong (1,600m above sea level), Phou Pu (1,500m above sea level), and Phou Kong (1,400m above sea level). Also, other known mountains are Phou Thaen, Phou Pod, Phou Pad Roi “800”, Phou Sanong, Phou Kongkhao and Phou Sankhiew. The drainage includes many streams and small rivers such as Nam Lop, Nam Ngim, Nam Kheung, Nam Sing, Nam Phoun Noy, Nam Xong and Nam Sanoung. These small rivers/streams are located in remote areas, with rocky river bases with strong flows in the wet season. These small rivers flow to Nam Phoun Yai and some streams of the Navene area, to Nam Poui River, then to the Mekong River. The southern NPA has the Nam Lay which flows to the Mekong River and the northern NPA has Nam Xong, Nam Ngap, Nam Pon which flow to Nam Poui and then the Mekong River.

5.1.3 Geology and Soils

Nam Poui NPA is a mountainous area with steep terrain and deep soil. The steep and rugged ridges are mostly of Mesozoic sandstones and shales trending strongly north-northeast. The eastern ridge rises from lowlands at c. 400m to a crest at over 1,500m. Summits along the Lao- Thai border are at 1,790m. Three rivers drain from west to east and southeastwards the Mekong, namely Nam Phoun and Nam Lay. Soil of the NPA varies based on different altitudes as the higher mountain area is dominated by reddish and clay soil with some rocks (Orthric acrosol and lithosol). The soil has low biomass in the higher mountains and is therefore not appropriate for agriculture. However, in the lower areas, in valleys and along river banks it is considered as healthy fertile soil for crops. Soil in the Navene cluster is considered poor, and that impacts on agricultural productivity.

5.2 Biological Features

Some rapid wildlife surveys were conducted in the past (1997–1998) through interviews and short field trips. Then, from 1999 a wildlife monitoring with ground surveys/patrolling and camera traps were conducted. Some most important species identification has been undertaken with technical support from WWF. Although not many biodiversity surveys have been conducted so far and they have not been comprehensive, some relevant surveys

include:

- Wildlife and wildlife habitats were described and surveys briefly conducted as part of training in 1997–1998 (Boonratana, 1998) by a team from the technical assistance of IUCN/Lao Swedish Forestry Program.
- Survey of White-handed Gibbon was briefly conducted in 2010 (Phiapalath & Saysavanh, 2010) by technical assistance from IUCN.
- A number of field and annual reports of biodiversity/wildlife monitoring and field notes were produced by WWF for over 10 years.

While the biodiversity values have fairly significantly declined in Nam Poui NPA during the past 20 years which is indicated by a smaller population size of flagship species such as Asian Elephant, Gaur, and Gibbons, so more up-to-date biodiversity information for the NPA is needed.

5.2.1 Vegetation

The main forest types in Nam Poui NPA are Mixed Deciduous Forest, Evergreen Forest, Dry Dipterocarp Forest their descriptions as below:

Mixed deciduous Forest (MDF): Characterised by deciduous tree species and a relatively open understory. MDF in the Nam Poui NPA has a distinct overall species composition and structure although shares species with SEF (*Lagerstroemia* sp.) and DDF (*Dipterocarpus obtusifolius*). A canopy height of between 20m to 30m.

Evergreen Forest (SEF): This forest type is the second most dominant in Nam Poui NPA and characterized by a high tree density, a high proportion of evergreen tree species (>50 percent) some deciduous tree species and a closed canopy with height of between 20m to 35m. Understory can be either bamboo or dense with herbs, seedlings, saplings and woody climbers. The evergreen forest type of the NPA is likely considered dry evergreen forest. The section of this forest type in the NPA is located in the lower area, mainly in the central zone between Ban Mai Vangphamone to the west and Phou Kong Khaoto the south.

Dry Dipterocarp Forest (DDF): This forest type is dominated by trees in the family Dipterocarpaceae, occurring in quite open stands with broad leaves. This is upland dry dipterocarp forest which is different from the lowland DDF, including the dominant tree species. Tree diameter is small and the height of the stand varies from 8m to 15m. Many species are fire resistant and have a thick bark. Most areas of DDF and MDF in Nam Poui NPA are often undergo annual burning.

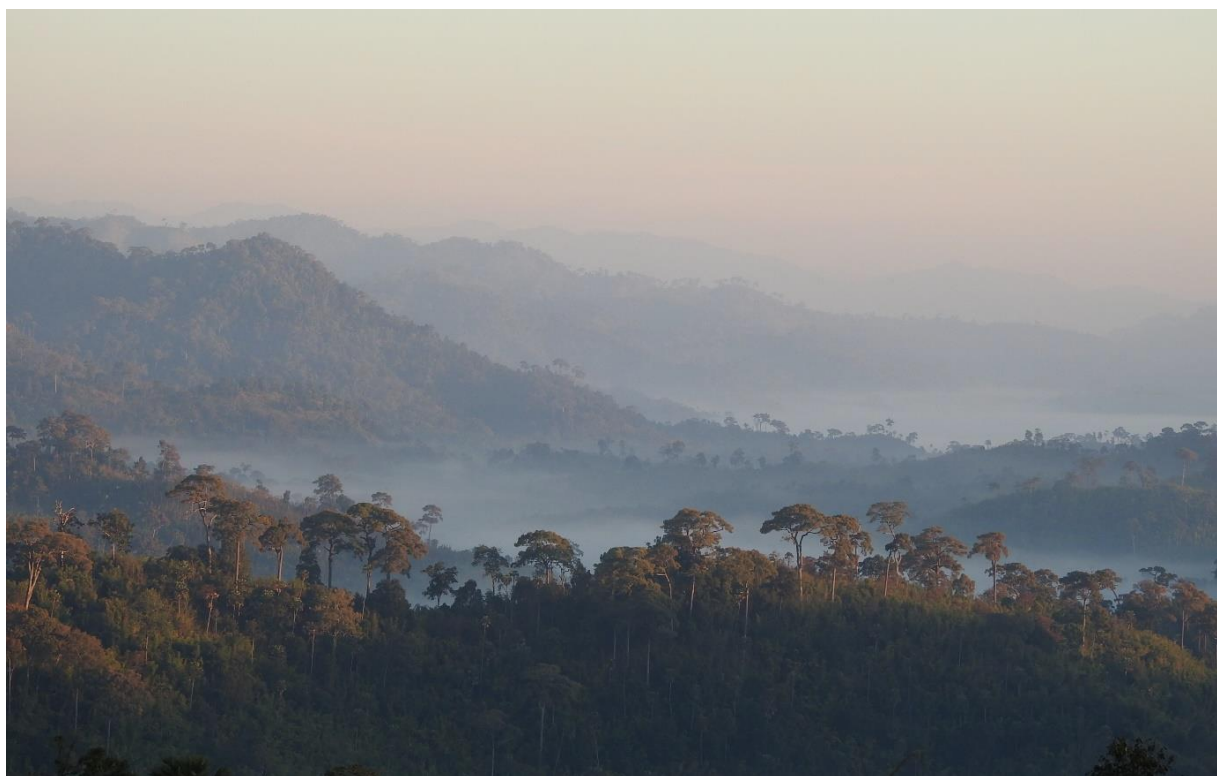


Figure 6: Forest landscape of Nam Poui NPA

Based on the previous forest type analysis of Landsat Images 1999–2000, the following vegetation types are present in Nam Poui NPA (see Table 1 and Fig. 7).

Table 1: Area of the Vegetation types of Nam Poui NPA

Forest type	Area (ha)	percent
Evergreen Forest	46,902.8	25.00
Mixed Deciduous Forest	118,025.7	63.00
Dry Dipterocarp Forest	13.4	0.01
Secondary Forest (reeneration forest)	15,549.7	8.29
Bamboo	909.2	0.48
Grassland	6.1	0.00
Upland crop	346.5	0.28
Rice paddy	412.1	0.12
Other agricultural land	5,195.8	2.77
Other land	71.0	0.04
Water (river, lake/pond)	175.6	0.09
Settlement	66.1	0.04
Total	187,674	100.0

Remarks: The area for this forest type analysis includes the extension area of Nam Poui NPA.

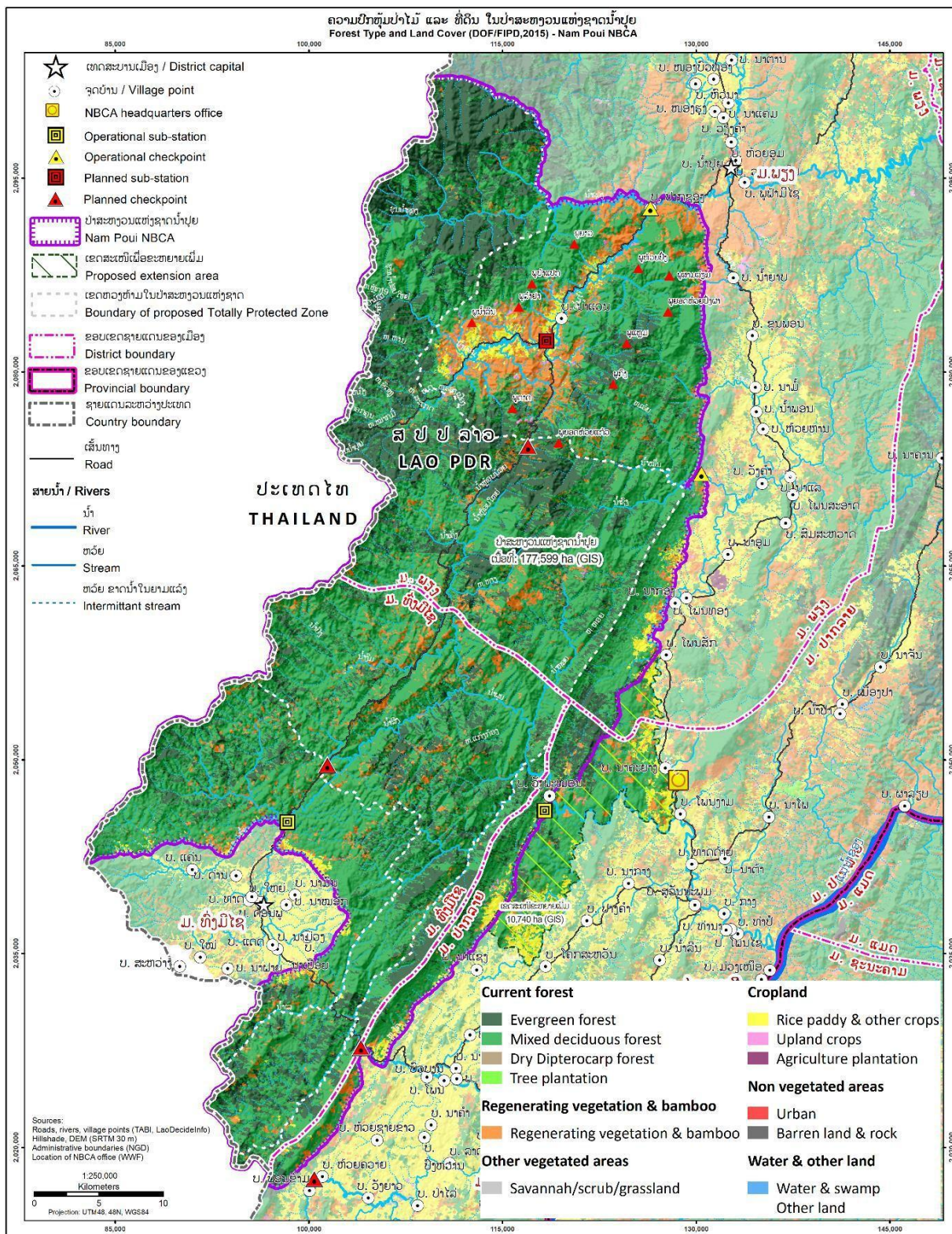


Figure 7: Forest Cover of Nam Poui NPA

The flora of the Nam Poui NPA has not been studied so knowledge of this aspect is limited. Only some important timber tree species of economic value are listed such as Mai Dou (*Pterocarpus macrocapus*), Mai taekha (*Azelia xylocarpa*), Mai Khamphi, Mai Khaen, Mai Deng Nam, Mai Champa, Mai Champi, Mai Taehor etc. At least 4 types of Mai Dou are locally known (Mai Dou Lai Seua, Mai Dou Khang, Mai Dou Kalen and Mai Dou Deng), they are all hard wood but there is some confusion in their local names. At present it is known that some rare or endangered flora species are present in the area, including Mai Taekha (*Azelia xylocarpa*), Mai Dou Lai seua (*Pterocarpus sp.*) and Mai Khaen heua (*Hopea odorata*). Other economic tree species are Mai Yom, Mai Yang, Mai Sor, Mai Sikhai and Mai Ketsana (*Aquilaria sp.*)

The majority of the National Protected Area is mixed deciduous forest (90,523 ha) dominated by bamboo as a result of regular forest fire. *Azelia* tree species is locally dominant in the upper canopy and wild teak (*Tectona grandis*) is also present at lower elevations. Evergreen forests (68,767 ha) occur in lower mountain and along the waterways. The economically most important Non-timber forest products (NTFPs) are Boun (giant rattan), Tao (*Arenga westerhoutii*), Kheua haem (berberine vine), Mak khor (*Livistona saribus*), Sakhan (*Piper ribesioides*), Mak naeng (Cardamom), Wan 37 and Wai (Rattan).

5.2.2 Habitats

Most of the NPA is a terrestrial ecosystem, consisting of mountainous areas with several forest types, but mainly mixed deciduous and evergreen forests. Most importantly, at least 33 mineral licks are found scattered in the NPA (Boonratana, 1998). Mineral licks are found in lowland nearby small streams, in valleys and along riverbanks. The most important mineral licks are Poug Kok, Poug Nang, Poug Sa-at and Poug Mak Yeun (see Fig. 8). These mineral licks are considered as ecologically sensitive sites. In addition, a shallow lake known Nong Xei (1 ha), occurs 7 km south of Ban Navene which is the largest lake of the NPA that can benefit some water birds.

5.2.3 Fauna

The Nam Poui NPA has various habitat types that are particularly important for supporting wide-ranging, large mammal species and some bird species (Duckworth et al. 1999). As one among the top five NPAs of the country it supports a high number of wildlife species, but no comprehensive studies have been undertaken. Although some sources mentioned 80 bird, 47 mammal and 17 reptile species. However, these figures are considered low estimates, especially for forest birds.

There are at least 10 most important species of birds, 15 species of mammals and 7 species of reptiles which warrant special management attentions. The recent survey of WWF by camera traps has certified the presence of many wildlife species in the NPA (see Fig. 8, 9 and 10), some most important large and medium mammals were reported and some recently recorded by camera trapping are: Asian Elephant, Tiger, Gaur, White-handed Gibbon, Clouded Leopard, Asiatic Black Bear, Sun Bear, Dhole, Grey Leaf Monkey, Southern Serow, Otter sp., Binturong, Great Hog badger, Stump-tailed Macaque, Sambar, Chinese Pangolin, Sundan Pangolin, Slow Loris and Golden Jackal. Also, a number of bird and reptile species are considered important species of the NPA. Pheasants and Peacocks were reported especially the peacocks were often seen being sold in the market of Thongmixay District.

Nam Poui NPA's richness of wildlife makes it the stronghold of biodiversity conservation in the northern landscape of Lao PDR that connects also with Nam Houng-Nam Mad National Protection Forest to the north and partly with Phou Phadam National Production Forest to the west. Its transboundary connections to protected areas in neighbouring Thailand, also make it part of a regionally important transboundary protected landscape.

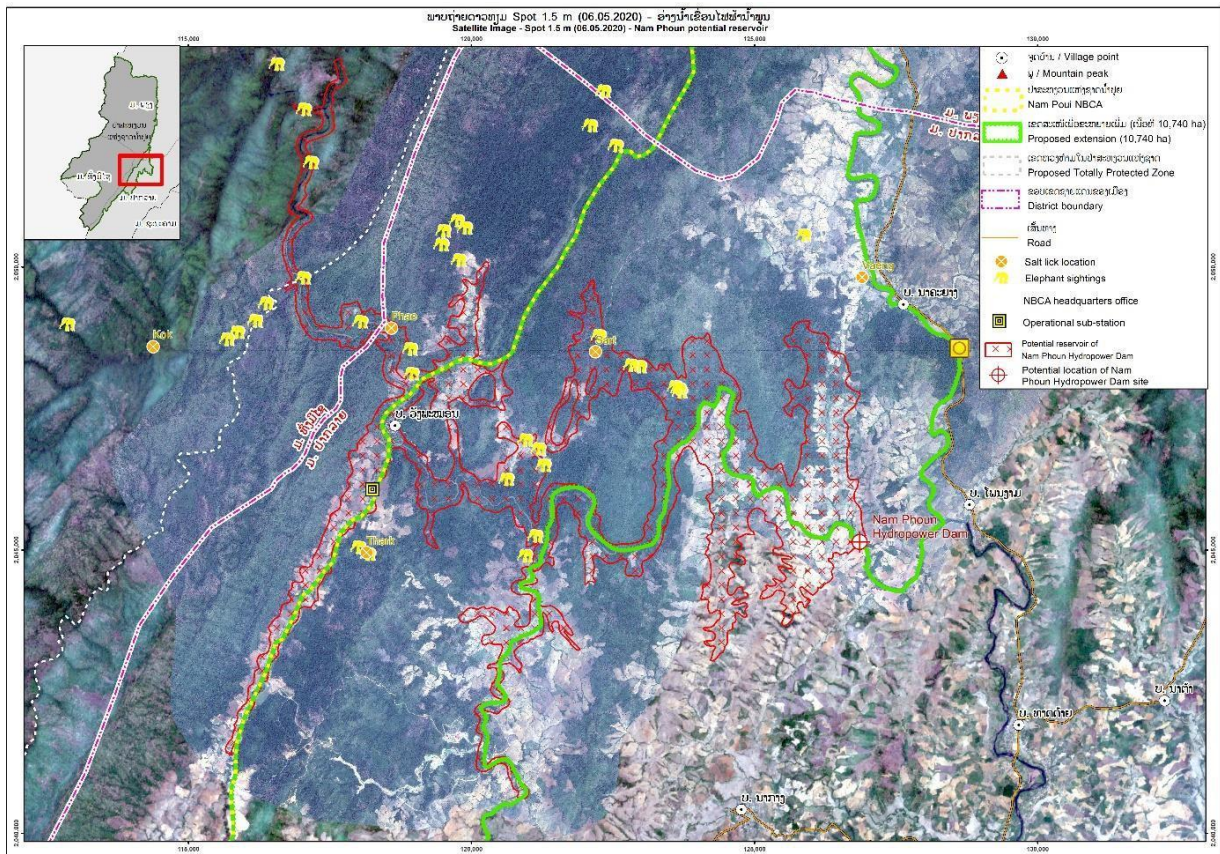


Figure 8: Records of elephants and mineral licks in Nam Poui NPA

Nam Poui NPA is particularly important for supporting a number of large mammals, and is one of only two NPAs in Lao PDR which support large populations of Asian Elephant. The NPA holds one of the two last stronghold populations of the Asian Elephant in Lao PDR - the land of a million elephants. Just 30 years ago, the Asian Elephant population of the Nam Poui NPA was estimated to be as large as 350 individuals but its population size is much small today, estimated at about 60 individuals, perhaps up to a maximum of 80 individuals (Francois G. *pers. comm*, 2020). There are 3–4 sub-populations and it is not known whether the share Elephant population between the two countries, it is believed highly possible. The loss of Asian Elephants in Nam Poui NPA by any means impacts significantly on Asian Elephant conservation in Lao PDR, and likely leads to the complete loss of Asian Elephants in the country (see Annex 7).

Nevertheless, the most important species that local villagers rated during the Kumban consultation are Asian Elephant, Gibbon, Tiger, Gaur and Sambar. Through the consultation they realized that these species are declined, only Asian Elephant and Gaur have some good population today, but other species' populations remain very low. Most of these species have declined dramatically from 2005 (see 7.3.2).



Figure 9: Some key wildlife species records in Nam Poui NPA



Figure 10: Some other important wildlife species records in Nam Poui NPA

6. THE SOCIO-ECONOMIC ENVIRONMENT

6.1 Demographic Overview

6.1.1 Population

A total of 37,576 people in 37 villages of 8 village clusters are located in and adjacent to the Nam Poui NPA and belong to 3 districts. Of the populations in the NPA, Phiang District has the highest population (19,283 people), then Paklay (12,630 people) and Thongmixay (5,663 people). Depending on the location, the village types of the NPA were classified into 4 enclave villages, 15 straddling villages and 18 adjacent villages (see Table 2 and Fig. 2).

Table 2: Population and village types by Kumban

District/ Village Cluster	No. of village Type			No. of HHs	Ethnic	Pop.
	Encl	Strad	Adjac			
Phiang (14 villages)						
Thetsaban	0	0	1	675		4,079
Nam Pouy			1	675	Hmong, Khmu, Lao	4,079
Navene	2	1	1	1,164		6,606
Paksong	1*			220	Khmu	1,074
Navene	1*			693	Hmong, Khmu, Lao	3,831
Nam Ngap		1*		132	Hmong	967
Khounphon			1	119	Lu mien	734
Phonsa-at	0	2	7	1,596		8,598
Nam Oum		1		136	Khmu	753
Namphon			1	235	Lao	1,321
Houayhan			1	132	Lao	965
Nalae			1	266	Lao	1,314
Vangkham		1*		71	Lao	345
Namor			1*	224	Lao	1,087
Phonthong			1	241	Lao	1,297
Nakong			1	123	Lao	660
Phonsak			1	168	Lao	856
<i>Sub-total</i>	2	3	9	3,435		19,283
Paklay (15 villages)						
Buaban-Mouangva	0	4	4	1,551		7,038
Houay Saykhao		1		122	Lao	587
Na Xaeng		1*		193	Lao	806
Thamixai			1	154	Lao	675
Houay Motsom		1		147	Lao	693
Na Mai			1	199	Lao	1,002

Nam Poui National Protected
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Bouaban			1	401	Lao	1,866
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Ban Phon			1*	175	Lao	674
Khoksavan		1		160	Lao	735
Phakeo-Palay	0	0	2	278		1,238
Ponkham			1*	136	Lao	638
Houaykhoay			1	142	Lao	610
Hatdai-Phonengam	1	2	0	423		2,326
Na Khayang		1*		206	Lao	960
Vangphamon	1*			75	Lao	342
Phon Ngam		1		192	Lao	1,024
Souvannaphoum	0	0	2	448		2,035
Nakang			1	268	Lao	1223
Pangkham			1	180	Lao	812
<i>Sub-total</i>	1	6	8	2,700		12,630
Thongmixay (8 villages)						
Na Mouang		1		214	Lao	851
Ban Daet		1		231	Lao	1,006
Na Monh		1		89	Lao	406
Na Nork		1		135	Lao	628
Na Peuy		1*		127	Lao	596
Ban Dan		1*		156	Lao	629
Ban Khaen	1*			202	Lao	854
Ban That		1*		158	Lao	693
<i>Sub-total</i>	1	7	0	1,312		5,663
Total	4	15	18	7,447		37,576

Remarks: *Priority village for first Five-Year Plan of livelihood development.

Many of the villages of the NPA are located in village clusters but some village clusters have only 1 or 2 villages which is difficult to cluster for zoning of management. For this purpose of the management planning only the key relevant cluster areas are used which are Navene, Thongmixay, Phonsa-at, Bouaban and Vangphamone. These clusters are quite different from the official category of the government. Anyway, in recent years the village cluster system is not popularly used in the government system, Kumban Phatthana has become the preferred usage instead.

6.1.2. Ethnicity and Religions

The villagers belong to four different ethnic groups, mainly Lao, then Khmu, Hmong and Li Mien. The ethnic groups in the Nam Poui NPA can be linguistically divided into 3 main groups:

- (a) Lao group: Lao Loum is the majority group, they speak Lao. Their livelihoods are based on paddy rice farming. They usually live in lowland areas, along roads, rivers and valleys which is the land with the best potential for lowland agriculture. They are relatively well-off and not hard to adapt and accept new things. They are mostly practicing the Buddhist religion. They are politically well connected and represent their interests well with government.
- (b) Khmu group: Although their livelihoods were traditionally based on upland rice cultivation in a rotational slash-and-burn cultivation system, they also do some paddy

field cultivation where appropriate. They practice animism and are usually serving for the military.

- (c) Hmong group: Hmong usually live in upland areas and do hill rice cultivation but they have adapted to lowland areas as well, and do some lowland cultivation today. This group includes Li Mien. Ban Nam Ngab is a Hmong village while Ban Nam Poui and Ban Navene have mixed ethnic group including Hmong, they practice animism.

In addition, Mlabri or the “Yellow Leaf” ethnic group is found only in Nam Poui NPA, the west of the Mekong River, and parts of Northern Thailand. However, this ethnic group lives in the deep forest of the NPA, and are not yet officially registered like any of the above groups. (see additional info in Annex 6).

6.2 Settlements

There are 37 villages of 8 village clusters in the Nam Poui NPA, of which there are only 3 villages where their settlements and the majority of their land uses are located inside the NPA boundary. A high number of the NPA villages belongs to Paklay and Phiang Districts as follows:

6.2.1. Phiang District

There are 14 villages belonging to Phiang District that are considered NPA villages and the key village clusters are Navene and Phonsa-at.

- Village cluster 1: Thetsaban – Phiang District

This village cluster has only 1 straddling village with mixed ethnicity (mainly Khmu and Hmong, then also some Lao), but it is not a poor village and has more characteristics of an urban village. The villagers do mainly paddy field cultivation with some hill rice cultivation, cash crop cultivation and cattle raising, also collecting forest products (NTFPs) and aquatic resources from the NPA. This village cluster is quite large and provides entry points to the Navene cluster.

- Village cluster 2: Navene

This village cluster has 4 villages of the Nam Poui NPA: 2 enclave villages, 1 straddling village and 1 adjacent village. These villages are ethnic minority (Khmu and Hmong), and are also considered poor. The villagers do hill rice, some paddy field, cash crop cultivation and cattle raising, also collecting forest products (NTFPs) and aquatic resources from the NPA. This village cluster is the one of entry points to the NPA. Ban Navene is the only important village where a sub-station and checkpoint are in place. It is a large village and has separated into two other settlements known as Ban Na Ngeun and Ban Na Somphan. Therefore, their responsibilities for the NPA management in preventing outside people entering the NPA from the northern zone needs to be strengthened. This village cluster is one of most important for collaborative management of the Nam Poui NPA, especially Ban Navene. Most people entering the NPA are coming through this cluster from Ban Nam Poui (the town of Phiang District).

- Village cluster 3: Phonsa-at

This village cluster has 9 villages of the Nam Poui NPA which are 3 straddling villages and 6 adjacent villages. These villages are not really poor⁴ and the villagers can have better livelihood alternatives. They do some paddy field cultivation, highly cash crop plantation especially maize and job's tears, some trading, also collecting forest resources and aquatic resources from the NPA. Although this village cluster is not the main entry point to the NPA they can function as guardian villages to prevent some outside encroachment to the NPA.

6.2.2. Paklay District

⁴ *The poor village is the village that has over half of the village population with an average of household income lower than the poverty line (180,000 LAK/household month), also poor road access, insufficient education and health service.*

There are 4 village clusters and 16 villages of the Nam Poui NPA belonging to Paklay District. The key village clusters are Hatdai-Phonengam, Buaban-Mouangva, Souvanna phoum and Phakeo-Palai.

- Village cluster 4: Hatdai-Phon Ngam (Na Khayang)

This village cluster has 3 villages relevant to the NPA: 1 enclave village (Ban Vangphamone) 2 adjacent villages. This zone is part of the proposed extension area of the NPA so some additional villages would be listed as adjacent villages of the NPA. These villages are not really poor and they rely on paddy field cultivation, cash crop plantation, cattle raising, collecting natural resources - forest resources and aquatic resources (fish) in the NPA occasionally and seasonally. These villages are an entrance to the NPA at Ban Vangphamone so this village is the key village for building collaborative management while other villages can help prevent outsider encroachment to the NPA.

- Village cluster 5: Souvannaphoum

This village cluster has 2 villages relevant to the NPA both of which are adjacent villages (Ban Nakang and Ban Pangkham). These villages are not really poor and they rely on paddy field cultivation, cash crop plantation, cattle raising, collecting natural resources - forest resources and aquatic resource (fish) in the NPA occasionally and seasonally. They can be part of preventing outsider encroachment to the NPA.

- Village cluster 6: Buaban-Mouangva

This village cluster has 9 villages relevant to the NPA – 4 straddle villages and 5 adjacent villages. These villages are not really poor; they rely on cash crop plantation and some paddy field cultivation and cattle raising. In addition, they collect forest resources seasonally, and do some fisheries and wildlife hunting in the NPA. This village cluster is quite important for the NPA management since Ban Phon is proposed for the checkpoint location.

- Village cluster 7: Phakeo-Palai

This village cluster has 2 villages relevant to the NPA. These villages are similar condition to the village cluster of Buaban. These villages are not really poor; they rely on cash crop plantation and some paddy field cultivation and cattle raising. In addition, collecting forest resources seasonally, some fisheries and wildlife hunting in the NPA. This village cluster is quite important for the NPA management since Ban Houay Khouay is proposed for the checkpoint location.

6.2.3 Thongmixay District

- Village cluster 8: Thongmixay

There are 8 villages in Thongmixay District considered as NPA villages. These villages are classified as type 1 enclave villages, 7 straddling villages. These villages are not really poor; they rely on paddy field cultivation, cash crop plantation and cattle raising. Also, collecting natural resources from the NPA – forest resources (NTFPs), aquatic resources (fish) and wildlife hunting. This village cluster, especially Ban That, Ban Dan and Ban Khaen are highly important for the NPA management as their settlements are close to the critical wildlife habitats such as the upper Nam Lop and Nam Ngim areas. Therefore, this is one of most important village clusters for collaborative management of the Nam Poui NPA.

6.3 Existing Infrastructure and Community Services

6.3.1. Transport Access

Access to the Nam Poui NPA is convenient as a road runs around the eastern boundary of the NPA from Paklay to Ban Nam Poui; cuts through the northern section from Ban Nam Poui

to Ban

Navene; and also runs through the southern section from Paklay to Thongmixay. Also, a dirt road runs through Thongmixay to Ban Navene of Phiang District. Overall, the road access in the NPA is easy from many directions and generally can be used all year round. However, it is quite difficult in the wet season to reach the village cluster of Navene. This access road has heavy dust during the dry season and is very muddy during the wet season.

A dirt access road connecting from Thongmixay to Ban Navene was constructed for military purposes. It is a “Strategic Military Road” and only 4WD vehicle can access. This road provides opportunity for the people from Thongmixay and Navene cluster to reach the heart of the NPA which are considered critical habitats. However, this road is not used for through transport between the 2 ends, but it is used only by poachers/illegal loggers accessing it by motorbikes. The road runs through a high mountain known as Phou Pod that limits the people entering the area and travel volumes. The key entrance villages to the NPA are at Ban Navene, Ban That, Ban Pak Xong, Ban Vangphamone, Ban Vangkham, Ban Ponkham, Ban Phon and Ban Phonsa-at. Checkpoints were established at some of these villages and on a plan for access controls.

6.3.2. Education

All 37 villages that are enclave, straddling and adjacent to the Nam Poui NPA have access to a primary school. Most of the villages have a primary school available up to grade 5. Secondary schools are available in adjacent villages with good transportation and facilities. Most secondary school students who go to study outside the village prefer to use a motor-bike. Attendance to primary school seems to be very good, but mainly in the Navene village cluster, many families’ children do not continue to secondary education. After the high school, some of the students continue to study at tertiary, college and university level which is dependent on his or her family capacity as mostly it is based on their own financial support. On average, the educational status, school facility including teachers of the NPA villages are considered fairly satisfactory.

6.3.3. Health Care

Health centres have been established in some village clusters but local people do not use them much as access to the district hospital is quite easy. Although some health centres are available the service is usually not satisfactory due to staff capacity and insufficient necessary medicines. Usually, the poor families prefer to get their health treatment in the traditional way using herbal medicinal plants. The district hospital is used for basic health services, and any serious case will be treated at the provincial hospital, also the hospitals in Vientiane and Thailand (especially for Thongmixay District). The major diseases are blood pressure, diarrhea, stomachache and respiratory ailments. Overall, the health services, facility and access to health service of the NPA villages is not a major issue, as long as families have some cash available.

6.3.4. Industry and Employment

A number of sawmill and furniture factories exist in the relevant districts but not adjacent to the NPA (4 sawmills in Paklay town, 2 sawmills in Thongmixay District and 1 sawmill in Phiang District). All of the sawmills have suffered after the Prime Minister’s Order No. 15 dated 13/5/2016 on “*Strengthening Strictness of Timber Harvest Management and Inspection, Timber Transport and Business*” due to insufficient raw materials. All illegal sawmills and any logging throughout the country including from production forests has been banned. No timber quota has been issued since then and only some small scale of illegal log poachers remains. However, small-scale logging by local villagers for these sawmills was reported in some villages. Other local factories are located adjacent to the NPA including for rubber and berberine vine processing. The processing factory for berberine is located in Ban Dan, Thongmixay District, and purchases berberine vines illegally harvested from the NPA.

6.3.5. Security and Law enforcement

The main institutions ensuring security in and around the Nam Poui NPA are the military and

police forces. Both are present at village, village cluster and district level. Village militia is the presence of army at village level whose mandate includes patrolling in the forest within their village territory. Village police is the presence of district police at village level whose mandate is the security in the village. They often assist and collaborate with the village militia. Each village has about 10 village policemen.

Village militia and village police at village and village cluster level who are allowed to carry guns are the main partners for village forest patrolling in the NPA. The members of the village patrol team (7–9 persons), are selected for each village from the village militia, village police and village foresters. Within their village territory, the village militia and village policemen can arrest poachers or illegal loggers. Within the military zone⁵ along the international border of Lao-Thai permission is required from the Frontier military authority to do patrolling in the area and the NPA staff join the patrol with them occasionally as this practice with technical assistance from WWF has been well conducted so far. The most relevant Military Camps of the NPA are the Camp 4 at Nam Ngim of the Kong Roi Frontier Regiment Military 156; the Camp 1 at Pong Phoi and the Camp 3 at Pom Pad Roi “800” of the Kong Hoi 412 “Batallion Military”; and the Camp 2 at Nam Sing of Kong Phan 411 “Regiment Military”.

Almost all law enforcement cases are handled by so called Conflict Resolution Committees (CRC) formed at village, cluster and district level in the government system. These committees consist of elderly citizens, village chiefs and relevant district officials. They can make decisions on sanctions ranging from fines to detention. At district level, the CRC will be chaired by district governor. Rules for the functioning of these committees are issued by the District Justice Department. Furthermore, the District Governor has the authority to also directly decide on sanctions for exceptional cases where conflict resolution committees cannot agree. In addition, forest inspection exercises aimed at arresting large groups of illegal loggers are occasionally organized under orders of the district governor. These exercises are conducted by *ad hoc* taskforces led by district army and police.

6.3.6. Tourism

Nam Poui NPA has high potential for tourism development associated with nature “ecotourism” wildlife spotting. Nam Tian Elephant Conservation Centre (ECC) was established in 2010 in Xayabouri District with the purpose of elephant conservation through promoting tourism business with domestic elephants and releasing young elephants to the wild. The centre assists in elephant breeding among the domestic elephant and releasing some male elephants to the wild to breed with wild male elephants. There are 33 elephants in the centre – including both the centre’s own elephants and those rented from local villagers for which the centre pays for the elephants and mahouts monthly. The ECC receives ca. 3,000 visitors annually but a majority of the visitors just visited and stayed at the Centre, only a small number of journalists was arranged for an elephant tour with mahouts to do elephant riding and camping in the NPA occasionally. The ECC will invest for USD1.9 million for next 10 years (ECC, 2019). However, the Memory of Understanding (MoU) between ECC and Ministry of Planning and Investment/GoL on eco-tourism investment in Nam Poui NPA has not been made yet. As plan, upon the approval and re- open border the service will start from 2021 and it will be a long-trip of eco-trekking from Ban Vangphamone on east (Paklay District), crossing a jungle (evergreen forest) to Phou Pod on west (Thongmixay). The west of Phou Pod (mountain) covering mainly CUZ and some part of TPZ is proposed as main camping site and territory of ECC.

The initiative of Nam Tian ECC Company signals the potential for long-term tourism development in the NPA. A new proposal has been developed by the GDL with Nam Tien ECC for development of tourism facilities in the NPA including eco-trekking and wildlife spotting, and perhaps including zip-lining and treetops in the future.

⁵ *The Military zone according to the Decree No. 111 is ca. 15 km away from the international border; however, the most prohibited zone is 2 km along the border.*

The field site of ECC in Nam Poui NPA is in the CUZ and partly TPZ of the south-western section that belongs to Thongmixay District. The field site with a proposed area of 20,000 ha, just located in the north-east of Ban Dan or the west of Phou Pod, can access from Ban Dan. Ideally, this field site where their young elephants are released from semi-capture to forever when they can establish their own territory. Also, some adaptive ecotourism facilities will be developed in the site with applying local knowledge that tourists can enjoy nature and culture exchange.

So far, although the elephant riding tourism was organized in the NPA, revenues are not yet shared for Nam Poui NPA management. In 2019, ECC paid USD 5,000 to the NPA MA for patrolling activity in the NPA. The company agreed to provide some USD 50,000 for the Nam Poui NPA for basic management, law enforcement (patrolling) and some livelihood activities. It was initiative from mid-2020 and be further supported as long as the motivation of the Nam Poui NPA team. This budget can be paid based upon a justifiable activity plan which is prepared by the NPA management office and supervision from the site manager of ECC. Due to Covid-19 Pandemic the ECC cannot secure the agreed budget. Total expenses for patrols were ca. USD 25,000.

6.4 Access to Forest Land in the Nam Poui NPA

6.4.1 Villager Access to Land

In general, village access to land within the NPA is quite different from areas outside the NPA in terms of rights and use limitations. In general, local villagers are allowed to live, do agricultural practice and use forest resources such as NTFPs (resin oil tree, honey tree, etc.) in the NPA according to their customary rights and relevant regulations. As part of the land use planning, a block of agricultural land is reserved for population growth so reallocating the land would be conducted every 10 years. Agricultural land (e.g. paddy land) and forest use rights can be inherited by children. However, in theory at least, villagers are not allowed to sell the land or give land concessions to others as land title cannot be issued and no land reservation is allowed. In practice, several examples were found of villagers renting land inside the NPA to outsiders, such as Chinese watermelon plantations (Flint, 2020).

Land use planning was completed for most of the NPA villages in the past and in different periods of time from 1998 onwards. This work was recently supported by GiZ/ClipAD Project (2017– 2018) and SUFORD-SU (2009–2018), and by WWF in a few villages (2018). Land use planning for most villages of Thongmixay District has been conducted recently by the GIZ ClipAD Project, but not really fully completed and the situation is unclear for some villages e.g. Ban Khaen. The pFALUPAM “participatory Forest and Agricultural Land Use Planning Allocation and Management” is recommended to apply for complete land use planning in the NPA. There are 3 missions of the pFALUPAM to be conducted as follows:

Mission 1. Village Geo-Mapping, village boundary, mapping/agreement, gather other necessary information for use planning.

Mission 2. Current land use and forest assessment and mapping, household level socioeconomic/ land information. Workshop: (i) review current land use/forest cover map, household data, (ii) review ABD, SE data, (ii) agree on strategy for forest and land zoning.

Mission 3. Forest and Agriculture Land Management Zonation and Planning, Drafting/Approval of Village Forest + Land Use Management Plan.

Mission 4: Monitoring of land/forest use, and adjustment of Plan, as necessary and appropriate

Land use plans of some villages are out of date and so they need to be reviewed and planned

for reallocation, if necessary. Besides, there is a need to demarcate and enforce the zoning and to put respective village regulations in place.

6.4.2 Border Area Regulations

The Prime Minister's Decree No. 111 of 2011 on National Defense Strategic Zones set out military strategic zones along international borders under the responsibility of military authority with limited public access. The Decree states the rights and responsibilities of the Ministry of National Defense, Capital, Provincial and District Military to coordinate and organize tasks related to the management, inspection, protection, conservation and development of the national defense strategic zone within their administrative areas. This also indicates the area in which the border military may be involved in patrolling. The military zone along the international border of Lao PDR and Thailand is classified as borderline zone.

6.5 Other Proposed Land-Use Developments

Any development project within the NPA should avoid negative impacts, damage and loss of natural resources, and mitigation measures should be in place to minimize environmental impacts. Pressures on the natural resources within the Nam Poui NPA exist from some illegal use of forest resources e.g berberine.

Concession projects in the eastern part of the NPA include a proposal for a hydropower development at Ban Phon Ngam and a mining project at Ban Vangphamone which has already been undertaken. The hydropower Project on the Nam Phoun River is planned to be located at 18°27'51" N/ 101°22'02" E, with a capacity of 45 MW and a dam height of 78m, with the height of reservoir at 317m above sea level, the reservoir area of 3,299 ha and 896 million cubic meters capacity (see Fig. 11 and Fig. 12). It is an earth core rockfill dam, owned by the EDL GEN and Sok Company Ltd. The project was granted the Project Development Agreement (PDA) in 2012 with extension for 4 times for revising the construction plan as to avoid impact on the critical habitat e.g Pong Sa-at. The Gold Mining Project is owned by MPG Company Ltd., located at Ban Vangphamon, Ban Na Xaeng and Ban Kang. The project is also relevant to the critical habitat e.g Pong Sa-at (mineral lick) of Ban Vangphamone. This open cast mining project has been undertaken in an area of ca. 10 ha.

These projects would generate some direct and indirect negative impacts on the NPA especially the most ecologically sensitive sites of the NPA especially for the Asian elephant. The possible direct negative impacts of the hydropower dam include destruction of some forest land adjacent to the critical habitat, flooding of at least 6 mineral licks e.g Pong Sa-at (UTM: 0755846 N/2046466 E, Elevation of 287m a.s.l.) and Pong Leuk and blocking of the wildlife movement to Phou Phadam NPF (see Fig. 12). The possible indirect negative impacts from the mining project are regarding water pollution that discharges into the water body and while the hydropower project will also cause impacts through changes in timing and amount of water flows. Lowland evergreen forest of 76 percent (2,500 ha) and 14 percent of mixed deciduous forest (470.33 ha) of the reservoir will be flooded according to the original plan (EDL 2016).

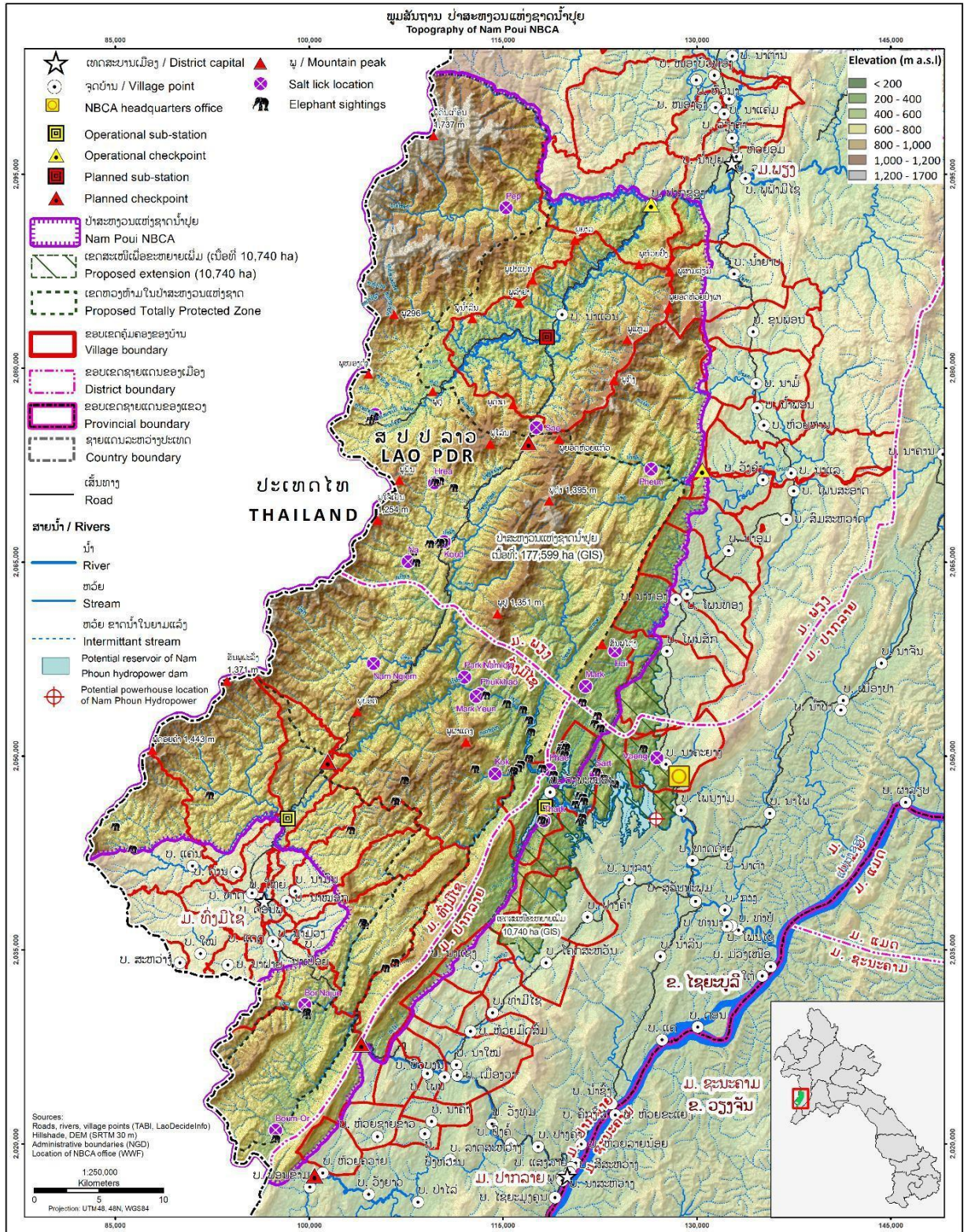


Figure 11: Proposed inundation area of Nam Phou HP Dam

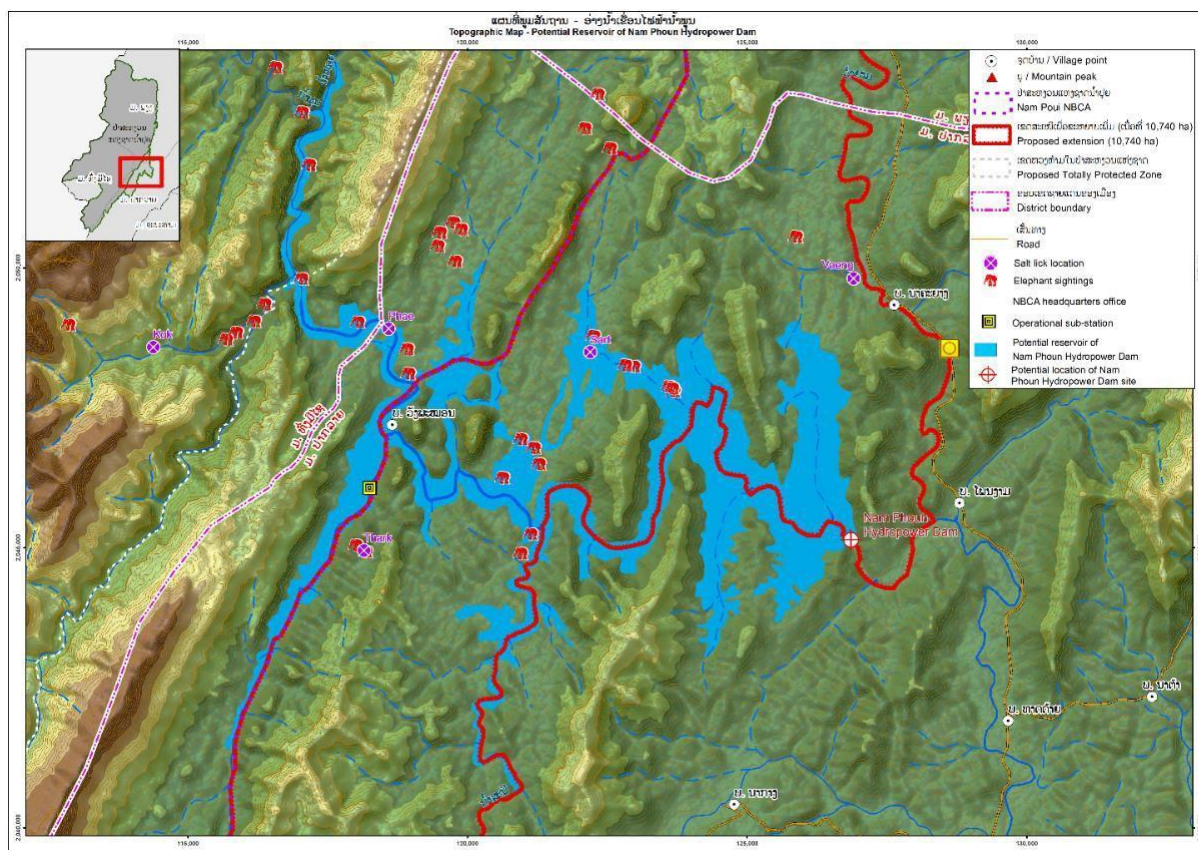


Figure 12: The inundation area of Nam Phou HP Dam and elephant sites

7. LOCAL LIVELIHOODS AND CURRENT USE OF NATURAL RESOURCES

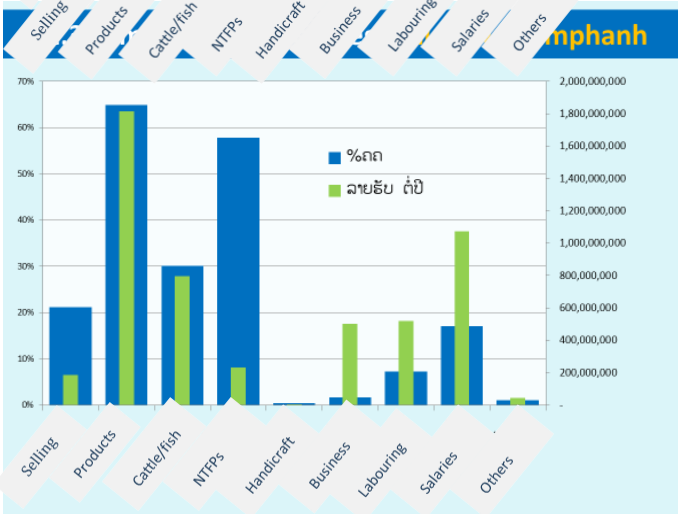
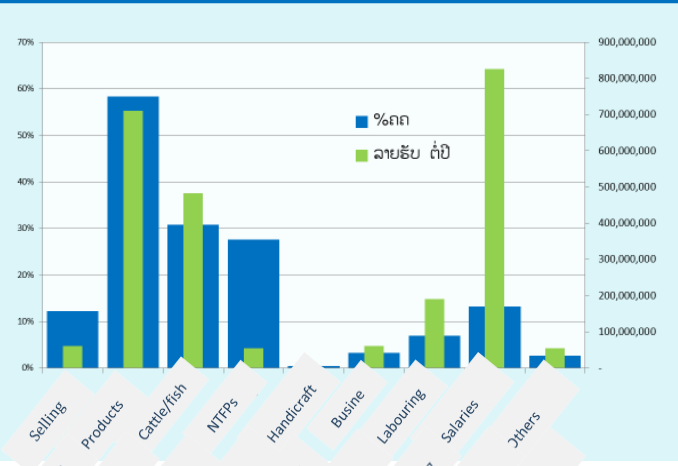
7.1 Village Livelihoods

Most local people rely on agriculture (planting rice and cash crops, cattle raising), trading and collecting forest products. An average household income of 180,000 LAK per month is considered the poverty line for rural households according to the GoL standard. A socio-economic survey was conducted mainly in Thongmixay District by CliPAD project in 2009 and SUFORD-SU revealed that poverty levels of the NPA's villages and families were not high. The villages that were ranked as “middle class” in terms of income by the CliPAD Project in 2018, include Ban Na Peuy, Ban Nanok, Ban Khaen, Ban Nam Ngap, Ban Vangkham, Ban Phonsak and Ban Navene. More recent assessment of household income in Ban Navene conducted with WWF support in late 2018/early 2019, showed an average household income of 1,173,000 LAK/month (Flint, 2020), well above the poverty level (see Table 3). The main sources of overall income for the three sub-villages of Ban Naven comes from selling crops, livestock, daily wage labour and salaried employment (Table 4). While around 450 families from Ban Naven collect NTFPs, total income from NTFPs only accounts for 3 percent of the overall income of Ban Navene (Flint, 2020). Assessments supported by the BCAMP project in 2020 revealed average monthly household incomes of 3,171,000 LAK and 2,373,000 LAK for Ban Phonsak and Ban Na Khayang respectively (Flint, 2020).

Agriculture (mainly maize and some cassava), livestock sales and wage labour on Chinese plantations are

the main sources of income in Ban Phonsak, while 82 families rent out land to Chinese, bringing in a total of 9 percent of the community's income (see Table 5).

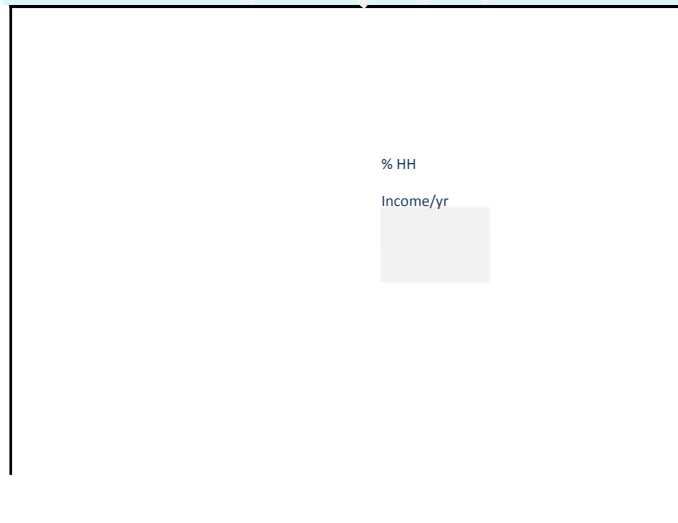
1.2 Family Income sources, Khum Na Ngern



Income sources (Khums) of Ban Navene

Income source	% Family	Income/yr (kip)	% of Inc.
Sell rice	23%	188,700,400	5%
Sell crops	36%	369,250,000	10%
Livestock	46%	663,050,500	17%
NTFP	75%	131,340,000	3%
Handicraft	2%	15,900,000	0%
Business	2%	258,500,000	7%
Labour	14%	866,520,000	22%
Salary	10%	1,351,280,000	35%
Other	2%	39,000,000	1%

Income source	% Fam	Income/yr(kip)	% of Inc
Sell rice	12%	60,200,000	2%
Sell crops	58%	709,900,000	29%
Livestock	31%	482,000,000	20%
NTFP	28%	53,520,000	2%
Handicraft	0%	500,000	0%
Business	3%	61,000,000	3%
Labour	7%	191,000,000	8%
Salary	13%	825,600,000	34%
Other	3%	54,500,000	2%



Income source	% Fam	Income/yr(kip)	% of Inc
Sell rice	21%	186,750,000	4%
Sell crops	65%	1,813,000,000	37%
Livestock	30%	796,700,000	16%
NTFP	58%	231,900,000	5%
Handicraft	0%	2,000,000	0%
Business	2%	502,500,200	10%
Labour	7%	517,600,000	11%
Salary	16%	809,200,000	16%
Other	1%	45,400,000	1%

Source: Flint, 2020

Table 4: Income source and indicative annual income in Ban Phonsak

Income source	Nr. Families	Income/year (kip)
Crops	123	3,624,950,000
Labour (for Chinese plantation)	79	1,046,670,000
Lease out land (to Chinese)	82	653,430,000
Livestock sales	49	726,700,000
Monthly salary	26	610,560,000
Business	22	322,100,216
Rice	7	143,600,000
Other	7	63,100,000
NTFPs	2	800,000
	Total	7,191,910,216
	Average/family	38,053,000 kip/yr

Source: Flint, 2020

Selling of crops (mostly maize 145 families; cassava 72 families; and paddy rice 28 families) accounts for over half of the total income of Ban Na Khayang. Eleven small family businesses – including 5 small gold shops, as well as a petrol station, repair shop, rice mill, alcohol distillery, and restaurant account for 15 percent of total community income (see Table 6).

Table 5: Summary of income source and indicative annual income in Ban Na Khayang

Income source	~ Nr. Families	Income/year (kip)
Crops	204	3,207,057,800
Business	11	917,095,000
Salary	33	663,289,000
Sell livestock/fish	50	597,388,000
Labour	~ 30	254,504,000
Rice	28	230,500,000
Remittance/child	9	95,205,000
Ploughing	1	30,000,000
NTFPS	6	2,300,000
Handicraft	5	2,000,000
	Total	6,002,338,800
	Average/family	28,048,312

Source: Flint, 2020

As no current thorough socio-economic assessment has been done for the other communities in and around Nam Poui NPA, nevertheless it is assumed likely that the average household income per month is above the poverty line because it is observed that a majority of the local villagers earn income from cash crop plantation, cattle raising and trading. Local villagers raise both cows and buffaloes but prefer cows because they are easier to raise. For instance, Ban Phonsak raises 600 cows and 400 buffaloes (Flint, 2020). Some households of the Navene village cluster have lower income than other villages of the NPA. Besides

agriculture, collecting forest products, hunting and fishing in the NPA all contribute in part to household incomes but income demand is just more than

basic needs. Income is needed to support their children’s education beyond high school.

For families who face poor rice production, the coping strategy is to collect forest products and wildlife for sale, also to sell some cash crops (maize and job’s tears) as well as livestock e.g cattle. However, besides the Navene village cluster, rice production in other villages is not really an issue, the local people demand cash for other purposes. In addition, with the expansion of gold mining and the proposed Nam Phoun Hydropower Dam, some local communities who live along the Nam Phoun River would suffer from water pollution and water shortage which could impact on their livelihoods.

7.2 Agricultural Practices

7.2.1 Rice Cultivation and other crops

The majority of the local villagers (over 70 percent) do lowland paddy field cultivation with some sizable gardens for cash crop plantations, and some other varieties of vegetables for household consumption. The cash crops are maize/corn, job’s tear and some cassava and rubber (in Ban Navene), also chili, water melon, cucumber, long green bean, eggplants etc. Hill rice cultivation has been intensively practised in the Navene village cluster of Phiang District and Buaban- Mouangva village cluster of Paklay District. The villages of Thongmixay District used to do hill rice cultivation in the past but not today, they just rely on paddy field cultivation. Also, the Phonsa-at village cluster relies on paddy field cultivation and cash crop plantations. Therefore, apart from Ban Navene, most villages rely mainly on paddy field cultivation with cash crop plantations which are located mainly outside the NPA. Cultivation practice in the area has used chemicals not only chemical fertilizer but also pesticides which can have negative impacts on nature.

Local people nowadays use improved rice varieties for paddy fields and their average rice harvest is 3.5 tons/ha – relatively higher when compared to the past. However, with future expected climate change, extreme conditions that will impact rice yields – both droughts and floods, may happen more frequently. Details of the area of different crops grown are provided for the examples of Ban Naven, Ban Phonsak, and Ban Na Khayang in tables 6, 7 and 8, based on surveys conducted with BCAMP support (Flint, 2020).

Table 6: Details of crop type/land use of all family plots surveyed in Kumban Navene

Crop/Land use	Khum Ban Na Ven		Khum Ban Na Ngeun		Khum Ban Na Samphan		Total/ ha
	Nr. Plots	Area/ ha	Nr. Plots	Area/ ha	Nr. Plots	Area/ ha	
Fallow	187	490.87	245	960.87	379	987.94	2439.68
Jobs tears	108	248.09	89	225.93	263	717.31	1191.33
Upland rice	111	208.48	86	258.56	58	174.11	641.15
Wet rice paddy	102	109.46	114	130.79	162	161.77	402.02
Natural grassland	13	176.66	3	9.66	9	67.38	253.7
Animal raising	8	103.61	10	73.87	1	7.31	184.79
Teak plantation	13	29.02	15	31.76	28	40.17	100.95
Rubber	1	2.55	20	52.22	12	23.05	77.82
Upland maize	2	7.40	4	10.42			17.82
Cassava			4	10.82			10.82
Fish pond	6	4.58	5	4.18	2	0.80	9.56
Fruit tree orchards			2	2.22	1	0.94	3.16
Banana	3	1.82					1.82

Chicken farm	1	0.74					0.74
Planted pasture			1	3.24			3.24
Vine oil					1	1.18	1.18
Tung Oil					1	1.05	1.05
Other crops	1	0.50	1	0.99			1.49
Total	556	1,383.78	599	1,775.53	917	2,183.01	5,342.32
Nr families	243		184		364		791
Plots/family	2.3		3.3		2.5		
Area/family		5.69 ha		9.71 ha		5.99 ha	

Table 7: Details of crop type/land use of all family land plots surveyed in Ban Phonsak

Crop type	Nr. Plots	Area (ha)
Maize	252	607.9
Wet rice (paddy)	190 +	281
Pommelo (Chinese)	93	173.7
Pasture grass	61	164.1
Cassava	69	108.4
Livestock	28	66.7
Jobs tears	17	29.5
Fruit orchard,	17	17.9
Herbal medicine	9	9.9
Teak	14	9.2
Watermelon	4	8.8
Mango (Chinese)	1	7.8
Cassava, pomelo	1	1.4
Fallow	1	1.3
Plant nursery	1	1.1
Chinese lease	2	1.1
Banana	4	0.6
Unused	13	14.8
N/A	37	52.5
Total	815	1,558

Table 8: Crop type/land-use of family land plots surveyed in the field in Ban Na Khayang

	Crop type	Nr. plots	Area/ha		Crop type	Nr. plots	Area/ha
1	Maize	156	326.26	13	Grass	2	7.80
2	Cassava	137	202.52	14	Unused	5	7.01
3	Crop Not specified	102	170.39	15	Plant trees	2	4.94
4	Wet Rice	161	136.88	16	Mai Tiew tree	3	2.98
5	Planted pasture	40	109.00	17	Housing	8	1.90
6	Teak	53	63.91	18	Fruit tree	3	1.66

	Crop type	Nr. plots	Area/ha		Crop type	Nr. plots	Area/ha
7	Garden (unspecified)	17	29.35	19	Cassava and watermelon	1	1.30
8	Cassava and maize	9	25.44	20	Teak + Rosewood	1	1.15
9	Crop fields (unspecified)	7	10.60	21	Eaglewood	1	0.60
10	Plant crop	2	9.99	22	Banana	1	0.50
11	Upland rice	8	9.81	23	Fish pond	1	0.23
12	Livestock	4	9.45			724	1,133.66

7.2.2. Agricultural land holding

As land title certificates are not ubiquitous in Lao PDR, villagers (especially in remote areas) pay land tax according to the amount of land they declare that they possess. There is an obvious incentive therefore to under-report land-holdings. Surveys supported by BCAMP in 2020 found significant under-reporting in three villages that were investigated – Ban Navene, Ban Phonsak, and Ban Na Khayang (Flint, 2020).

A summary comparison of agricultural land declared by each family in Ban Navene, and the actual land area based on land survey and mapping, is presented (see Table 9). This data shows that the actual area of land used, or at least claimed by villagers in reality is about 342 percent higher than the area of land they reported during the interview (suggesting they may be paying at least three times less land tax than they should be doing). In the case of Ban Phonsak, the number of family land plots via interview is that same as actual field surveyed, although the total area surveyed (1,558 hectares) is about 50 percent higher than the area stated in interview (940 hectares). In Ban Na Khayang, the number of family land plots reported in interview (678) is only slightly less than the real number of plots as measured in the field survey (703), but the area of family land plots as reported (390 ha) is very much smaller than the actual areas as measured in the field survey (1,123 ha), see Table 10.

Table 9: Summary comparison of family land area declared & actual in Ban Navene

Sub-Village	Ethnicity	Nr Families	Families with no Agric. land	Interview/declared		Surveyed/Mapped		Ha % increase
				Nr. Plots	Area/ha	Nr Plots	Area/ha	
Navene	Lao	243	17	539	408	556	1,383.78	339%
Na Ngeun	Hmong	184	16	579	493	599	1,775.53	362%
Na Samphan	Khmu	364	27	769	669	917	2,183.01	329%
Total		791	60	1,887	1,570	2,072	5,342.32	342%

Table 10: Comparison of Inventory of family land and survey in Ban Na Khayang

(i) Plot and Area based on family interview			(ii) Area from land survey		
Land use	Nr. plots	Area/ha	Land use	Nr. plots	Area/ha
Crop fields	365	205.43	Crop fields	365	661.36
Wet rice paddy	167	82.24	Wet rice	167	142.11
Livestock	58	65.23	Livestock	58	169.81
Crop + paddy	1	1.70	Crop + paddy	1	6.37

Teak garden	63	33.70	Teak garden	63	86.10
Tree Plantation	4	0.70	Tree Plantation	4	3.58
Unused	2		Unused	2	3.32
Paddy + teak	1		Paddy + teak	1	0.86
Fish pond	13	0.04	Fish pond	13	2.60
Grass field	1		Grass field	1	1.88
Upland rice	1		Upland rice	1	0.81
Fruit orchard	1		Fruit orchard	1	1.10
			No yet surveyed	26	43.41
			Housing land	15	3.67
Total	678	389.92 ha	Total	703	1,123.31 ha

It can therefore be assumed that similar under-reporting of land-holdings is also occurring in the other villages in and around Nam Poui NPA. While under-payment of land tax is not a direct concern of Nam Poui NPA management, however the fact that the area of agricultural land inside the NPA may be much higher than the official reported amount – is obviously an important issue for further management attention.

The villages that have agricultural land inside the NPA are Ban Navene, Ban Phonsak, Ban Pak Xong, Ban Vangphamone and Ban Khaen. A total of over 900 households (of which 543 households are in Ban Navene) have reported agricultural land in the NPA and reportedly occupy over 400 ha, of which 250 ha is in Ban Navene. But considering the findings of significant under-reporting of land holdings (above), the actual agricultural land held inside the Nam Poui NPA, is likely much higher than that declared. The assessment supported by BCAMP provides more information below, regarding two of the communities with farmland inside the NPA – Ban Phonsak, and Ban Navene (Flint, 2020).

Ban Phonsak

Following the declaration NBCAs/NPAs in 1993, and especially the official establishment of an 'extension' to the Nam Poui NPA in 2014 (by a Provincial Governors Agreement 517, 28/4/2014), it is estimated that 31.9 percent of the land area administered by Ban Phonsak is inside the Nam Poui NPA and the NPA extension (see Table 11). This includes upland agricultural land, land leased out to Chinese watermelon plantations, wet rice paddy and other lands. In addition, 60.1 percent of Ban Phonsak is inside the Phou Phadam PFA, created in 2008, and includes upland agricultural land, land leased out to Chinese Pommelo plantations, wet rice paddy and other lands. Only 8 percent of Ban Phonsak lies outside these 2 State Forest land areas.

Table 11: Land use and forests of 2 state forestlands relevant to Ban Phonsak

Land class, English	Area outside the 2 FC (Ha)	Nam Poui NPA (Ha)	Phou Phadam PFA (Ha)	Total (Ha)
Upland Agriculture Land	72.6	584.3	480.3	1,137.2
Tree planation	39.1		19.6	58.7
Pomelo plantation (leasing) to Chinese			251.6	251.6
Watermelon plantation (leasing) to Chinese	0.1	127.6	50.2	177.9
Wet rice paddy	16.2	65.0	199.4	280.6

Other lands	15.4	81.6	129.6	226.6
Cemetery forest		5.9	6.4	12.3
Mixed forest	210.7	541.2	1508.4	2,260.3
Total	354.1	1,405.5	2,645.5	4,405.1
<i>as % of total</i>	8 %	31.9 %	60.1 %	

Ban Navene

Ban Navene village is an ‘enclave village’, fully inside the northern section of Nam Poui NPA, with a current population of almost 800 families, comprised of 3 ethnic groups living in 3 ‘Khums’ or sub-villages. While the original small, isolated village of Ban Navene has been in this area for many years - the 1980s NGD topo map shows a very small village in this location

- it was designated a focal development village in 1991, only 2 years before this area was designated as an NBCA, and its population has increased markedly since then. After the settlement program was initiated in 1991 the rate of population growth increased rapidly in all three villages until 1994 (see Table 12, below). Between 1994 and 1996, population growth decreased in Ban Na Ngeun (Hmong) by 20.24 percent and in Ban Navene (Lao Loum) by 11.5 percent. This voluntary out-migration was due to prospective settlers concluding that they would have better livelihoods in the villages from where they had moved. However, in Ban Na Samphan the rate increased by 45 percent because the Khmu people still believed they could improve their livelihood in the settlement area. They were also being encouraged to migrate by their relatives, and at that time by provincial officials of the same ethnic origin. Between 1996 and 1998 the population increased in all villages. In Ban Na Ngeun the increase was only

1.17 percent, but in Ban Navene it was 8.3 percent and in Ban Na Samphan 10.5 percent, due to immigration of Khmu and Hmong ethnic groups. The percentage increase in Ban Na Samphan had declined substantially, and caused by the increasing realisation that there is inadequate land available for new families. After the initial phases of in-migration in the 1990s, the 2000’s saw more normal or natural increases in the population, mainly due to natural increase from birth, although immigration of persons looking for land, often relatives of people already in Ban Navene has continued throughout this period (Flint, 2020).

Table 12: Population and families in Ban Navene Yai, in the 1990s and more recently

Village	1991	1994		1996		1998		2017		Person	2018/19	
	pers	pers	HH	pers	HH	pers	HH	pers	HH	per HH	HH	
Navene (Lao)	400	435		385	67	417		1,109	229	4.89	243	
Na Ngeun (Hmong)	0	850		678	94	686		1,196	156	7.66	184	
Na Samphan (Khmu)	0	1,100		1,601	257	1,770		1,728	350	4.9	364	
Total	400	2,385	354	2,664	418	2,873	443	4,033	735		791	

The large and growing population of 791 families in Ban Navene Yai is a key problem in this NPA enclave village. Together with population increase in the Navene village cluster the yearly household income demand is increasing, resulting in the expansion of hill rice and cash crop cultivation and encroachment into the forests. While there appears to be a significant area of land, the productive capacity is limited due to poor soils and steep slopes. In addition, the three sub-villages have not managed to develop sustainable and productive

agricultural land use systems.

In Ban Navene, it was found that some 78 families have opened up and used about 224 ha of land outside the village boundary. For some GoL stakeholders, this is a serious problem, and wish to legally charge families that have done this (Flint, 2020). In addition, some 39 families are cropping land inside zones which, according to the military, belong to the military and reserved for their exercises, although this land is not fenced or marked clearly. Also, some 60 families do not have any land for agricultural production, however, most of these are likely teachers and staff of the army garrison (Flint, 2020).

As can be seen in Table 7, a significant proportion of the agricultural land of Ban Navene (2,439 ha, or 44 percent) lies fallow. This should be a good thing - regenerating soils - but most of the fallows in Ban Navene Yai inspected appear to be over-run by weeds and not regenerative vegetation. Thus, this land appears more abandoned than fallow. Much of the agricultural uplands in Ban Navene Yai are seriously degraded - soil erosion, land covered with grass weed, and low soil fertility - due to a combination of:

- Over cropping (repetitive years cropping and no fallowing) with crops such as jobs tears;
- Ploughing of the mild to steep slopes, leading to soil erosion
- The soils are naturally not very fertile, and also steep

Improved farming and land management systems must be developed if villagers are to thus improve the soil fertility and sustainable yields from the land already cleared for agriculture, and thus not find it necessary to clear yet more forest and open up more land inside Nam Poui NPA.

7.2.3 Livestock

The villagers of Nam Poui NPA raise most cattle, elephants, goats, pigs etc. Livestock especially cattle is an important asset of local villagers. They raise cattle (both buffalos and cows) for sale when cash is needed. Phiang and Thongmixay Districts possess a high number of cattle, around 3,000 heads each, also the Thongmixay District possesses 50 elephants. The cattle of Ban Phonsak, Ban Na Khayang, and Ban Khaen alone, number over 900, over 1,300, and over 1,000 respectively. heads (see Tables 13, 14 and 15). The villagers can sell their cattle to cover rice deficiencies, health treatment and for schooling of their children. In fact, raising livestock is the traditional form of “insurance” against risks such as rice shortage. However, only better-off families can afford to buy livestock. Also, medium and small livestock such as pigs, poultry and ducks are raised for sale and food. As long as health care for livestock is secured it is important for local people. Common diseases include *Haemorrhagic Septicaemia* (HS), foot and mouth disease (FMD), Blackleg and Anthrax etc. Vaccine for HS is mostly available and produced in Laos. DAFO has some vaccination programmes but they are not regularly practiced due to budget issues. Besides, many farmers are not really interested to participate due to not an effective vaccination. Livestock holdings for Ban Phonsak, Ban Na Khayang, and Ban Khaen are provided in tables 13, 14, and 15 respectively. For Ban Na Khayang, 53 families have planted Ruzi grass to release cattle to graze. While these days in many Lao villages, cattle far out number buffalos, in Ban Khaen both the overall number of buffalos, and the number of households owning buffalo is more than twice that of cattle. Possibly this is because buffalos are more adapted to roam freely in the large expanse on Nam Poui NPA forest than are cattle.

Table 13: Livestock Holdings in Ban Phonsak

Livestock	Nr. Head	Nr. Families	% families
Buffalo	332	48	26%
Cattle	606	75	41%
Goat	37	3	2%

Goat	203	57	31%
Poultry	4728	150	81%
Fish pond	44	37	20%

Table 14: Livestock number and areas raised in Ban Na Khayang

Animal	Nr. head	Nr. Family	Where raised in the wet season	Where raised in the dry season
Cattle	1,047	190	Grazing plots belonging to families	Grazing plots belonging to families
Buffalo	294	27	Grazing plots belonging to families	Grazing plots belonging to families
Poultry	6,910	216	Release around the village area	Release around the village area
Pig	265	180	Raise in pig pen	Raise in pig pens
Goat	43	2	Grazing plots belonging to families	Grazing plots belonging to families

Table 15: Data of livestock in Ban Khaen 2017

Items	Buffalo	Cattle	Goat	Pig	Poultry
Total number	685	320	0	280	4596
Average per family	3.7	1.7	0	1.5	25.0
% families with livestock	47.3	19.6	0	13.6	67.9
Average head per family that get income from livestock	6.7	10.0	-	2.0	37.5

7.3 Utilization of Forest Resources

7.3.1 Selective Logging

Selective logging has been a problem in Nam Poui NPA over the past decades. In Nam Poui NPA valuable hardwood species such as Mai Dou (*Pterocarpus macrocarpus*), Mai Taekha (*Azelia xylocarpa*) and Mai Daeng (*Xylia xylocarpa*), have been intensively logged in the past. Illegal logging has occurred in the Nam Poui NPA for the past 15 years. Initially, the scale was small scale but was increasing over time until the logging ban in 2016. Commercial logging activity has been stopped after the Prime Minister’s Order No. 15 (13/5/2016) as all logging in all forest categories is completely banned over the country. But small-scale logging activity especially by outside villagers continues in some areas. Local villagers and some officials were involved in illegal logging which was difficult to suppress in the past. The road construction from Thongmixay District to Ban Navene of Phiang District created easy access to the Nam Poui NPA for illegal logging and is now being upgraded.

Tree species identified by villagers as being found around Ban Naven, Ban Phonsak and Ban Na Khayang are provided in tables 16, 17, and 18. Villagers suggested developing three species for sustainable village-based harvesting in the forest – *Tectona grandis* (teak), *Azelia xylocarpa* (a popular wood for knife-handles, carvings, and musical instruments); and *Pterocarpus macrocarpus* – a durable wood used in construction and furniture (often considered as a rosewood, though it is not a true rosewood); - with these species reported as having declined in abundance by 80–90 percent in the last 10 years around Ban Phonsak, and as having been locally scarce around Ban Na Khayang for at least 10 years. Villagers also suggested developing teak plantations outside the forest. *Azelia xylocarpa* is listed as “Endangered” status on the IUCN Red List.

Table 16: Wood tree species used by villagers in Ban Naven (2017)

No	Name of tree			Use			
	Lao name	Scientific name	Abundance	fuelwood	construction	furniture	handicraft
1	Mai Phao	<i>Shorea siamensis</i>	A lot	√	√		
2	Mai Dou	<i>Pterocarpus sps</i>	Medium		√	√	
3	Mai Sart	<i>Dipterocarpus obtusifolium</i>	A lot	√	√		
4	Mai Kor	<i>Castanopsis sps</i>	A lot	√		√	
5	Mai Kha Nyoung	<i>Dalbergia cochinchinensis</i>	A little				
6	Mai Pong	A bamboo species	A lot		√		√
7	Mai Tiew	<i>Cratexylon prunifolium</i>	A lot	√			
8	Mai Sor	<i>Gmelia arborea</i>	A lot	√	√		

Source: Flint, 2020

Table 17: Wood tree species found around Ban Phonsak (June 2020)

Nr	Lao name	Scientific name	Location gathered	Forest type	Natural status	Current status	% change last 10 yrs	Reason for change
1	Mai Kwang	<i>Dysoxylum sps</i>	Huay Mark (west)	Dense forest	a lot	little	80	logging, use
2	Mai Si	<i>Shorea or Vatica sps</i>	Nam Pan (east)	Dense forest	a lot	little	80	logging
3	Mai Peuy	<i>Dipterocarpus</i>	Nam Pan (east)	Dense forest	a lot	little	50	use
4	Mai Yang	<i>Dipterocarpus</i>	Nam Pan (east)	Dense forest	a lot	little	50	use
5	Mai Li	<i>Gardenia frangeoides</i>	Nam Pan (east)	Dense forest	a lot	little	30	use
6	Mai Kork	<i>Garcinia ferra</i>	Nam Pan (east)	Dense forest	a lot	little	50	use
7	Mai Yom hin	<i>Chukrasia tabularis</i>	Nam Pan (east)	Dense forest	a lot	little	50	use
8	Mai Yom hom	<i>Toona febrifuga</i>	Nam Pan (east)	Dense forest	a lot	little	50	use
9	Mai Sor	<i>Gmelia arborea</i>	Nam Pan (east)	Dense forest	a lot	little	50	use
10	Mai Hang	<i>Dipterocarpus sp.</i>	Huay Mailao	Deciduous forest	a lot	little	40	use
11	Mai Liang	<i>Berrya mollis</i>	Beside road	Deciduous forest	a lot	little	30	use
Almost locally extinct								
1	Wild Teak	<i>Tectona grandis</i>	Phou Bor (east)	Bamboo forest	a lot	little	80	Logging, and only small trees left
2	Mai Dou	<i>Pterocarpus</i>	General	Dense forest	a lot	little	90	
3	Ma Taekha	<i>Azelia xylocarpa</i>	General	Dense forest	a lot	little	90	
4	Mai Khaen	<i>Shorea/Hopea sps</i>	General	Dense forest	a lot	little	90	
5	Mai Khamphi	<i>Dalbergia cultrata</i>	General	Dense forest	a lot	little	90	
6	Mai Kha nyoung	<i>D. cochinchinensis</i>	General	Dense forest	a lot	little	90	

Source: Flint, 2020

Table 18: Wood tree species found around Ban Na Khayang (June 2020)

Lao name	Scientific name	Nr. Family	Time from the village (min)	Natural status	Current status	% decrease last 10 yrs	Reason
Mai Peuy	<i>Lagerstromia sp.</i>	216	20	A lot	Decrease	50	Use a lot
Mai Yang	<i>Dipterocarpus sp.</i>	216	20	A lot	Decrease	70	Use a lot
Mai Si	<i>Shorea or Vatica sp.</i>	216	30	A lot	Decrease	60	Use a lot
Mai hang	<i>Shorea siamensis</i>	216	30	A lot	Decrease	70	Use a lot
Mai Li	<i>Gardenia frangeoides</i>	216	30	A lot	Decrease	80	Use a lot

Source: Flint, 2020

Table 19: Tree species reported as becoming locally scarce around Ban Na Khayang

Lao name	Scientific name	Nr. years locally scarce	Reason
Mai Dou	<i>Pterocarpus sp</i>	10	Logging
Mai Taekha	<i>Azelia xylocarpa</i>	10	Logging
Mai Khamphi	<i>Dalbergia cultrata</i>	10	Logging
Mai Kha Nyoung	<i>Dalbergia cochinchinensis</i>	10	Logging
Mai Khaen	<i>Shorea/Hopea spp.</i>		Logging

Source: Flint (2020)

7.3.2 Hunting

Hunting of wild animals is a serious problem in the Nam Poui NPA till today. It has been reported widely in the NPA and people from both inside and outside villages including urban people as well as soldiers were involved. Some outsiders or soldiers from outside initially join with local villagers to do hunting and once they know the area, they then go hunting without local guides. Soldiers were reported in hunting in the Navene cluster not only at the forest camp but also some soldiers from urban camps.

Local villagers use both military and homemade guns, and also village military guns for hunting for both household consumption and sale. Hunting with snares and guns with dog pursuance was frequently reported during the village consultation especially in Thongmixay District. Hunting of birds is mainly done using guns with air rifles (Peun lom) and rifles with telescopic sights (Peun vaeng). Hunting is difficult to control because some officials and soldiers are involved and are setting bad examples for others.

The main villages of Thongmixay District who are involved in wildlife hunting in the Nam Poui NPA are the villagers from Ban Dan, Ban Na Peuy, Ban Na Meung, Ban Nanok and Ban Mai. The main villages of the Paklay District who are involved in wildlife hunting are Ban Na Xaeng, Ban Phon, Ban Pangkham, Houy Kheuy, Ponkham, Phongnam, Vangphamone, Na Khayang, Hatdai, Bouaban and Mouangva. Also, the main villages of Phiang District who are involved in wildlife hunting are Ban Navene (mainly the sub-village Ban Na Samphan), Ban Pak Xong, Nalae, Nam Oum, Phonsak, Phonthong, Nathong, Namor, Vangkham, Nam Ngap, Nam Poui, Nam Phon and Khoun Phon.

Due to hunting and disturbance many key wildlife species have seriously declined to very few individuals or groups of some species. The most important species that local villagers believed are significant to them are Asian Elephant, Tiger, Gibbon, Gaur, Rhino, Sambar, Bears and Serow. The thorough consultation made in the 6 village clusters of the NPA

revealed that almost

all of these species declined significantly from the past – with e.g. elephants having only 15–20 percent of their former population remaining, and tiger having less than 1 percent of its former population (maybe there are 1 or 2 individuals remaining in Nam Poui NPA). Since hunting is a major issue causing biodiversity loss, so it needs to be addressed strategically by working from village to village, identifying and listing of poachers in each village of each district, including officials/soldiers.

Species used by villages in Ban Navene and Ban Khaen are shown in tables 20 and 21 respectively, while species that have disappeared locally around Ban Phonsak and Ban Na Khayang are shown in tables 22 and 23 respectively.

Table 20: Wildlife species used by villagers in Ban Navene (2017)

Nr	Type	Location of sighting	Status	Distance, km	Evidence	Use		Cons.
						sell	food	
1	Wild pig	Phou H. Saphung, H. Harn, Nam Pon	A lot	5	footprint, body	√	√	
2	Barking deer, Sambar deer	Phou H. Gaew, Phou Nor Kom	medium	3	footprint, body			√
3	Tiger	Houy Pha Bang	small	6	footprint, body			√
4	Bear	Phou Pu	small	5	footprint, body			√
5	Gaur	Huay Saenar	small	24	footprint,			√
6	Elephant	Pong Thoy. Pong Goudt, H. Na	A lot	22	footprint, body			√
7	Squirrels	Pong Thoy. Pong Goudt, Huay Na	A lot	3			√	
8	Civet, Porcupine	Houy Harn, Nam Pon, Huay Sakheth	small	5			√	
9	Python, Cobra	Phou Dam, Nong Sae	A lot	5			√	
10	Birds	Pong Thoy. Pong Goudt, Huay Na	A lot	3			√	
11	Red Junglefowl	Houy Harn, Nam Pon, Houy Sakheth	A lot	5			√	
12	Monkey	Phou492, Phou498, Nam Pon neua	A lot	1		√	√	
13	Dhole	Xong River upper	medium	30				√

Source: Flint, 2020

Table 21: Wildlife Species used by villagers in Ban Khaen (2017)

Nr	Wildlife species	Location of sighting		Abundance	Distance from the village	Use	
						sell	food
1	Macaque	ນ າສງ	Nam Sing	few	20 km	√	√
2	Wild pig	ຫ ວຍປ າກງ	Houy Pha Ghang	medium	10 km	√	√
3	Muntjac	ນ າທອຍ	Nam Thoy	few	15 km	√	√
4	Deer	ນ າສງ	Nam Sing	few	15 km		√
5	Bear	ຫ ວຍສະເຫ ນ	Huay Saheun	few	30 km	√	√
6	Serow	ຫ ວຍມອງ	Houy Mong	few	20 km		√
7	Squirrel	ນ າສງ	Nam Sing	A lot	15 km	√	√
8	Jungle fowl	ນ າສງ	Nam Sing	A lot	15 km	√	√

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9	Mouse deer	ᨁᨗᨗᨗ	Nam Ngim	few	35 km	√	√
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10	Monitor	ນໍ້າສົງ	Nam Sing	medium	5 km	√	√
11	Civet	ນໍ້າທອຍ	Nam Thoy	medium	5 km	√	√
14	Elephant	ນໍ້າງມ	Nam Ngim	medium	35 km		
15	Porcupine	ນໍ້າສົງ	Nam Sing	few	10 km	√	√

Source: Flint (2020).

Table 22: Wildlife species of possibly extirpation in the last 2 decades in Ban Phonsak

Nr	Species	Number of Years extirpated	Reason for change (according to vilagers)
1	Tiger	10	Habitat destroyed, and prey/food species lost
2	Leopard	10	Habitat destroyed, and prey/food species lost
3	Otter	15	Habitat destroyed
4	Peacock	15	Habitat destroyed
5	Wild Duck	20	Habitat destroyed

Source: Flint, 2020

Table 23: Wildlife species of possibly extirpation in the last 2 decades in Na Khayang

Nr	Species	Nr. years since local disappearance	Reason for change (according to vilagers)
1	Hornbill	10 years	Its habitat has been destroyed by people
2	Gibbon	11 years	Hunted by people
3	Tiger	12 years	Habitat destroyed

Source: Flint, 2020

7.3.3 Fishing

Fishing is commonly practiced by local communities in the Nam Poui NPA as there a number of rivers and streams where some fish are available to harvest, but with lower abundance today due to overfishing. Small rivers in remote areas have more fishes to harvest than the larger rivers close to communities. The main rivers are Nam Phoun and Nam Poui, but more fishes can be harvested in Nam Lop, Nam Ngim and Nam Sanoung. Often, illegal fishing practices and gears are used, mainly electro-fishing. So far, there is no barrier to fish migration from the Mekong River to Nam Phoun and to Nam Poui and other small rivers and streams in the NPA. This is important because many Mekong fish species seasonally migrate into tributary rivers and streams to spawn. The BCAMP supported assessment gathered information on fish from Ban Na Khayang. Results are presented in table 24. Three fish species were reported to have disappeared locally for at least 5 years.

Table 24: Fish species reported in Ban Na Khayang

Nr	Lao name	Lao spelling	Abundance	% change last 10 years	Reason for change
1	ປາເຊງ	<i>Pa Kheung</i>	decrease	50	Many people catch
2	ປາກອດ	<i>Pa Got</i>	decrease	20	Many people catch
3	ປາຄອ	<i>Pa Kor</i>	Stable		

4	ປາດອຸກ	<i>Pa Douk</i>	Stable		
5	ປາຫາລາດ	<i>Pa Lart</i>	decrease	30	Many people catch
6	ປາຈາດ	<i>Pa Jart</i>	Stable		
7	ປານາຍ	<i>Pa Nai</i>	decrease	40	Many people catch
8	ປາບາກ	<i>Pa Bark</i>	decrease	30	Many people catch
9	ປາຕອງ	<i>Pa Tong</i>	Increase	10	Pele do not like to eat
10	ປາກາງ	<i>Pa Khang</i>	stable		
Fish species becoming locally extirpated					
1	ປາແຂ້	<i>Pa Khae</i>		5 years	Overfishing
2	ປາຟ້າ	<i>Pa Phia</i>		5 years	Overfishing
3	ປາແກງ	<i>Pa Kheng</i>		5 years	Overfishing

7.3.4 Utilization of Non-Timber Forest Products

Non-Timber Forest Products (NTFPs) collected from the Nam Poui NPA are an important source of food and income of local villagers (see Fig. 13). There are many NTFPs available such as Khuea haem (berberine vine), Tao (*Arenga westerhoutii*), Boun (giant rattan), Wai (rattan), Mak khor (*Livistona saribus*), Sakhan (*Piper ribesoides*), Wan 37, Wan Kankhot, Mak Naeng (cardamom), Khisii (dammar resin), orchids, Het (mushroom), Nok mai (bamboo shoot). The importance of NTFPs varies depending on the location of the village and the local availability. Although there are some differences in using of forest products by different communities and village clusters, the percentage of the households involved in NTFPs collection is high e.g up to 75 percent for one sub-village of Ban Naven Yai (see Table 25). Harvesting NTFPs is not well managed or zoned, and normally is done in an unsustainable harvest manner. The recent village interviews at Ban Naven Yai revealed that NTFPs that local villagers used have declined between 40–60 percent (Flint, 2020). Exceptionally, for the harvest of Mak khor in the Navene village cluster, around 80 percent of the Mak khor trees of the village cluster are still standing because there is no cutting down the trees for harvesting the fruit, because local traders do not buy the fruit which is scarred or damaged as it would be if the trees were felled. There are no management plans existing which would describe how much of the resources can be used annually and where. Forest products with high market value are well sought after by the local population and outsiders leading to overexploitation. Due to overharvest many NTFP species have declined in quantity. The species that local villagers believed are most significant to them are Boun (giant rattan), Tao (*Arenga westerhoutii*), Mak Khor (palm fruits), Kheua haem (berberine vine), Mak khor (*Livistona saribus*), Sakhan (*Piper ribesoides*), Mak naeng (Cardamom), Wan 37 and Wai (Rattan). The consultation made in the 6 village clusters of the NPA revealed that almost all of these species declined in abundance to only about 20–30 percent of their former levels.

Villagers reported that all of the above NTFPs have decreased in abundance between 30–90 percent over the last 10 years. Villagers suggested that Mak Khor palm harvest sustainability could be improved by protecting from cutting tree for harvesting the fruits, protecting young trees from forest fire and forbidding the collection of shoots. They also suggested it could be grown in gardens but this would require fencing to keep cattle out (Flint, 2020).

A trader in Ban Na Samphanh revealed that Dammar resin (khi sii) is collected by groups of

4–5 people who stay in the forest 4–5 days at a time, in the deeper forest south of Ban Naven. Such a group may sell around 475 kg of the resin to the trader for about 4,000 LAK/kg

(amounting to a total of 1,900,000 LAK or roughly USD 10/person-day of effort).



Figure 13: Some NTFP species of Nam Poui NPA

Table 25: Basic information on key NTFP species collected around Ban Navene Yai

Nr	Lao name	Lao spelling	English name	Scientific name	Plant type	Part collected
1	ດອກແຂມ	<i>Dok Khaem</i>	Broomgrass	<i>Thysanolaena maxima</i>	Grass	Flower (leaf)
2	ໝາກຄອ	<i>Mak khor</i>	Taraw palm	<i>Livistonia saribus</i> ,	Palm	Fruit (heart)
3	ຢາຫວັດ	<i>Yah Houa</i>		<i>Smilax glabra</i>	Small Vine	Root
4	ຂີ່ສີ	<i>Ki Sii</i>	Dammar Resin	<i>Dipterocarpaceae sps.</i>	Large tree	Resin
5	ເຄື່ອຍແຫຼມ	<i>Kheua Haem</i>	Berberine	<i>Cosinium fenestratum</i>	Large vine	Stem
6	ປຸສາ	<i>Por Sa</i>	Paper mulberry	<i>Broussonetia papyrifia</i>	Small tree	Bark
7	ໝາກຕົວ	<i>Mak Tao</i>	(palm)	<i>Arenga westerhoutii</i>	Palm	Fruit (heart)
8	ດູກຟາງາງ	<i>Douk PhaGhang</i>	n.a.	<i>Homalomena aromatica</i>	Bog Shrub	Root
9	ສະຂັນ	<i>Sakarn</i>	n.a.	<i>Piper sp.</i>	Vine	Stem/vine
10	ໝາກໄຟ	<i>Mak Fai</i>	n.a	<i>Baccaurea remiflora</i>	Tree	Fruit
11	ໝາກຂີ່	<i>Mak Kha</i>	Galangal fruit	<i>Alpina Sps</i>	Shrub	Fruit

In Ban Phonsak, the 2020 BCAMP survey found very few NTFPs were sold by the villagers – whereas a similar survey by the same consultant in 1998, had found a large number of NTFPs were important to the community. The villagers say that this is because these days they do not have time to focus on NTFPs as their focus is instead on cropping and other income generating

activities. However, a large number of families said they would like to develop cardamom, as it can give a good and quick yield if forest fire is controlled.

Similarly, villagers in Ban Na Khayang do not focus much on NTFPs, because these days they focus more on cash-cropping and livestock, however there is still some income generated from NTFPs, especially cardamom, 'tao' palm fruit and paper mulberry. The abundance of all NTFPs has decreased a lot in recent years, mainly due to forest fires – which should be a key focus of any development project support.

7.3.5 Uncontrolled Grazing

Most cattle raising is free-roaming grazing in the forest, especially in Thongmixay and Phiang Districts. Besides, some people reserve forest land in the buffer zone of the NPA for cattle raising. The cattle owners do for cattle farming to follow their cattle from time to time. Both cows and buffalos are raised and the buffalos use a larger area and go deeper in the forest.

7.4 Protected Area related Employment Benefits

Employment benefits from the Nam Poui NPA include hiring local villagers especially for ecotourism service and patrols, but are very limited in amount. The Nam Poui NPA Management Authority employs staff, some of them are coming from the participating districts. Some few local villagers work for ECC as mahouts – both at the Nam Tien ECC and some at the site in Nam Poui NPA. Only elephant owners from the villages of Nam Poui NPA especially from Thongmixay District who rent their elephants to the Nam Tien ECC can have some benefits. Still, overall there are limited opportunities for local villagers to gain direct and indirect benefit from the tourism operation in the NPA.

7.5 Tourism Benefits

Although there are some tourism initiatives in the Nam Poui NPA, benefits from this activity to Nam Poui NPA are not clear, although it at least contributes something to the Province. Nam Tien ECC accompanies ca. 3,000 visitors annually who visited the centre, some stay at the centre and also join elephant riding and camping in the forests of Nam Poui NPA. However, benefits from the tourism for the NPA management is limited. By mid - 2020 ECC has some initiative in supporting with fund to the NPA MA on patrolling which is ca. USD 25,000 paid for patrolling in Nam Poui NPA management.

7.6 Ecosystem Service

Nam Poui NPA provides four types of ecosystem service, namely provisioning services, regulating services, cultural services and supporting services. But, so far no research has been undertaken on their values in the NPA. Principally, the provisioning services are the products provided by ecosystems such as food, herbal medicines, construction materials, NTFPs, and freshwater. There are still other indirect provisioning services from the NPA for cattle grazing, maintaining water bodies for aquatic animals such as fishes, crabs and water snail, etc.

Regulating services are about maintaining ecosystem function including water quality, air quality, erosion control, habitats, pollination, carbon sequestration, climate regulation, water purification, water flows, flood protection, invasive species resistance, pest and disease control. Cultural services are about recreation, tourism to wildlife and nature areas, natural scenic beauty, spirits, religious, knowledge system, research and education. These values do exist in the Nam Poui NPA but they are not yet developed and used economically. Supporting services are basic ecological processes that maintain ecosystems without necessarily

benefiting people such as nutrient cycling, primary production, and carbon sequestration. A practical mechanism for sustainable financing based on payment for ecosystem services needs to be developed.

8. THREATS AND CONSTRAINTS TO CONSERVATION

8.1 Introduction

Understanding threats and constraints is important for management planning. The more we have understood the root causes of the threats, the better we can address them. So far, threats have not adequately been addressed because there has been no proper and effective management of different zones, while insufficient budget and staffing is a major bottleneck for the NPA management to address the threats. There are also many other factors beyond the capacity of the NPA management team.

8.2 Direct Threats to the Natural Habitats

8.2.1 Deforestation and Forest Degradation

Deforestation and degradation in Nam Poui NPA are mainly caused by forest fires and the expansion of agricultural land particularly in the central north and the northern zone of the NPA that belongs to the Navene village cluster. The deforestation for agriculture includes both rice paddy cultivation and cash crop plantation. An average of secondary forest/degradation in the NPA is ca. 15,549 ha/annum (8.29 percent). Forest degradation due to forest fire was clearly observed in the north-central part of the NPA, where only scattered trees were found standing while the lower layer canopies were annually burned and could not regenerate as only palm trees and fire tolerant wood can survive. (Phiapalath & Saysavanh, 2010)

8.2.2 Habitat Degradation

As described in the foregoing sections, many activities took place in the past that caused habitat degradation including (i) forest fire, (ii) overharvesting of NTFPs, (iii) illegal logging, and (iv) uncontrolled livestock grazing. However, the level of habitat degradation in Nam Poui NPA is now approaching an alarming rate. Some degradation happened annually in the past but this has not really been so serious in past 10 years up until now. Intense forest fires happened in the mixed deciduous forest, mainly in the central, eastern, and northern parts of the NPA. The forest fire frequently reduced some parts of the forest cover, with only some scattered large trees remaining. The forests close to the NPA boundaries show signs of degradation especially in the northern part of the NPA. However, the natural condition of the NPA overall, still remains good, and the entire proposed core zone of the NPA covering ca. 70 percent of the area, remains in good condition. Most importantly, some of the mineral licks have been degraded due to opening up of some forest around mineral licks such as Pong Bo of Houy Salang in Ban That and Pong Sa-at of Ban Vangphamone.

8.3 Threats to Wildlife Species

Hunting of wild animals is a problem in the Nam Poui NPA that has reduced the population of many wildlife species. It is not only about large animals such as Asian Elephant, Gaur and large or medium cats, but also deer, primates, other small mammals and forest birds. Entering the NPA to collect forest products significantly disturbs wildlife (see Fig. 14). Hunting has been reported widely in the NPA and people from both inside and outside villages including urban people and soldiers are involved. Local villagers use both military and homemade guns, and also village military guns for hunting for both household consumption and sale. Hunting with snares and dog pursuance was often reported during the village consultation especially in Thongmixay District and Navene. The key villages of the Thongmixay District who are involved in wildlife hunting are Ban Dan, Ban Na Peuy, Ban Na Meung, Ban Nanok and Ban Mai. Hunting of birds is mainly done using air rifles (Peun lom) and rifles with telescopic sights (Peun vaeng). Entering the forest for hunting and collecting

forest products and often associated with forest fire can disturb wildlife and scare them away. A major question exists as to why some large animals with large populations

in the past such as Asian Elephant and Gaur have declined so dramatically in number. Some wildlife conflict especially with elephants was recently reported in some villages (Ban Vangphamone and Ban Phonsak), as one person was killed by the elephant but there have not yet been any cases of humans killing the elephants due to the conflict. It is difficult to explain the decline of elephants given the limited number of known cases of hunting these animals. It has been postulated that they may have migrated across the border into Thailand, but so far there is no clear evidence to confirm this. The root causes of hunting are because of market demand, especially from urban people, combined with the convenience of hunting gears available in markets, and access to communication, transportation etc. While at the same time, law enforcement is insufficient and there is low staff motivation to address the issues.



Figure 14: Hunting and overharvesting NTFPs in Nam Poui NPA

8.4 Threats to Aquatic Resources

Illegal fishing using electro-fishing was reported in the Nam Poui NPA especially in Thongmixay and Navene. Local fishers reached many remote areas in critical habitats of the NPA such as Nam Lop, Nam Ngim and Nam Phoy. These small relatively pristine rivers are very sensitive to disturbance. Over-harvesting of aquatic resources not only fishes but also other aquatic animals, was found during the field visit. Some medium-sized rivers such as Nam Sing, Nam Phoun, Nam Poui etc., have lower fish quantities available to fish today due probably to the previous overharvesting using electro-fishing. Harvesting effort in these places is now lower while to be successful people need to fish much further away from the villages. In addition to promoting more sustainable harvesting of fish and other aquatic resources it is also necessary to confiscate all the illegal fishing gears present in the NPA.

Some illegal fishing gears available for sale in local markets should be confiscated as well. In this regard, it is also necessary to identify zones for no

entry as part of the TPZ, and also Fish Conservation Zones (FCZ) to be defined for the rivers in the controlled used zone.

8.5 Causal Factors

8.5.1 Ineffective Law Enforcement

Without sufficient numbers of staff, vehicles and operational budgets as well as consistent support from relevant national, provincial and district authorities, it is challenging for the NPA management authority and villagers to control the hunting and some illegal logging in the protected area. Involvement of some officials in illegal logging in the past and hunting today is particularly difficult to address.

8.5.2 Limited Economic Opportunities for Local Community

The villagers of Nam Poui NPA have some economic opportunities due to convenient access and market supply but not market price orientation. Prices for cash crops are controlled by brokers and markets, which makes it difficult for local villagers to sell their products profitably. Most villages of the NPA plant cash crops as well as rice. Rice production is mainly for household consumption and only the surplus can be sold.

8.5.3 Open Access and Unsustainable Resource Use Patterns

The land in Nam Poui NPA belongs to the GoL and the relevant government authorities lack the resources and sometimes the will to protect the land and the resources against over utilization. Villagers have only customary user rights of the forests which are not fully accepted by everyone and generally difficult to enforce. They also lack clear mandates and resources for forest protection as well as adequate incentives. Most of the benefits of forest protection accrue in the long-term and are not tangible, while the costs of improved protection have to be borne now. As a result, the ownership of the NPA by the local villagers is limited and it is difficult for them to control and exclude outsiders. The result is an open access regime where everyone who wants to can collect natural resources everywhere throughout the NPA, without giving any attention to sustainability.

8.5.4 Weak Control of Settlement Expansion and Inward Migration

The Nam Poui NPA Area was settled before the establishment of the NPA. The majority of the villages are located adjacent to the NPA while only 3 villages are located inside the NPA. The local people have rights to stay within the NPA, only voluntary resettlement may be an option for them to move out, but this would require compensation from the GoL. So far, the NPA has experienced inward migration from other provinces (Luang Prabang and Vientiane Provinces) to the NPA to Ban Navene, consequently increasing the population in the area. This in turn is linked to more forest land loss to agricultural expansion. Consequently, more issues of land use conflicts and shortages have been reported in the Navene village cluster. By 2009, more plots of agricultural land (at least 65 ha) were needed for 724 households and the NPA's forest land was taken. Furthermore, by 2020, over 200 ha of new land was claimed from outside the village boundary of Ban Naven Yai (Flint, 2020). In this regard, unless population size is controlled and agricultural land is stabilized, more forest land encroachment is foreseeable in the future. Of course, this is challenging for the NPA management especially for Ban Naven Yai.

8.5.5 Limitation of Government Planning Perception of the NPA

National Protected Areas are not well recognized by many decision-makers and sectoral planners. Development and infrastructure projects rank higher on the political agenda than

the conservation of an NPA. Instead of integrated planning, trying to balance the different interests

for the long-term benefit of the Lao people, short-term economic goals often override the GoL's conservation goals but often generate long-term negative impacts. The work of NPAs is narrowly viewed as only being the responsibility of the relevant NPA management authority. In reality, effective management of NPAs requires work that involves the local people and supports their development of sustainable livelihoods. This in turn requires all relevant provincial and district offices to take part and share in ownership.

8.6 General Constraints to Effective Conservation Management of the NPA

8.6.1 Limitation in the Implementation of Policy and Legal Framework

Although Lao PDR has good policy on biodiversity conservation and promoting community-based forest management, the implementation of the policy has not been effective. The new

Decree (No. 134 G) on Protected Areas issued on 13th May 2015 contains in Article 7 Section 1 the notion of 'national park'. Nam Poui NPA has potential for designation as a National Park and also as an ASEAN Heritage Park. The adoption of this internationally recognized protected area designation may enhance the international reputation, raising its profile as well as the attractiveness for overseas tourists. However, the appropriate approach for the National Park management system is currently under debate.

8.6.2 Limitation of Definition of Authority within the NPA

The National Protected Area unit is at a low level of the government structure with limited budget and staff which has made it difficult to operate effectively. At present, the Nam Poui NPA administration consists of 19 staff (including 4 volunteers) in Xayabouri Province. These staffing levels are likely inadequate for effectively managing the NPA of 191,200 ha. Some decisions on activities in the NPA have been made with neither prior discussion with the NPA MA nor DoF. Therefore, apart from strengthening the staff capacity and district level to help ownership for the NPA management, it is necessary to firstly upgrade the Nam Poui NPA Management Authority.

8.6.3 Limited Institutional Capacities and Resources of Local Partners

Acknowledging that the country has limited budget and staffing for NPA management, relevant district offices and local communities need to be involved in the collaborative management of the NPA. The successful implementation of the collaborative management approach requires strengthened capacities among all the collaborative management partners, apart from the NPA management authority it needs to include relevant government agencies especially district and some provincial offices, as well as the key villages.

8.6.4 Socio-Cultural Factors

Socially, variation in the capacities of the different ethnic groups do exist as some of the ethnic groups have reliance on forest resources to sustain their livelihoods, while others have been able to adapt better to agricultural systems, including paddy farming. Some are more open to adopting new agricultural technologies and improved rice varieties, etc.

For good and mutual collaboration, it is thus recommended to recruit extension staff to work on conservation outreach and livelihoods programmes. At the same time, district and NPA staff will require some general and specific technical training on how to succeed in working with them.

PART III MANAGEMENT P DESCRIPTIONS

9. CONSERVATION STRATEGY AND APPROACHES

9.1 Conservation Management Strategy

9.1.1 Conceptual Basis of Collaborative Management

The Nam Poui NPA is one of a few NPAs of Lao PDR that has developed a collaborative management plan and will use collaborative management practice for protected area management. The declared NPA which did not resettle people from the area, allows local communities to legally live inside and adjacent to the NPA, and they also rely on natural resources in the NPA for their livelihoods. To achieve the NPA management requires working with local communities and other stakeholders. Therefore, the collaborative management approach is applied as “joint management of natural resources with villages inside and adjacent to the protected area and other stakeholders through mutually-agreed mechanisms that the stakeholders have developed together in order to achieve common and mutually agreed goals.” The key stakeholders must be involved in decision-making processes right from the beginning.

Collaborative management is a shared responsibility among various levels and sectors of the governance structure to support the community-based natural resource management by creating direct positive links between biodiversity conservation and development issues. As such, it is a partnership arrangement primarily between the government authorities and the local communities to share roles and responsibilities as well as benefits for protecting and managing natural resources and enhance the livelihoods of the rural communities. Effective conservation outreach is a critical step to build ownership of local villagers and relevant government offices at the district level.

9.1.2 Approach

The collaborative management of Nam Poui NPA is a partnership where the management authority must share roles and responsibilities, not only with local communities but also relevant provincial and district offices, NGOs and private companies who have been working or are interested to work in the NPA. The arrangements should be beneficial to all partners including benefit sharing to sustain the mechanisms.

The collaborative management approach at Nam Poui NPA for first five-year plan will work closely with 19 villages, of which 14 priority villages are the most relevant for the management of the Nam Poui NPA as they are located in and mostly straddle/are closely adjacent to the NPA, entrance area, and they are poor villages (see Table 2). The possible livelihood activities for the target villages to be promoted must not generate negative environmental impacts. There should be clear and measurable links between livelihood improvement and conservation outcomes. The specialists from Nam Poui NPA management team and DAFO who are responsible for livelihood development must have an understanding of conservation aspect. Besides, they must be able to support environmental education.

Each district will have a District Coordination Office for Nam Poui NPA which will function in liaison with relevant district offices on implementing outreach, law enforcement and livelihood development in the district, and will also provide back-up for the sub-station located in the district. District Implementing Teams (DIT) will include the outreach, law enforcement and livelihood development teams. Therefore, the District Coordination Office (DCO) will have staff assigned from each participating district to work for the Nam Poui NPA at their districts, and they will take ownership to conduct the work according to the agreed plan.

To make the collaborative management approach and practice work effectively at Nam Poui NPA, it is important to follow good governance principles such as:

- Respect for local rights and the rule of the law
- Promotion of constructive dialogue
- Fair access to information
- Accountability in decision making
- Existence of institutions and procedures for dispute resolution
- Fair and equitable sharing of benefits

9.1.3 Adaptive Management of Protected Area

The collaborative management of the protected area starts from understanding the site status and defining priority issues/root causes for sustainable and systematic solutions under the principles of collaborative management. Results of the ongoing implementation of the management plan would show some good points, weak points and constraints which the implementing teams at each level - especially the district level who work on the ground, can share as lessons learnt. Those lessons learnt can be summarized and analysed together through an annual meeting for adaptive management in as part of the annual planning cycle. It is the approach of Open Standards used in order to adapt the plan appropriately and implement protected area management appropriately and more effectively.

9.2 Management Policies for Nam Poui NPA Management

9.2.1 Priority Villages

Acknowledging that the country has limited budget and staffing for NPA management, relevant district offices and local communities need to be involved in the collaborative management of the NPA. The successful implementation of the collaborative management approach requires strengthened capacities among all the collaborative management partners, apart from the NPA management authority it needs to include relevant government agencies especially district and some provincial offices, as well as the key villages.

Nam Poui NPA has a total of 37 villages situated inside, on the boundary, and nearby the NPA. Overall, the collaborative management approach at Nam Poui NPA will be working closely with 19 key villages at least, but the most important villages are those located inside the NPA, straddling the boundary, or immediately adjacent to the NPA, or are at the periphery while having direct access roads to the NPA; and are poor villages. Removing those village that are not really poor means that 14 villages are finally prioritized as being the most important for establishing collaborative management during the first five-year plan and which are to be provided with necessary management interventions (see Table 2). Of the 14 villages – there are 5 villages in Phiang District (Ban Navene, Ban Pak Xong, Ban Nam Ngap, Ban Viengkham and Ban Namor); 5 villages in Paklay District (Ban Vangphamon, Ban Na Khayang Ban Na Xaeng, Ban Phon and Ban Phonkham); and 4 villages in Thongmixay (Ban Khaen, Ban Dan, Ban That and Ban Na Peuy).

9.2.2 Land Use Planning

Land use planning (LUP) for zoning of the protected area, is very important as a basic element of protected area management planning. The first LUP of the NPA villages was conducted in 1996 and some more was conducted between 2009 to 2018, but the full process was not completed and was not detailed at the family level. Recent land use planning was conducted in NPA related villages in Thongmixay District with funding support from GIZ project, while family level LUP work was implemented in Ban Navene funded by

WWF in 2019. In 2020 more work was carried out in four villages by the BCAMP project applying the FALUPAM approach or

“participatory Forest and Agricultural Land Use Planning Allocation and Management”. A full explanation of this process is provided in the FALUPAM Manual, available in both Lao and English languages.

This work must be reviewed and completed for enclave and straddling villages of the NPA, and regulations on land use and conservation agreements need to be put in place to enforce it. The technique of Forest and Agriculture Land Use Planning, Allocation and Management (FALUPAM) will be applied. The enclave villages will have their land allocated within the Controlled Use Zone (CUZ) for agricultural and other purposes based on the land use planning programme.

Although the strategy of land use planning will restrict local villagers from claiming more agricultural land by converting forest land, it is hard to solve the issues completely unless population growth stabilizes. Once, this happens, then effective land use planning shall ensure that their land is used efficiently and productively. It requires regular monitoring of the land use by relevant district offices e.g DAFO. Therefore, reducing the rate of population growth in the NPA by any means can help address long-term land use conflicts and shortages. Recommendations for additional necessary LUP activities in villages in and around Nam Poui NPA are provided in table 26.

Table 26: List of NPA villages for previous and further needs of land use planning

Nr	Village	Village Type			Previous LUP	Evaluation	Remarks
		Type 1	Type 2	Type 3			FALUPAM Required?
Phiang District							
1	Pakxong		X		DAFO:2009. SUFORD:2011	Old, not detailed	Yes,
2	Navene	X			DAFO:2009. SUFORD:2011	Old, not detailed	Done L2 (ACB/BCAMP)
3	Nam Ngarp		X		DAFO:2009. SUFORD:2011	Old, not detailed	Yes
4	Khounphon			X	DAFO:2009. SUFORD:2011	Old, not detailed	Yes
5	Namor			X	DAFO:2009. SUFORD:2011	Old, not detailed	Yes
6	Namphon			X	DAFO:2009. SUFORD:2011	Old, not detailed	Yes
7	Houayhan			X	DAFO:2009. SUFORD:2011	Old, not detailed	Yes
8	Nalae			X	DAFO:2009. SUFORD:2011	Old, not detailed	Yes
9	Phonsa-at			X	DAFO:2009. SUFORD:2011	Old, not detailed	Yes
11	Somsavat			X	DAFO:2009. SUFORD:2011	Old, not detailed	Yes
12	Vangkham		X		DAFO:2009. SUFORD:2011	Old, not detailed	Yes
10	Na-oum		X		DAFO:2009. SUFORD:2011	Old, not detailed	Yes

5	Phonthong		X		DAFO:2009. SUFORD:2011	Old, not detailed	Yes
13	Nakong		X		DAFO:2009. SUFORD:2011	Old, not detailed	Yes
14	Phonsak		X		DAFO:2009. SUFORD:2011	Old, not detailed	Done L2 (ACB/BCAMP)
Paklay District							
1	Na Khayang		X		None	Not relevant	Done L2 (ACB/BCAMP)
2	Vangphamon	X			None		Yes
3	Nakang			X	None		Yes
4	Pangkham		X		None		Yes
5	Naxaeng		X		None		Yes
6	Khoksavan		X		None		Yes
7	Thamixai			(4)	None		Yes
8	Houay Motsom			X	None		Yes
9	Phon		X		None		Yes
10	Meuang Va			X	None		Yes (level 1 only)
11	Bouaban			X	None		Yes (level 1 only)
12	Na-mai			X	None		Yes (level 1 only)
13	Houay Saykhao		X		None		Yes
14	Pon Kharm		X		None		Yes
15	Houay Khouay		X		None		Yes
Thongmixai District							
1	Na Peuy		X		GIZ, 2017	Good, but some viewed	Check, update + improve CUZ
2	Namon		X		GIZ, 2017	Good, but some viewed	Check, update + improve CUZ
3	Dan		X		GIZ, 2017	Good, but some viewed	Check, update + improve CUZ
4	Khaen	X			GIZ, 2017	Good, but some viewed	Done L2 (ACB/BCAMP)
5	Na Mouang		X		GIZ, 2017	Good, but some viewed	Check, update + improve CUZ
6	Donphou		X		GIZ, 2017	Good, but some viewed	Check, update + improve CUZ
7	Nanork		X		GIZ, 2017	Good, but some viewed	Check, update + improve CUZ
8	That		X		GIZ, 2017	Good, but some viewed	Check, update + improve CUZ

9.2.3 Conservation Agreements and Benefit Sharing

Conservation Agreements (CAs) are required when any target village is granted village development funds or support for livelihood development activities. The CAs of Nam Poui NPA Management Authority and villages will be signed by the district governor, witnessed by Nam Poui NPA MA and other relevant district offices. The CAs should be made at least for each priority village. It is as part of their commitments and responsibilities toward protected area management within their areas of responsibilities.

All key partners and involved parties should acquire knowledge through trainings, workshops, study tours, information sharing, and some incentive support for fieldwork. Particularly, local villagers shall be supported in their livelihood development. The necessary funds may be mobilized from donor projects and sourcing from the NPA. Mechanisms for the benefit sharing for collaborative management of the Nam Poui NPA should be developed based on available experience and to compensate villagers for the opportunity costs they incur. Ideally, to encourage compliance, benefits should be a mixture of individual and communal benefits, and need to be established as part of the conservation agreement process.

9.2.4 Illegal Logging

To address and prevent illegal logging activity in the NPA, although logging has been banned there are still some cases of small-scale logging by some local villagers. The NPA management authority needs to strengthen and empower the village authority with village patrol teams. All illegal chainsaws shall be considered for confiscation in the NPA villages by a task force team. A few chain saws may be allowed per village for house construction, but they need to be registered and managed by village authorities and only given to trusted villagers to borrow for necessary works. The management team of the Nam Poui NPA must take initiative and be strengthened to work together with relevant district sectors to follow-up on the law enforcement. Each village has to prevent outsiders from illegal entry, and needs to check and report any cases. Anyone who is found in the NPA villages to purchase any forest products without permit must be reported to the village chief and relevant offices (the District Coordination Office for the Nam Poui NPA)/DAFO for investigation. In particular, suspicious foreigners entering the NPA villages for purchasing some forest products must be carefully inspected and not allowed to enter the NPA for any purpose without permit.

9.2.5 Illegal Hunting

In general, wildlife hunting is not illegal but must follow the given regulations of protected area management and wildlife conservation. Hunting for household consumption is fine according to the law as long as it is done using a local method and in a permitted area and involves hunting of common species. Since hunting is a key issue degrading biodiversity, it needs to be addressed strategically by working with local authorities, from village to village and district to district. All key relevant stakeholders need to take part of the responsibility to address illegal wildlife hunting, not only the priority villages but all the NPA villages. Firstly, investigate target poachers⁶ in each village and even officials of each district who are involved in hunting should be made. It needs time for local people to adapt, change and build their understanding and ownership for PA management. The local poachers should be firstly educated and warned to quit with options to change their practices, but for the non-local poachers they should be arrested immediately. The NPA management authority needs to strengthen and empower the village authority with village patrol teams to conduct law enforcement/patrolling and to have rights to arrest poachers in their village territory. All unregistered and homemade guns as well as all illegal hunting and fishing gears in the NPA villages need to be collected and destroyed. Army guns need to be registered, recorded and managed properly. All the villages that have an access road to the Nam Poui NPA need to voluntarily check outsiders entering the NPA. Any hunting gears in the market should be inspected and confiscated in each district.

Dissemination of the law, and conservation education will be conducted in the NPA villages. Then, specific consultations with the target poachers of each village will be conducted to find solutions together. Most importantly, the target poachers have to be made aware that entering the TPZ, hunting in the NPA for sale with guns and even a large snare is illegal and offenders will be severely punished in line with the national wildlife law/decreed/regulations. Everyone

⁶ *The target poacher is the person who has been involved in either hunting or illegal logging more frequently.*

must comply, and no exceptions shall be given especially for those outsiders, including officials and soldiers.

9.2.6 Collection of NTFPs

Collecting NTFPs is necessary for local communities as they rely on forest products for household consumption and household income. However, they must follow the law and regulations in order to prevent overharvest. For rare species the harvest has to be completely stopped such as Wan 37, Wan Kankhot and also berberine vines in the NPA. Provincial and district authorities should be aware which species are becoming rare and that need to be banned for harvest for some years unless they regenerate. Harvest quotas should not be issued for rare NTFP species by the government (e.g berberine vine and Wan 37). The harvest of some NTFP species should be zoned and appropriate harvest techniques need to be designed and promoted. Some good examples of sustainable harvest of forest products such as Mak Khor are applied effectively in Ban Navene as traders do not buy the fruit that is scarred from cutting down the tree to collect the fruit. As a result, there is no Mak Khor tree cutting in Ban Navene.

Non-rare species shall be harvested in the CUZ and collected for sale with permits only. Each village shall establish a village user group for NTFP harvest and management. Only the user group shall be allowed to sell to traders and part of the revenues shall be given to the patrol team protecting the NTFP resources. Often, success factors are due to a strong village leadership, local ownership and fair benefit sharing so it is important that village leadership enhanced. In addition, cultivation of some important NTFP species in CUZ, BuZ and villagers' gardens is necessary.

9.2.7 Upland Cultivation

Due to the fact that lowland areas appropriate for paddy field rice cultivation are limited in mountainous areas of Nam Poui NPA, there is no option apart from hill rice cultivation for local communities. The hill rice cultivation has been largely practised in the Navene village cluster and that has impacted on forest land with population growth over time. Ban Khaen on west, Ban Vangphamone on west and Pak Xong on northeast have also taken some land in the NPA for agricultural practice. Land use planning is the mechanism to control forest land expansion. It needs to be ensured that agricultural activities are not expanded further into marginal forest land and the use of fires should be strictly controlled. However, the agricultural land allocated for each household and village should be sufficient for 10–15 years time, including enough land for 5 years of fallow rotation. In addition, it needs to improve rice varieties and means of soil replenishment in agricultural land such as through growing Leguminosae, need to be found.

9.2.8 Cattle Grazing

The exact impact of overgrazing is not well studied but the overall impact of grazing may be still limited and may not yet be an issue for Nam Poui NPA. It is more about disturbance to wildlife by the cattle owners in case their cattle enter deep the forest. Cattle compete with wildlife for minerals and generate some conflicts from e.g. cattle being killed by tigers. In principle, there is also the possible risk of transferring diseases from domestic to wild cattle. Domestic Elephants and some cattle (buffalos) are released in the NPA for free ranging. The Domestic Elephants enter deep into the forest – the proposed Totally Protected Zone. Besides, grazing areas must be identified and cattle owners must manage and control their animals in the NPA. Therefore, rotational grazing with fencing and planting weeds for feeding cattle may be a management option that needs to be explored in the future.

9.2.9 Forest Restoration

Most degraded forest in Nam Poui NPA is observed in the northern zone that belongs to Navene

village cluster and also the northeast from Ban Pak Xong down to Ban Phon Sa-at and partly until Ban Thongkong where forest habitats are degraded due to ongoing forest fire. Land use planning can define forest for rehabilitation and wildlife habitat. It has to identify some potential forest to be regenerated. The rehabilitation forest should still have sufficient regeneration potential to recover once effectively protected, ensuring no forest fire. Assisted natural regeneration and steering of natural successions are more appropriate forest management strategies for the NPA than plantations. Therefore, as long as forest fire is prevented it can help regenerate the forest faster and that can contribute to enhanced forest cover in the NPA. In addition, some areas in the central-north-eastern NPA are highly degraded and likely need to be enriched with some native species that have already been lost from the area.

The key mineral lick in the north-eastern part of the NPA known as Pong Bo of Houy Salang which was popularly used by wildlife in the past, is degraded today. The forest adjacent to the mineral lick was slashed in preparation for paddy field cultivation but it was abandoned when it was found to be illegal. This mineral lick should be further rehabilitated. Also, Pong Sa-at is likely degraded since there are high levels of disturbance and forest loss around the area.

9.2.10 Human Elephant Conflict

Wildlife conflict has been reported with elephants in some villages (Ban Vangphamone and Ban Phonsak), involving crop raiding and one person was killed by an elephant but so far, no elephants have been killed because of the conflict. At present, local villagers are still thinking positively about the elephants as they realized that some issues with elephants arise because of human expansion of agriculture into land previously occupied by elephants and disturbing them. However, the human-elephant conflict will likely increase in the future with more pressures from population growth. Therefore, strategically ways of how-to live-in harmony with elephants need to be found. Mitigation measures are necessary to be undertaken but these are mostly just a short-term solution, temporarily chasing elephants away. It is noted that making loud noises (eg with fire-crackers or guns) to chase elephants away from farms can make the elephants more aggressive. Even electrical fences have only been successful for a limited period of time, until the elephants learn how to deal with them. Therefore, for a long-term solution the local people need to adapt to the situation, by making the local communities more resilient to living with the elephants. Applying some livelihood activities and planting some crops that are not fed on, or destroyed by elephants such as raising honey bees and planting chili as well as raising cattle are options. To limit human encroachment/forest land conversion toward the NPA some plots should be abandoned and allowed to revert to elephant habitat. In addition, some funding for compensation for crop damages should be set.

9.2.11 Ecotourism Development and Management

Ecotourism development is one of the important activities for Nam Poui NPA management and is to be developed (including necessary facilities), and promoted through a concession system. The necessary facilities for ecotourism will include a visitors' centre, eco-treks, camping ground, signboards of information/ direction, brochures etc. These facilities will be invested in as necessary with funding available. Meanwhile, large ecotourism development projects need to have a concession to some private company who is interested to invest and committed toward conservation. Most importantly, it needs to have an appropriate mechanism for benefit sharing and collecting fees for the NPA management.

9.2.12 Environmental Assessment and Other Mitigation Measures

The NPA can be impacted from some development projects such as hydropower dam, road and mining projects but only in a few cases have biodiversity offsets been set for the NPA management although this is theoretically required by relevant laws and decrees. NPA

officials have rarely been invited to discuss such development projects from the beginning of project design - the prior project consultations.

The biodiversity offsetting process ideally occurs as part of the Environmental Impact Assessment process so NPA managers/staff have to be involved. A biodiversity offset is a way to demonstrate that an infrastructure project can be implemented in a manner that results in no net loss or a net gain of biodiversity. It can be defined as “measurable conservation outcomes of actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken”. Therefore, if any infrastructure development project is relevant to an NPA, the officials should be involved from the beginning of project design - the prior project consultations.

9.3 Management Interventions

9.3.1 Participatory Land Use Planning

Participatory land use planning (PLUP) is an important element of land management and zoning for protected area management. Both macro-zoning e.g. identifying areas of critical habitat that will be proposed as Totally Protected Zones (TPZ) and micro-zoning at village/family plot level are required. The full participation of the villagers in the land-use planning process is pivotal to have a clear and mutually-agreed understanding of land use in the village. As described earlier, some villages do not have participatory land use plans, while others require updating.

PLUP also plays an important role in solving land use conflicts. Land use planning should be comprehensively conducted in the target villages. It needs to be ensured that the village activities are not expanded further into marginal forest land and the use of fires should be strictly prohibited. However, if some villages have just completed the land use planning recently it would just require a review. The agricultural land allocated should be sufficient when considering the needs of each household in enclave and straddling villages and the requirement of at least five-year fallows for rotational cultivation, and bearing in mind the estimated population growth and needs for at least 15 years.

Most importantly, it has to be ensured by the NPA MA and the local authorities that the prescriptions of the PLUPs are demarcated on-the-ground and that every villager is aware of the land-use boundaries. The content of the PLUPs should be fed into village regulations and conservation agreements for the given livelihood development activities. Lastly, monitoring of land use and village regulations is necessary and shall be conducted regularly at least twice a year.

The approach/methodology used in implementation of the Nam Poui Management Plan will be FALUPAM. This has already been tested in four villages to different stages of completion. In the implementation of the management plan, this process needs to be completed, at least for the 14 priority villages, and particularly for the enclave villages. FALUPAM can be conducted to different degrees:

- ☞ Level 1 is forest and land use planning to land use area or zone level only - as, for example, was done in BCAMP supported work in Ban Khaen, Thongmixay District
- ☞ Level 2 is forest and land use assessment, and then planning, to family level as, for example, has been started by the BCAMP project in Ban Phonsak and Ban Na Khayang. This level is ultimately much more effective than level 1, and should be required for all villages with agricultural land inside an NPA, but does cost more as it is more detailed.

The proposed plan for implementing and completing FALUPAM forest and land use planning in villages in and around Nam Poui NPA is based on various factors such as:

- (i) the quality of LUP previously undertaken;
- (ii) how long ago the LUP was undertaken; and

(iii) the location of the village w.r.t. the NPA boundary.

In Phiang District, while DAFO (in 2009) and then SUFORD (in 2011) did some form of LUP in most Nam Poui NPA related villages, these LUPs were deficient in various and many aspects. They are also now out of date, especially considering the rapid pace of agricultural development in this region. Thus, good pFALUPAM must be undertaken in all these villages. In addition, the FALUPAM started in Ban Navene and Ban Phonsak by the BCAMP project must be completed. About USD 55,000 is required to conduct FALUPAM in the 15 NPA related villages of Phiang District, as follows:

- Conduct FALUPAM to area/zone (Level 1) in 9 villages x USD 3,000/village = USD 27,000.
- Conduct FALUPAM to family land plot (Level 2) in 4 villages: 4 x 6,000 = USD 24,000.
- Finish FALUPAM to level 2 in Ban Navene Yai and Ban Phonsak: 2 x 2,000 = USD 4,000

No evidence can be found of the past conduct of any FLUP in 15 NPA related villages in Paklay District, although it is likely that the GoL LUP/LA process was undertaken in the 1990's. Thus, FALUPAM is required to be undertaken, from scratch, in all villages. It is proposed that all villages with some agricultural land inside the Nam Poui NPA - assumed to be 7 villages – conduct FALUPAM to level 2, while the remaining 7 are conducted to level 1. In addition, the pFALUPAM started in Ban Na Khayang by the BCAMP project must be finished. The budget required is about USD 65,000:

- Conduct FALUPAM to area/zone (Level 1) in 7 villages x USD 3,000/village = USD 21,000.
- Conduct FALUPAM to family land plot (Level 2) in 7 villages: 7 x USD 6,000/village = USD 42,000
- Finish FALUPAM to level 2 in Ban Na Khayang: 1 x USD 2,000 = USD 2,000

The DAFO, with support from the GIZ LMDP project, conducted reasonably good LUP in Thongmixay District in 2017, but only to level 1. Thus, the LUPs in the 8 NPA related villages should be checked and improved, especially in village areas overlapping into the Nam Poui NPA. The budget required for this is about USD 32,000: Modified level 2, whereby family land plots inside the NBCA are surveyed and mapped, and the NBCA CUZ is much better planned and delineated in 8 villages x USD 4,000/village = USD 32,000.

9.3.2 Biodiversity Conservation, Research and Monitoring

Biodiversity conservation needs to ensure that the diversity of species and habitats of the NPA is being maintained and enhanced. Currently, populations of many wildlife species in the NPA have declined dramatically. In order to recover and/or maintain stable population sizes, hunting has to be phased out in the Nam Poui NPA. Gibbons, large mammals and large birds need to be totally protected. Biodiversity recovery plans for certain species such as gibbons or other large mammals should be prepared. A Totally Protected Zone (TPZ) must be designated and enforced effectively as to reduce disturbance. It is believed more wildlife populations could rebound and it is possible for some to return from Doi Phou Kha National Park of Thailand. Transboundary conservation with Thailand is therefore necessary to monitor movement of some large mammal species through technical collaboration. Mineral licks are critical habitats for many wild animals so all of them need to be protected and recovered. Management interventions, law enforcement, habitat rehabilitation and transboundary collaboration will all contribute to biodiversity conservation of Nam Poui NPA as a whole.

A biodiversity monitoring system should be in place to track progress with biodiversity

conservation. Conducting joint monitoring with local communities to track key species and protecting their habitats is necessary. The biodiversity monitoring will record and report the presence of indicator species and changes over time which could be positive, stable or negative changes. Appropriate indicators should be identified systematically, in relation to the management objectives such as maintaining habitat connectivity, reducing forest fire, reducing hunting pressure, etc. An initial selection of three indicator species for biodiversity monitoring in the Nam Poui NPA is proposed as follows:

- White-handed gibbon: A keystone species, that can also be used as an indicator of habitat connectivity, and in addition can be used as a flagship species in classroom education in local schools; nature interpretation for park visitors, and outreach with local communities
- Asian elephant: an umbrella species that can also be used as an indicator of forest fire, and in addition can be used as a flagship species in classroom education in local schools; nature interpretation for park visitors, and outreach with local communities
- Sambar deer: can be used as an indicator of hunting

Monitoring protocols which are effective and practical need to be developed and adopted which can combine both scientific-based and community-based approaches. This may involve a combination of higher cost approaches such as extensive use of camera traps, as well as lower cost methods such as listening for gibbon calls from listening posts, and elephant dung counts along defined transects.

Using the defined indicator species will inform about changes in biodiversity (positive or negative) based on the regular and repeated surveys, using a consistent monitoring methodology. The monitoring will be conducted mainly by NPA staff with local villagers who are trained on the approach and species identification. Community-based biodiversity monitoring is recommended for Nam Poui NPA since a collaborative management approach is adopted. There will be both formal and informal monitoring approaches. The formal monitoring means that the villagers (village monitoring teams) conduct regular monitoring (monthly or quarterly) with the NPA and district staff team, using a scientific sampling methodology. The informal monitoring is where the villagers just report their encounters with indicator species within their village areas, and keep these records in a village log-book, which will at least inform about trends in presence or absence of the species in different parts of Nam Poui NPA at different times of year, but may not allow for more detailed scientific analyses.

Monitoring for tracking a species diversity and moving patterns of large mammals through village logbooks and camera trapping will be conducted for Nam Poui NPA. As part of collaborative management some rare and large mammals will be defined and to assign for some villages to help record when they encounter them at their village territory areas. Also, camera trapping is most important monitoring tool for tracking terrestrial animals so to design for camera trapping to be taken objectively and strategically. Of course, to record a species diversity will focus on mineral licks, water sources, mountain ridges, and at any wildlife routes.

9.3.3 Outreach and Conservation Awareness

Outreach and conservation awareness are designed to influence how people gain information and learn skills to become responsible citizens, as well as to explore ways to stimulate changes in specific behaviour. It is not about just dissemination of information about laws and regulations. There will be various techniques of outreach and materials to be designed which are dependent on the specific target groups and communications capacity. The approach needs to first analyse drivers and root causes of threats to be solved, and then

to understand what motivates the specific problematic behaviour of each of the target groups, as well as identifying influencers that can affect the target groups' behaviour. The overall approach is one of Social and Behaviour Change Communications (SBCC). This approach has been used successfully in the health

sector for decades, but is only recently being adopted in the environmental sector. Sometimes this will need to go hand-in-hand in parallel with law enforcement to be effective. Responsible staff needs to understand the level of communication acceptance of various target groups, such as the district and provincial urban populations, officials, villagers living in and around Nam Poui NPA, and youth/students. Opinion leaders such as trusted senior officials should be well educated first to function as a good example for public and local villagers, in particular. The involvement of women is key because they can help influence the behaviour of men (husbands) toward sustainable use of forest resources including hunting. To convince people living in and around Nam Poui NPA to change their behavior requires that we first understand what motivates that behaviour, and then design interventions that help them to discover alternative ways to achieve their objectives that may be even more beneficial for them. For target groups living further away from the NPA, communications efforts should be targeted at increasing their appreciation of the value of the ecosystem services that Nam Poui NPA provides for them.

Different groups of people need to be addressed in different ways. To address school pupils, efforts should be made to integrate conservation related issues into existing school curricula. The purpose is to provide information to students on the importance of conservation for them, and to stimulate them into being lovers of forests and wildlife. An approach needs to be discussed with the Provincial Education and Sports Office, and relevant District Education and Sports Offices to agree on how to include some sort of local curriculum to train interested teachers in NPA villages to obtain some basic conservation knowledge. Last but not least, school teachers of the NPA villages should be provided with teaching materials related to conservation. Some conservation-related contests for the NPA villages' schools (e.g drawing, song and sport contests) should be conducted annually.

9.3.4 Law Enforcement

Law enforcement should immediately begin after law dissemination and conservation outreach campaigns. As a first step, all illegal gears of hunting, fishing and logging (chainsaws) shall be collected by an *ad hoc* team throughout the participating districts. Village patrol teams shall be formed in each NPA village to conduct regular patrols with district law enforcement teams, including Nam Poui NPA staff. SMART patrolling may be used in order to identify and map hotspots and threats and improve monitoring, reporting as well as follow-up. However, responses to the threats should be undertaken effectively.

Six patrol zones have been identified as follows: (i) West at Thongmixay, (ii) Central-East at Na Khayang (most part of Ban Vangphamone's territory and Nam Sanoung), (iii) North-East at Ban Phonsa-at (most parts of Phou Tong/southern Phou Pu), (iv) North-West at Navene and (vi) North at Nam Xong and (vi) South at Phou Sankhiew (see Annex 9).

Key Zone	Patrol	Kumban and key villages for responsibility of patrol.
West (Thongmixay)		Thetsaban Thongmixay: the key villages are Ban That, Ban Dan and Ban Khaen. This is main part of military zone.
Central-East (Na Khayang)		Hatdai-Phon Ngam: the key villages are Ban Vangphamone, Ban Na Kha Ngang and Ban Pangkham
North-East (Phonsa-at)		Phonsa-at: the key villages are Phonthong, Ban Nakong, Phonsak, Nam Oum, Viengkham
North-West (Navene)		Navene: the key villages are Ban Navene (Na Samphan and Na Ngeun). This is main part of military zone.
North (Nam Xong)	(Nam Xong)	Navene and Thetsaban: the key villages are Ban Navene (Na Samphan and Na Ngeun). This is part of military zone.

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Capacity of the priority villages for each zone will be built so that they can share responsibilities of the Nam Poui NPA management through controlling access, addressing threats and conducting patrols as part of collaborative management.

There are three strategic Sub-stations of the NPA at Ban Vangphamone for Paklay District, at Nam Sing for Thongmixay District and at Ban Navene for Phiang District. These Sub-stations will be in charge of their own district territory management, focusing on the TPZ which is the core biodiversity area of the NPA. In addition, four Checkpoints shall be refreshed and established at critical locations (e.g along entrance roads). These are the Checkpoints at Ban Vangkham and Pak Xong of Phiang District; at Ban Phon and Ban Houy Khouy of Paklay District. Also, two other Checkpoints for The PZ which will be managed by the military and will be placed at Houy Saheun - the foothill of Phou Pod and another site at Phou Pom Pad Hoi “800” (see Fig. 15).

Three NPA staff will be deployed to stay each Sub-station. The Substation will get support from the District Coordination Office (DCO) and the NPA HQ as some villagers will be rotated to support the field team especially for patrolling. Checkpoints will be implemented by trained villagers and with regular support from the relevant DCO and the Nam Poui NPA HQ.

Field patrolling will be organized as Kumban base for the defined zones and the most relevant villages are defined above. There will be a regular patrol, special and ad hoc patrols to be arranged. The regular patrol will be organized quarterly and would take for 4–7 days in the forest, mainly by trained Kumban rangers and district staff/NPA staff. However, for the west zone (Thongmixay District), north-west zone (Phiang District) and Northern Nam Xong (Phiang District) should include soldiers and policemen, but the Northern Nam Xong is not really in high priority for patrol due to lower biodiversity value. Notedly, this section is very special for military which is limited to other people to access. The patrol team would be ca. 7–10 people per time which would vary by zone. The special patrol would be organized with military team, focusing along the Lao-Thai border and that could be organized twice a year and take at least for 7 days. The key zones are the west zone (Thongmixay District), north-west zone (Phiang District). The *ad hoc* patrol may be organized where necessary.

In addition, sudden, unexpected controls by an independent mobile unit shall be considered. Collected penalties shall be shared with the village patrol teams as well as informants in order to provide incentives. Effective law enforcement needs to encourage the local authority to stop illegal activities, to identify livelihood alternatives for poachers/loggers in their villages, and to prevent outside invaders.

9.3.5 Livelihood Development

Although, principally livelihood development is not really the task of protected area management it is necessary to include it for the protected area system of Lao PDR since people are living inside declared protected areas of Laos. Local villagers used to live with and rely on natural resources since ancestor. They do collect more forest products and demand more agricultural land with population growth. A people-centred approach is considered appropriate for protected area management in the country. Providing livelihood development for local communities is done with a hope to achieve reduced pressures on natural resources in the NPA. Conservation agreements are to be made with the villages with which livelihood development fund/activities are granted. The conservation agreement is the commitment that the local villagers/village authority agree to, including their responsibilities for patrolling. It is

about improving livelihoods of the people which is not only the responsibility of the NPA Management Authority but also other organisations, relevant district offices and development projects working in the area to help. Therefore, coordination of the most relevant organisations working in the area and government offices is necessary to harmonize livelihood development efforts.

In principle, support livelihood development should provide local villagers with appropriate livelihood alternatives and new income-generating possibilities. The livelihood alternatives should ensure that they can get sufficiency of food (rice and protein) which may involve development of some facilities e.g irrigation, to supply sufficient water for paddy fields and gardens. However, such high budget infrastructure development is beyond the livelihood alternatives that the management interventions of the NPA can provide. These require investment from some development projects and the government for such basic infrastructure development. Appropriate livelihood activities can be identified from the FALUPAM process of each village.

Supporting livelihood development of local communities is expected to stimulate the interest, participation and ownership of them over their natural resource management, and involves them in conducting regular patrols to curb threats, and reduce pressures on the PA. Provision of livelihood development support needs to be clearly and specifically linked to the conservation objectives of Nam Poui NPA. Livelihood support should deliver conservation outcomes. These conservation outcomes need to be defined in advance, before the livelihood support is provided. One approach to this is to design livelihood support around the development of “conservation enterprises”

The success of livelihood interventions in achieving conservation objectives can be evaluated by a combination of three sets of indicators: (i) biodiversity indicators (that will reveal the ultimate conservation outcomes); (ii) law enforcement indicators (that will reveal changes in illegal behaviour inside the NPA); and (iii) livelihood/well-being indicators of the local community (that will reveal changes in the villager’s status). While this will require significant effort, it is important that this is done, because a relatively large proportion of the Nam Poui NPA Management Plan implementation costs will be spent on livelihood support – and the evidence base needs to be assembled to demonstrate that this does indeed lead to conservation benefits.

The FALUPAM process can help to identify different opportunities and options available for each community. A number of possibilities to improve income that are already apparent relate to small livestock, annual crops/vegetables, fish ponds, agroforestry, and handicrafts etc. Overall, cash crop plantations (maize and jobs’ tear) and livestock raising (cattle) have been popularly practiced in and adjacent villages of the NPA but ways must be developed to reduce the impact of these activities (conservation outcome) while at the same increasing benefits to the community (livelihood outcome). For example, cattle grazing at the moment mostly consists of allowing the cattle to roam freely in the forest - this has potentially very negative impacts, on wildlife including:

(i) competition with wild herbivores for grazing; (ii) spread of bovid diseases from the domestic cattle to wildlife; (iii) killing of wild predators by the villagers as retaliation/protecting their livestock from being killed. The current COVID-19 pandemic also highlights the risk of zoonotic diseases spreading from wildlife through domestic livestock to humans, that is increased by letting cattle roam free in the forest like this. Defining specific areas for cattle grazing, and fencing these areas would therefore provide clear conservation benefits. Planting high quality food grasses, and providing vaccinations and regular veterinary care would improve the productivity of the cattle, providing livelihood benefits. This could be done in a collaborative way, with e.g. the NPA authorities providing the budget for the fencing materials and the grass seeds, and the villagers contributing their labour.

Assistance in building back soil condition and quality to improve crop yields, could be provided in return for commitments not to expand agricultural land beyond current boundaries – especially in the Navene cluster. In providing support for development of different products, what is important is to study the market demand first and assess the possibilities of linking local villagers to markets. Encouraging organic agriculture can have positive conservation outcomes (reduced use of chemicals inside the NPA) and also positive livelihood benefits if organic products can be sold for premium prices. The NPA MA could coordinate with relevant district offices to facilitate links to private sector actors who are interested to buy high quality, organic, sustainably produced products from local communities.

So far, the NPA has provided a village development fund for 29 families of 4 villages (Ban Navene, Ban Vangphamone, Ban Khaen and Ban Phonsak). A total of 110 million LAK (Kip) has been paid to support mainly cattle raising and cash crop plantation. The fund is sustainable and has expanded to include more families compared to the start-up. Some other villages received a village development fund (VDF) from other sources. Several villages of Phonsa-at village cluster received funds from the World Bank/SUFORD-SU Project for Phou Phadam National Production Forest. Mostly the VDFs have been successful and growing well e.g Ban Phonsa-at. However, the conservation impact is limited as no specific conservation outcomes were designed in advance, and no conservation agreements were made even for the NPA villages. Without designing the interventions to specifically deliver conservation outcomes, and without monitoring of conservation impacts from the fund delivery, it is not worth paying for livelihood development for conservation, the effort will not help address the threats.

The focus of livelihood support shall be given predominantly to poor households depending on natural resources. During the selection process, attention also has to be given to the motivation and capacity of the households. It will be important to provide good examples which can be replicated by others so for a piloting household it is not always necessary to be the poorest household but rather be one who can secure the success and train other people. This is because the poorest households may lack the required capacity and resources to become a model farmer. On the other hand, it is also important to ensure that livelihood assistance is not subject to “elite capture” by the wealthier, better educated and better-connected families in each community.

Strong technical support from relevant district offices is pivotal to achieve any work of protected area management. Government volunteers should be deployed to be working with local communities who can facilitate day-to-day livelihood development, information exchange and learning from practice. However, these volunteers must first develop a strong understanding of the conservation values and objectives of the Nam Poui NPA, and how development activities can support this. Village leadership and ownership to help the poor families should be built by the extension staff. Based on past experiences, funds for village development should not be established and directly handed over to village heads. Some conflicts arise for the village development when different donors have different amounts of fund per village. In reality, the strategic village of the NPA with larger and poorer status should have a larger fund. In this regard, so as to avoid some conflict it is better that the funds shall be disbursed by DAFO/Nam Poui NPA MA based on a jointly agreed village-Nam Poui NPA MA action plan. It requires a proper planning, approval and monitoring system for fund delivery and management. Therefore, it is not necessary to set a specific amount of village development fund per village but rather to develop a conservation-focused livelihood development programme with defined budgets for the plan.

Meanwhile, for the long-term strategy it must be found to slow growth of the population in the NPA by any means that will help address pressures on natural resources and the demand of forest land for agricultural practice. Therefore, providing access to education and vocational training to local villagers will help them to get other opportunities beyond agriculture. Also,

family planning should be part of the long-term strategy to reduce the population growth.

9.3.6 Ecotourism

Eco-tourism including cultural tourism is part of community and livelihood development and also a potential funding source for Nam Poui NPA Management. Under the prevailing budget constraints, the Nam Poui NPA Management Authority is not in a position to make required investment in ecotourism. Therefore, it needs to find good partners for ecotourism development who are strongly interested not only to take advantage of the NPA but also to generate important source of incomes for the NPA and local communities through any means of livelihood development and engagement in the ecotourism development. There is a need to identify zoning of areas with potential for tourism and to attract interested partners with financing. Some existing ecotourism initiatives in the NPA involved a small group elephant tour conducted by Nam Tien ECC – but benefit sharing has not yet been arranged. The ECC will invest for USD1.9 million for next 10 years as the project activities will include/contribute to law enforcement, human-elephant conflicts, NPA boundary and zoning management (ECC, 2019). The project beneficiaries based on the project proposal are 10 mahouts, 10 rangers and 1,400 local villagers, as well as other 35,000 people in 56 villages who will receive benefits from the project indirectly. But it is not clear yet for returning income from the business for the protected area management which to be negotiated further. Anyway, any tourism firms who have been working, or are interested to work, in the NPA should have an agreement with the NPA based on mutual understanding of zoning of use, operation and benefit sharing.

The main role of Nam Poui NPA Management Authority in the promotion of ecotourism is through effective management of the NPA and better law enforcement. This will help increase the attractiveness of the Nam Poui NPA for tourists. The potential tourism sites of the NPA that should be promoted are mainly in the territory of Ban Vangphamone of Paklay District, but also Phou Pod of Thongmixay District. The range between these sites are part of the proposed tourism zone for activities such as trekking.

There are some other sites with tourism potential in the NPA apart from wildlife spotting there are some waterfalls and locally known sites including Pong Sa-at, Phadeng, Pha Khom and Nong Khem which could possibly be established as local tourism sites. A visitor centre with interesting exhibition materials, campsites in the mountains, picnic grounds and signboards for visitors steering are included in the budget of the Plan.

The western part of the Thongmixay-Navene road, mainly the TPZ shall not be allowed for use even for tourism purposes, because of critical wildlife habitats as well as the military zone. Tourism business in such critical habitat can destroy biodiversity values by disturbance and so any negative impacts that would be generated from tourism businesses should be prevented and avoided as much as possible.

Surveys of tourism potential and facilities in the Nam Poui NPA will be conducted so as to develop production of information and outreach materials to encourage ecotourism development (e.g. leaflets, posters, visitor maps, video clips, radio campaigns etc.). This is to communicate to interested tourism investors. Besides, the Nam Poui NPA staff should get trained and then train field guides from the villages in order to support community-based ecotourism and job generation in the NPA. It is not recommended that the Nam Poui NPA MA develop and manage tourism facilities themselves. Instead, they may award concessions to service providers and collect annual fees. A system needs to be established to determine appropriate fees. Fair and equitable benefit sharing of tourism revenues is another important point which needs to be addressed.

9.4 Protected Area Regulations

9.4.1 Development of Regulations

As mentioned in Chapter 5 (5.3.1) above, a number of national laws and decrees apply to NPA Management and this plan is translating them into practice. The main content of the NPA regulations will be about protecting forests and wildlife - biodiversity as whole by categorizing species and forest zoning for protection and management legally. The Nam Poui NPA and the relevant District authority will develop the protected area regulations with local communities and relevant provincial and district offices which shall then provide legal guidance on law enforcement. Zoning will be discussed through the FALUPAM process to agree on what can or cannot be permitted in the TPZ and CUZ including the sub-zones relating to village sustainable use of forests and wildlife. Conservation agreements for village collaborative management will be made as part of the NPA regulations for the villages with assisted livelihood development.

Once again it is also recommended to prescribe some general rules for approved and unapproved activities in the BuZ for which local communities' participation is strongly required. Any regulations, including conservation agreements must be prepared in close cooperation with relevant local communities of the NPA.

9.4.2 Amendment of the Protected Area Regulations

The protected area regulations shall be continuously reviewed and revised to take account of new policies, new understanding of NPA values, or progress in the development of the collaborative management system. Practical experience from management practice will help improve the Nam Poui NPA regulations from time to time. The village conservation agreements shall also be amended through close consultations with relevant villages and Nam Poui NPA Management Authority and then endorsed by the concerned district authority.

9.5 Staffing, Office Operation and In-house Capacity Building

Nam Poui NPA will use a small staff to work effectively as they can function by helping each other and facilitating other key partners to help with the majority of the on the ground work. Using appropriate mechanisms of the Nam Poui NPA management, they can control the quality of work and ensure transparency. The steering committee for the Nam Poui NPA with direct connection to DoF, PAFO and DAFOs, and DCO/DIT and local ranger teams will implement the Plan successfully.

Most importantly, the livelihood of the Nam Poui NPA staff team will be developed as an example for some other NPAs regarding their staff well-being. Most staff do stay at the HQ where they cultivate vegetables and fruits, and raise livestock (chickens, fish, goats etc). The office can demonstrate some good examples of cultivation for household incomes from which local communities around the NPA can learn.

9.6 Special cooperation

9.6.1 Military Cooperation

Nam Poui NPA has a long international border with Thailand which requires military to participate in the implementation of the Nam Poui NPA Management Plan. So far, military has been well participated in field patrolling and other relevant activities of the Nam Poui NPA management. Since the entire western section of the NPA is defined as military zone⁷ so permission is required from the Frontier military authority to do patrolling in the area. The defined

⁷ *The Military zone according to the Decree No. 111 is ca. 15 km away from the international border; however, the most prohibited zone is 2 km along the border.*

patrol zones and that relevant to military are the west zone of Thongmixay District, north-west zone of Phiang District and Northern Nam Xong of Phiang District (see Annex 9). There will be a regular, special and *ad hoc* patrols to be organized. The military camps which are based at the field have involved and agreed to response for management and operation the Checkpoints of TPZ control at Houy Saheun on south of Phou Pod and another side on north just by Phou Pad Hoi. Apart from that, military will involve in any other activities of law enforcement including gun registration and collection in their districts, as well as conservation awareness raising at military camps. For this cooperation, there will be some honorarium to support the military's responsibility for the Nam Poui NPA management. As a whole, coordination mechanism between Nam Poui NPA Management Section and Military should be in place. Any important decision that relevant to the military zone (see Annex 9) shall be requested for approval to Provincial Military and for National Defense. Therefore, the special cooperation at the national level between Department of Forestry/Ministry of Agriculture and Forestry and Department of Secretariat/Ministry of Defense to support the Nam Poui NPA management will be arranged.

9.6.2 International Border Cooperation

The western section of Nam Poui NPA has overland bordering with Thailand. It is an International transboundary for 130Km long from the upper Nam Phoun Noy on the west of Ban Khaen to upper Nam Xong on the north of Ban Navene. It connects to Doi Phou Kha National Park and Phou Fa non-Hunting Area. So far, the staff team of Doi Phoukha National Park/Nan Province have had some cooperation and they are interested to work with Nam Poui NPA Management Office for transboundary conservation. Thai official attended in the meeting which was held in Luang Prabang Province in 2018. The Thai officer proposed for a transboundary cooperation, including joint-patrolling and monitoring. Also, official visits of Xayabouri Province especially those from Thongmixay District to Nan Province of Thailand were held occasionally. Therefore, transboundary conservation with Thailand is necessary especially when this NPA is designated to ASEAN Heritage Park. However, it needs to have an agreement for this cooperation. First visit to Thailand, Doi Phou Kha NP for consultation planning of this cooperation will be held and invite them to visit Nam Poui NPA Management office. Technically, the cooperation between Lao and Thai officials for transboundary conservation and monitoring is possible but it needs to work out from case to case as some zone is not allowed foreigners to visit in Nam Poui NPA especially the military zone. Staff exchange between the two countries would be defined and could be organized annually. The Thai side have better knowledge and experience in conservation which would benefit Laos from this cooperation. The target species for monitoring will be Asian Elephant. It is necessary to know the population of Asian elephant in Thai side by the Nam Poui NPA and their moving patterns, including historical and current status of the species.

10. ZONING WITHIN THE NAM POUI NPA

10.1. Introduction

Protected area management planning according to the Lao Law requires zonation of NPAs to identify Totally Protected Zones (TPZ) for protection of biodiversity with limited access; Special TPZ for specific and small area located outside the TPZZ; Controlled Use Zones (CUZ) for use under regulations for sustainable forest use, agricultural practice and other activities, Tourism Zone (TZ) for tourism development which could be in the CUZ, and perhaps includes part of the TPZ, but only for activities that cause minimal disturbance, and with no permanent structures allowed in the TPZ. The Buffer Zone (BuZ) lies around the NPA

boundary and includes villages which help in protecting the NPA from trespassing and forest encroachment. In addition, the

Corridor Zone (CZ) is not stated in the current Forestry Law (2019) but it is necessary for NPAs especially for wildlife use so forest connectivity can be maintained.

Participatory zonation is an essential approach required for local communities to engage in collaborative management. It is strictly prohibited to enter the TPZ except with a permit from the relevant offices of the government while other zones can be used under regulations but not allowing any development project that might have a negative impact on the NPA. Patrolling, eco-treks and biodiversity monitoring can be of course permitted in the TPZ.

10.2. Application and Management of Zones

10.2.1 Village Management Zones

Since the declaration NPAs in Lao PDR includes the local people in the area, management is therefore required to recognize their rights. A national protected area can be geographically divided into many smaller areas being recognized and managed by the NPA villages especially those villages of type I and type II for which their territories are completely inside or partly overlapping the NPA. Reviews on land use planning of these villages should be conducted as to identify and confirm various land use zones to make sure where strictly protected, controlled used, and agricultural use zones should be. The territory of each village management zone inside the NPA may lie mainly within the controlled use zone of the NPA and also partly in the TPZ, depending on the individual case and management agreements.

The process of participatory mapping of trails should be conducted in each village for planning regular patrols and biodiversity monitoring with the NPA staff, including in the TPZ. There has to be clear understanding on which area should be patrolled and monitored by which village/village cluster. Some of the villages who have rights to use the forest resources are allowed to enter the area for patrolling and biodiversity monitoring including in the TPZ.

10.2.2 Totally Protected Zone

The Totally Protected Zone (TPZ) is a zone where there is abundant habitat for food, shelter, and reproduction of flora and fauna. All critical habitats for key wildlife and aquatic animals must be designated as TPZ of the NPA. The main TPZ in the Nam Poui NPA consists of a large, contiguous and well-connected core zone of dense, intact multi-layered forest which provides key habitat for forest species. The whole part of the military zone along Lao-Thai border is in the TPZ.

Within the TPZ it is neither allowed to cut trees nor to collect forest products according to the Law. Entering into the zone is only allowed with an official permit, for specific beneficial activities such as research, surveys, monitoring, patrolling, eco-trekking, filming, and other forms of high-end tourism etc. The permit may contain certain requirements (e.g. not to disturb wildlife, carry all garbage out, stick to certain trails or areas etc.) which the permit holder must strictly obey. There is a need to mark the boundary of the TPZ at any entrance point (trail, tractor road) with a clear sign board prepared. Existing roads entering into the TPZ such as at Houy Saheun should be specially arranged with the relevant military camp (see Fig. 15).

For Nam Poui NPA, the defined TPZ covers 99,109 ha (52.8 percent) of the total area representing all major habitat types but focusing on dense and intact natural forest. It is a large core area covering the whole part of the NPA from the western foothill of Phou Tong to the Lao-Thai border, including Phou Pu, Phou Pod, Phou Sankhiew, Phou Lekfai, Upper Nam Phou, southern Namsing, Sanoung, Nam Lop, Nam Ngim, Upper Nam Xong etc. The TPZ also includes critical habitats (ca. 33 salt licks) such as Poug Kok, Poug Nang, Poug Sa-at, Poug pheun and Poug Mak Yeun.

The TPZ boundary of the NPA was defined in consultation with local communities for protecting some

good forest habitats which are still used by some key wildlife species and to allow some space outside the TPZ, for local communities to use (controlled use zone). Therefore, the TPZ boundary will be ca. 8–10 km away from the villages. The key entry points are from Ban That of Thongmixay District at Houy Saheun around 12 km away; and a distance of about 8km from Ban Navene to so. 8 km. Access is slightly shorter from the eastern NPA boundary (see Fig. 15).

10.2.3 Special Totally Protected Zone

Special Totally Protected Zone is some ecologically sensitive sites that are located outside the main TPZ. There are two small zones as Pong Sa-at of Ban Vangphamone and Mai Taekha Jungle of Ban Phonsa-at.

Figure 15: Proposed Zoning of Nam Poui NPA

These special TPZs are located in the Buffer Zone of the NPA so special arrangements should be in place. The Poug Sa-at mineral lick is considered degraded today due to some slash and

burn practices adjacent to the area, but rehabilitation of this Ecologically Sensitive Site (ESS) is necessary and possible. Also, the Mai Taekha Jungle is quite well known, being well maintained and generating some economic benefits to the local community.

10.2.4 Tourism Zone

The tourism Zone is an attractive area with potential for tourism facility development. It is mostly in the CUZ and could be partially in the TPZ of the NPA but requirements will differ between the two zones. The Forestry Law (2019) provides support for tourism development, but only eco- trekking is allowed in the TPZ. Most importantly, tourism activities are not allowed in the most critical habitat (ESS) especially the western zone, the entire west side of the Road from Thongmixay at Houy Saheun to Ban Navene, and that is entirely military zone.

The proposed ecotourism zone of the Nam Poui NPA should be around Ban Vangphamone and be extended further to reach Phou Pod (mountain) on west - the western Phou Pod, the CUZ that mainly belongs to Ban Dan. Some non-permanent construction could be allowed in the TPZ and considered from case to case, but shall not be close to critical habitats such as mineral licks.

10.2.5 Controlled Use Zone

The Controlled Use Zone (CUZ) covers 78,493 ha (41.8 percent) of the total area. By definition, the CUZ is the remaining area within the NPA boundary after definition of the TPZ and the rest of the agricultural land of the NPA villages. The CUZ according to the new Forestry Law (2019) excludes the agricultural land and settlement. In the CUZ local villagers are allowed to use forest and aquatic resources traditionally under agreed rules and regulations for sustainable natural resource management, to be developed through participatory land use planning (PLUP) and forest management planning. Local communities should be trained and their capacities built to work with NPA staff and with the assistance of NPA experts to conduct law enforcement and enforce their own regulations for effective land use, and sustainable utilization of their natural resources.

10.2.6 Buffer Zone

The Buffer Zone is a forest section located along the outer boundary of the NPA. According to the Protected Area Decree 134/PM (2015), and could be inside the NPA according to the Forestry Law (2019), it is between the community land use and other forest types as to buffer forest encroachment. A buffer zone is a forest zone, watershed or other kinds of land surrounding the Protected Area with a width from 100 meters to 500 meters as determined and allocated for preventing from trespassing and destroying the Protected Area. The average distance from the boundary proposed for the Nam Poui NPA buffer zone is quite narrow. This way, the buffer zone inhabitants have a legitimate interest in preserving the NPA and preventing outsiders from doing extractive activities. However, no map of this zone is shown in this Plan since no ground checking, it is very much dependent on resulting from land use planning of the straddling villages of the NPA.

The BuZ needs to help prevent trespassing in the Nam Poui NPA. Land use planning for the adjacent villages around the NPA is required to allocate land clearly for various economic, yet sustainable uses and thus preventing encroachment into the NPA. Besides, the buffer zones shall be sustainably managed and function as a protective belt around the NPA preventing outsiders from entering into the NPA. It should be the aim that buffer zone communities also benefit from the NPA, e.g. through tourism revenues or better environmental conditions.

10.2.7 Corridor Zone

Although the new Forestry Law (2019) does not mention a corridor zone (CoZ) it is principally required for wildlife conservation as forest corridors are necessary to connect to surrounding

forest areas. The Nam Poui NPA possibly connects to a number of other forest areas such as

to the north in Xaysathan District with Nam Houg-Nam Mad National Protection Forest; to the east with Phou Phadam National Production Forest; and to the south with the Protection Forest of Botaen District. These are areas outside the NPA where forest corridors should be maintained and rehabilitated and new settlement should be limited through a process of village land use planning of the concerned villages, particularly in the east section for Phou Phadam National Production Forest. A herd of Asian Elephants in the territory of Ban Vangphamone still uses the forest corridor from Nam Poui NPA to Phou Phadam National Production Forest. Therefore, the villages of greatest concern are Ban Vangphamon, Ban Phonsak, Ban Na Khayang and Ban Thongkong.

In principle, any forested area can provide habitats, shelter and food for migrating wild animals. A wildlife corridor also aims to link separated populations of threatened or isolated species and allow for exchange of gene pools and ultimately genetic diversity. While some species are able to cross agricultural crop lands or plantations, other species require natural forests. Roads, fences, extensive plantations or large rivers may constitute a total barrier for some species, and the construction of tunnels or wildlife bridges are a possible mitigation action. This practice has been implemented in other countries, but not yet in Lao PDR.

In addition, within the Nam Poui NPA there are three parts bisected by road for which proper management and arrangements should be in place. The road runs from Thongmixay District to Ban Navene for ca. 80km partitioning the east and west sections of the NPA. Also, another road runs from Paklay District to Thongmixay District for 40km. Therefore, the management of the road for wildlife to use is firstly to limit the travel volume, human disturbance, and to keep some sections of the road with forest canopies connected above the road for gibbons to cross. Keeping dirt roads, not upgrading them for improved access, perhaps constructing human-made canopy bridges and limiting travel at night as well as camping in the area should all be implemented.

PART IV:

MANAGEMENT ARRANGEMENTS AND PROGRAMME

11. PROTECTED AREA MANAGEMENT ARRANGEMENTS

This Chapter describes the organisation of the management system for effective management of the Nam Poui NPA including the funding system to the support the implementation (see Annex 3).

11.1 Nam Poui NPA Management Authority and Responsibilities

Nam Poui NPA Management Authority (MA) is the authorized organisation mandated to manage the Nam Poui National Protected Area, comprising a Director, Deputy Director(s) and various technical units which have dedicated government staff. It is an organisation with authority and organisation to work within its respective area of responsibility, namely the gazetted NPA area plus the buffer zone around it. The Management Authority with technical support from Department of Forestry has functions to lead planning, coordination, implementing and monitoring activities, reporting and providing recommendations to the relevant parties following the laws of Lao PDR, aiming at preserving biodiversity, flora and fauna, including aquatic resources, environmental services and ecosystems. The Nam Poui NPA Management Authority will technically report to and coordinate directly with the central government, the Department of Forestry/Protected Area Management Division.

The Nam Poui NPA MA will function as centre to liaise, facilitate and advise with key relevant stakeholders, including any development or infrastructure projects as well as NGO projects working in the NPA. Therefore, regular stakeholder meetings will be convened by Nam Poui NPA Management Authority. The Nam Poui NPA Management Authority will also oversee and coordinate the work with other government offices and investors working in the Nam Poui NPA, and ensure that any negative environmental impacts are avoided or mitigated. It is the first contact point for any development taking place in and around the Nam Poui NPA. It has to be involved from the early planning phase in any environmental impact assessment (EIA), biodiversity offsetting or payment for environmental service (PES) scheme.

The Nam Poui NPA has its Headquarters Office at Ban Na Khayang in Paklay District. As to support the collaborative management practice the District Coordination Offices for Nam Poui NPA will be established for each district and must be located in the appropriate location in order to coordinate with relevant district offices and cooperate with local authorities (village and village cluster) closely. The Nam Poui NPA Management Authority has 2 Sub-stations exist (Ban Vangphamone Substation of Paklay District, it is just closed to the Nam Poui NPA HQ Office and Nam Sing Substation of Thongmixay District. It is planned to have other Sub-station called Navene Substation to be located at Ban Na Ngeun of Phiang District. These offices as part of the Law Enforcement to function in managing the assigned zones and control access. They are different from the District Coordination Office (DCO) but the DCO are to support the Substation, in coordination with relevant district offices, facilitate the NPA team and to support the works of the NPA mgt in their district areas with support from the Nam Poui NPA HQ Office (see Fig. 16).

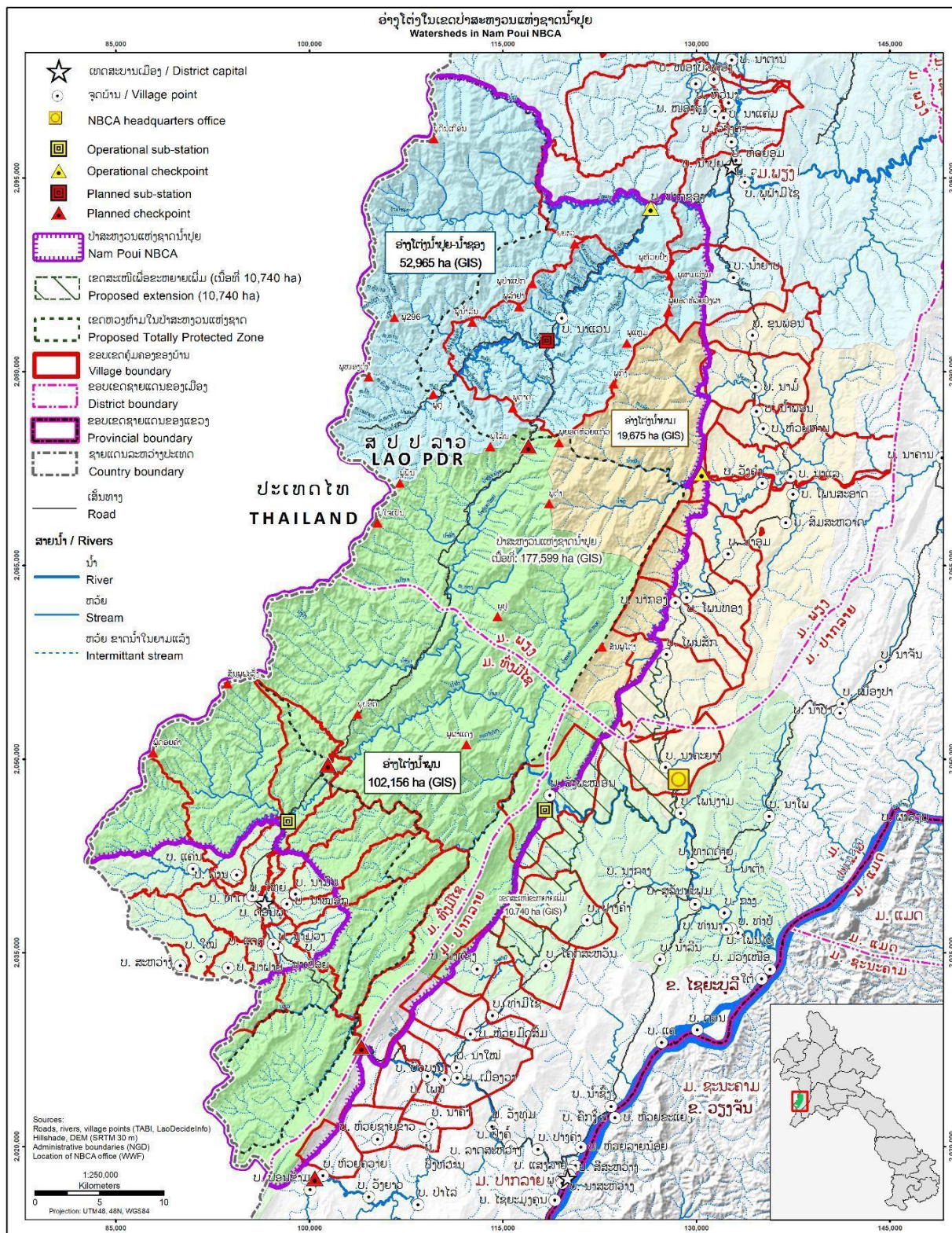


Figure 16: Headquarters Office, Sub-stations and Checkpoints

In addition, some important entry points of the NPA shall have a checkpoint which would be locally managed so for 4 checkpoints to be established and operated locally. There are the Checkpoint at Ban Vangkham and Pak Xong of Phiang District, at Ban Phon and Ban Houy Khouy of Paklay District.

There will be at least 3 staff to be based at each District Coordination Office and other 3 staff at each Sub-station. These staff will be appointed from the relevant districts and some assigned from the HQ Office. Both of the Offices for Nam Poui NPA at each district shall have sufficient space, equipped with necessary facilities and at least basic equipment. Therefore, it needs to have renovation and new construction of these offices with necessary equipment to be purchased.

11.1.1 Office, Organisation and Staffing

The Nam Poui NPA Office has some basic facilities and equips already. There are 1 Office, 1 staff house with a kitchen and 2 fish ponds, 1 meeting room, 2 Guesthouses and 3 Sub-stations/Checkpoints, also, 2 vehicles, 9 motorbikes, 3 computers and 2 printers. A total of 19 staff (of which 4 volunteers) working for 2 main units (Admin and Technical). The Admin Unit includes administration, statistics and planning. While, the Technical Unit has 3 Units (Extension: outreach and livelihood), Patrol: law enforcement and land use, and GIS/Mapping.

For longer-term the structure organization of the Nam Poui NPA will be upgraded as to prepare for its upgrade status to a National Park and ASEAN Heritage Park and so the Office to be named as Nam Poui NPA Management Authority with sufficient staff and necessary equipment. It will be strengthened toward optimum organisation structure and staffing. The optimum organisation structure for the NPA Management Authority according to the Guideline of the Department of Forestry will consist of Director, Deputy Director (2) and 6 Units. These units are for (i) Admin/Planning, Data and Finance, (ii) Outreach and Conservation Awareness, (iii) Biodiversity Monitoring and Research, (iv) Law Enforcement, (v) Area Management/Land Use and (vi) Ecotourism and Investment Mgt (see Annex 1). However, from the beginning these units are proposed to be clustered for 3 main Units as 1) Admin, Planning and Finance; 2) Biodiversity and 3) Law Enforcement). Head of each Unit as the member of senior staff team to in charge and implement his or her tasks of responsibilities according to the term of reference in order to plan, manage, maintain and improve, report the work designated staff progressively. Also, Terms of References for each unit (see Annex 2).

With the new organisation structure, a total of 20–25 staff should be arranged for the Nam Poui NPA Management Authority, of which 2 staff at least will be allocated for each unit, he or she may have relevant knowledge, experience, skills and interested in such the work. More number of staff will be under the Law Enforcement Unit as majority of them are deployed to work at sub- stations (3). At district, there will have a District Coordination Office (DCO) to support the management of the Nam Poui NPA which will be staffed by assigned district staff. About 3 district staff will be assigned to work at each DOC, especially to liaise and facilitate all the work of NPA in their district. Also, 3 Sub-stations and 4 Checkpoints will be arranged and operated as some NPA staff will work with district staff and local villagers who are trained especially trained and trusted villagers will be assigned to work at relevant Checkpoints. There are ca. 2–3 trained villagers at a time and in a rotational basis.

11.1.2 Nam Poui National Protected Area Steering Committee

Steering Committee of the Nam Poui NPA shall be chaired by the Vice-Provincial Governor and Deputy Chaired by Deputy Director of Department of Forestry and Director of Xayabouri

PAFO. The members will consist of representative Department of Forestry/MAF, Department of Secretariat/Ministry of Defense, relevant provincial offices and 3 Vice-District Governors (Phiang,

Thongmixay and Paklay). The key provincial offices will be the Provincial Tourism Authority, Provincial Military Office, Provincial Police Office, Provincial Education and Sports Office, Provincial Public Health Office and Lao Women's Union (see its ToR in Annex 2). The Nam Poui NPA Management Authority/PAFO will function as the secretariat to the Steering Committee. The Steering committee will meet at least once a year to approve annual workplan, annual budget and reports. Furthermore, it shall provide policy advice and intersectoral solutions, for example in case of land use conflicts, law enforcement, infrastructure and development projects and sustainable financing.

11.1.3 Nam Poui National Protected Area Technical Panel

The steering committee shall have a technical panel (expert group) to support on technical aspects. The technical panel for any NPA shall be chaired by Deputy Director of Department of Forestry (DoF) or PAFO (see Annex 3), the key members consist of DoF Representative/PAMD, PAFO, Nam Poui NPA, DAFO (3), Provincial Information, Cultural and Tourism Office, NGO (WWF) and interested firms. The Nam Poui NPA Management Authority is the secretariat to the Technical Panel. For some dialogue the Protected Area Management Division/DoF would be in charge as the Chair. The Technical Panel shall meet quarterly, but *ad hoc* meeting may be held if necessary.

11.1.4 District Steering Committee and District Implementing Teams

The District Steering Committee for supporting the Nam Poui NPA management will be established at each participating district. The committee will be chaired by the District/Vice-District Governor, and membered by DAFO, DoNRE, Lao Women's Union, Education and Sports, Public Health, Police and Military. In each of the three districts, District Implementing Teams (DIT) will be formed for 3 main areas of work to support the Nam Poui NPA management as follows:

- District Implementing Team 1. Conservation outreach and awareness raising
Proposed members are: Nam Poui NPA MA, Education and Sports Office, Information and Culture Office, Lao Women's Union, Lao Front for National Reconstruction.
- District Implementing Team 2. Law enforcement
Proposed members are: Nam Poui NPA MA, Forest Inspection, DAFO, Police, Army, Justice.
- District Implementing Team 3. Livelihood development for conservation
The members are: Nam Poui NPA MA, DAFO, Lao Women's Union, Education and Sports Office and Public Health Office.

Other work is not yet necessary to have specific team but if it rises such as tourism operation will be the responsibility of the Nam Poui NPA MA to liaise and facilitate. Participation in the DIT shall be open for other interested organisations (NGOs, CBOs, private sector) or individuals (experts, volunteers) based on their professional merits and topics of interest.

As the naming implies, the focus of the DITs is on practical work in the field, in a collaborative team spirit and with a clear focus on results and impacts. It is hoped that DITs will also be able to generate some funds from development partners, once they perform efficiently. In each district there will have a District Coordination Office which will be staffed and led by DAFO in coordinating other district offices and facilitating the work of NPA in the district. Also, each district should have a conservation agreement signed by the District Governor stipulating that it is mandatory for relevant district offices to support the collaborative management of the Nam Poui NPA. The DITs will be staffed by relevant district government offices.

To effectively operate under the Agreement, each DIT following the annual workplan of the management plan must first develop activity plans (monthly, quarterly) and mobilize respective

budgets, secondly implementing the work timely and in a good quality, and thirdly conduct impact monitoring and identification of lessons learned. The Vice-District Governor with support from the Technical Team of the NPA/Experts will oversee the work of the DIT in his district administrative area.

To effectively operate under the Agreement, each DIT following the annual workplan of the Nam Poui National Protected Area Management Plan (2021–2025) management plan must first develop activity plans (monthly, quarterly) and mobilize respective budgets, secondly implementing the work timely and in a good quality, and thirdly conduct impact monitoring and identification of lessons learned. The Vice-District Governor with support from the Technical Team of the NPA/Experts will oversee the work of the DIT in his district administrative area.

11.1.5 Village Collaborative Management Committees

Each village shall have a Village council to function as collaborative management Committee in which all relevant and controversial issues related to Nam Poui NPA to be discussed and eventually solved at the village level first. The village council may take over this role as well provided it has the time and resources for this additional task. What is important is that in the collaborative management committee different user groups, interests and gender are adequately represented.

As part of the village collaborative management committee at the village level there will be a member from patrol team, user group and village livelihood group. Rights and duties for each team, group and committee will be formulated and described in relevant agreements. The village chief in particular will have to report the work progress and impacts at monthly Kumban meetings.

11.2 The Implementation of the Plan

Task arrangements for the Plan implementation are prepared for different levels and sub-programmes for the Nam Poui NPA Management Authority and its collaborative partners – Department of Forestry, the Provincial/PAFO and participating district offices (DAFOs). At district level and for each district there will have the District Coordination Office with overseeing by Vice-District Governors and support from District Implementing Teams.

□ Coordination

- Nam Poui NPA Management Authority is the centre for coordination to Central level (Protected Area Management Division/Department of Forestry), to Provincial level (PAFO) and to District level (DCO/DAFO) and Ground level (Sub-station/Checkpoint). The NPA MA to coordinate with the central level for obtaining some technical advice.
- The NPA MA functions to implement relevant national policies, laws, decrees and to make the Nam Poui NPA be protected legally. Any activities would generate some impact on the biodiversity values of the NPA shall be technically consulted to the Nam Poui NPA Management Authority and also inform to PAFO to seek for some advice from the Provincial Government. These leading government bodies are the chair and vice- chair for the Nam Poui NPA Management which they are to meet twice a year.
- District level, District Agriculture and Forestry Office (DAFO) will have District Coordination Office for supporting the NPA management within their district to help liaise other district offices and sub-station team and to facilitate the work according

to the Plan. There will be 3 District Implementing Teams (DIT) to be formed to function and the District Steering Committee to oversee the work of the Nam Poui NPA management from time to time regularly.

- Other partners could be NGO/Donor/Firm who would have share vision and interest to support the implementation of the Plan as WWF, RECOFTC, Community Forest/KfW and ACB would continue to cooperate, develop and make the vision of the Nam Poui NPA management to action.

□ Planning

Nam Poui NPA Management Authority as the centre for implementation of the Nam Poui NPA Management Plan which to translate the plan into annually, quarterly and monthly workplan by working closely with key partners, district teams (DCO/DIT). The annual workplan with budget will be prepared to get an approval of the Management Steering Committee for the Nam Poui NPA/Department of Forestry. The participating District, DCO/DIT can plan for supporting the implementation of the Nam Poui NPA according to the Plan.

- Implementation

Following the agreed activity plan by month and quarter the Nam Poui NPA will facilitate its partners especially district level to conduct the work through training and facilitating. The district technical team will deliver the work of PA management in their district timely and effectively. For field patrol needs to have a close cooperation with military camps in the area especially in the military zone, on the western section of the Road from Thongmixay District to Ban Navene, Phiang District, as well as the northern Nam Xong. So far, the management of Nam Poui NPA has been well exercised with military in patrolling. The NPA team used to conduct conservation awareness at military camps. Therefore, the cooperation with military for patrolling especially at the west section is necessary.

- Reporting

Reporting will be prepared monthly, quarterly and annually which the Nam Poui NPA Management Authority to support the DCO to work with DIT to complete their monthly, quarterly and annually for Nam Poui NPA MA. Also, DCO to make a copy for DAFO and their relevant district offices. The NPA will report to DoF and PAFO. The Sub-teams/checkpoints will make a report to DCO and Nam Poui NPA MA.

- Monitoring and Evaluation for adaptive management

Nam Poui NPA Management Authority to take lead with its experts to conduct biannual and annual evaluation with DOCs/DITs. This to be prepared for annual meeting of the NPA Management Steering Committee which will be held annually at the Nam Poui NPA's HQ. The annual evaluation will include recommendations for adaptive management which will help improve for following year plans.

For the groundwork of seven sub-programmes defined in the Plan will implemented between the Nam Poui NPA Management Authority and Participating Districts (DAFO/DCO) and DIT (see Table 27).

Table 27: Task arrangement of the Plan implementing for different programmes

Sub-Programme	Area of works	Key Responsibility		
		NPA	District/DAFO	Other
1. General management and capacity building	To provide general mgt and capacity building of Nam Poui NPA	Experts/Consultants to provide a series of training	Participate in some relevant trainings	

2. Collaborative management	To promote collaborative management	The experts to provide necessary training for districts	Fully participate in the trainings and arrangements	
3. Biodiversity conservation	Conduct biodiversity Conservation, Monitoring and Research	The experts to design and conduct the work with the NPA staff team	Participate in the work of biodiversity conservation	WWF
4. Outreach and conservation awareness	Conduct outreach and Conservation Awareness Raising	Provide training and facility for district team to do most the work.	The DIT to lead facilitate the outreach work in their districts	
5. Law enforcement	Conduct and strengthen law enforcement	Provide training and facility for district team to do most the work.	The DIT to lead facilitate the law enforcement in their districts	
6. Land use planning	Review and reallocate forest and land use planning	Planning and help facilitate to DIT to do most the work.	Fully engage in the process	Partners with other projects
7. Livelihood Development for conservation	Investment for Livelihood Development for conservation	Planning and help facilitate to DIT to do most the work.	The DIT to take lead and facilitate the work in their districts	Partners with other projects
	Promote eco-tourism development	Planning and help facilitate to DIT to do most the work.	The DIT to facilitate the work in their districts	Key partners

11.3 Collaborative Management System and Stakeholders

The Nam Poui NPA Management Authority is the lead institution in implementing the protected area and relevant work in the NPA target villages. Through the mechanisms of collaborative management, the Nam Poui NPA management team will well coordinate and facilitate its partners to plan, develop and implement and evaluate activity programmes of the NPA together. A variety of stakeholders needs to be involved to ensure an effective collaborative management. Primary stakeholders are the local villagers and local government authorities which both ideally fulfil interlinked tasks with support from the NPA management authority and relevant government offices especially at district level. Most important government offices are:

- Central government, the Ministry of Agriculture and Forestry (MAF) is responsible for establishing a policy, legal and institutional framework for NPA management. With dissemination of legal instruments, issue an Agreement and Order, guidance with monitoring and evaluation of related to national protected area management. Technical support will be provided by the Protected Area Management Division of the Department of Forestry. The Department of Forestry at central level is responsible for developing policy, strategic plan/master plans, laws, decrees and regulations of protected area management. Technically, DoF will also provide technical guidelines and standardize national protected area management system nationwide to ensure the management system is well developed and functional.
- Provincial Agriculture and Forestry Office (PAFO) is to implement the policy, law, decrees and national regulations. With planning, coordinating and monitoring PA activities at provincial level. Some relevant activities in the NPA will be consulted with PAFO. With technical support of Provincial Protected Area Management

Section/PAFO, PAFO will help coordinate, to consult with and report to the Provincial Governor on the work of management progress and some key issues raised in the NPA.

- District Agriculture and Forestry Office (DAFO) is to implement the policy, law, decrees and national regulations. To support the Nam Poui NPA management some assigned staff to be based at the District Coordination Office for Nam Poui NPA to work with key district offices, partners and kumban offices at village level. Within DAFO there are a number of relevant areas of work, for instance forestry, protected area, agriculture, livestock, and irrigation which have an important role to play in the collaborative management of the Nam Poui NPA.
- Other government agencies such as the District Governor's Office (District Governor), Lao Women's Union, Tourism Office, Forestry Inspection as well as police and military. These stakeholders will be invited to join in district implementation teams in line with their institutional mandates and responsibilities to support the Nam Poui NPA Mgt.

Other major stakeholders are:

- Military
- NGOs and CBOs working in Nam Poui NPA (e.g WWF, RECOFTC, CF/KfW).
- Ecotourism operators (interested firms) e.g ECC.
- Donors supporting projects (e.g ACB/WB) in Nam Poui NPA.

The military, apart from being membership for the provincial and district steering committee to support the Nam Poui NPA management, the military camps especially the Frontier Military will participate in field patrolling especially in the military zone shall be exceptionally arranged.

11.4 Strategic Partnerships with development partners

Strategic alliances with supporting development partners (donors, NGOs) are necessary for capacity development, institutional support and sustainable funding. There are a few projects working in the NPA and its buffer zone but cooperation among them is insufficient. Therefore, Nam Poui NPA Management Authority will coordinate and facilitate all projects working in the NPA and also relevant sectors of the government through appropriate mechanisms. The Conservation Agreement of District Governor will include a provision to hold at least twice year coordination meeting with key stakeholders. Considering that Nam Poui NPA Management Authority is the centre for coordination and facilitation, it may of course call for additional coordination meetings as necessary.

11.5 Financial Mechanisms and Support

Acknowledging that Lao PDR is still a developing country with limited funds, the Lao Government will further depend on the assistance of external donors for some time to come. Therefore, the sustainable financing strategy for NPA is necessary. Also, the GoL acknowledges that it is the ultimate government responsibility to ensure the conservation of the natural heritage and biodiversity in Lao PDR. It shall try its best to improve the existing funding system and provides at least the basic funding and staff to ensure the basic operation of the NPA management in times when no donor support is available or a funding gap between two project phases occurs.

An integral part of the sustainable financing strategy is the proposed upgrading of Nam Poui NPA to an ASEAN Heritage Park, and at the same time to be upgraded to a National Park in line with IUCN Category II. The objectives of this international status it is to conserve biodiversity values with promoting education and recreation. This would increase the attractiveness for tourism and would allow to increase entrance fees and penalty from illegal harvest of timbers, forest products and wildlife hunting. Of course, it would also require

investments in infrastructure and services, in collaboration with the private sector. Another positive effect of declaring an ASEAN Heritage Park/National Park would be the higher likelihood to attract external donor

financing which could provide the financing for the necessary PA management and infrastructure. Giving out concessions for lodges or tourism facilities could be another revenue stream for Nam Poui NPA Management Authority.

Another option is biodiversity offsetting for site management from development projects e.g hydropower and mining, which should be offset according to Lao Government regulations. Comprehensive watershed management programs aimed at protection of forest and wildlife, reforestation programs to compensate for project associated losses and environmental education programs are planned by the company, but so far do not anything benefit the Nam Poui NPA or the enclave villages. This should be renegotiated in order to Guarantee another stable funding source for Nam Poui NPA. In addition, sponsorship programmes with private companies or development projects funded through corporate sustainability programmes could be another possibility to generate needed finance for Nam Poui NPA management or the people living inside the NPA.

The NPA Management Authority must provide a mechanism for financial management, usage and transparent reporting and accountability for the Fund. The fund has to be managed and taken accountability. In case, it is a need to set this up it has to have the Board overseeing the fund management. The Board should consist of representatives from central (DoF), PAFO of Xayabouri Province, key donors and NGO/CSO. In reality, the Management Steering Committee of Nam Poui NPA can function this.

12. OVERALL PROGRAMME OF ACTIVITIES

This Chapter summarizes the work discussed in the Nam Poui Management Planning Task Force. It describes the overall programme of activities which is compartmentalized into six different sub-programmes, addressing the three main management objectives as below:

- Management Objective 1: to strengthen overall management and capacity building.
Sub-Programme 1. General Management and Capacity Building
Sub-Programme 2. Collaborative Management
- Management Objective 2. to conserve biodiversity through management measures and monitoring.
Sub-Programme 3. Biodiversity Conservation and Monitoring
Sub-Programme 4. Outreach and Conservation Awareness
Sub-Programme 5. Law Enforcement
- Management Objective 3: to improve sustainable livelihoods of local communities for conservation.
Sub-Programme 6. Land Use Planning and Zoning
Sub-Programme 7. Sustainable Livelihood Development

Under each sub-programme, various actions have been identified, for each action, the objective of the action, the desired outcome(s) and the management responses are described. The implementation of these sub-programmes and actions will of course depend upon the timely availability of required funding.

Management Objective 1: to strengthen overall management and capacity building.

12.1 Sub-Programme: General Management and Capacity Building

Successful collaborative management of Nam Poui NPA requires a functional government institution (i.e. NPA Management Authority) in charge in the first place with staff capacity. Thus, this sub-programme deals with strengthening of the institutional, financial as well as human capacity for collaborative management of Nam Poui NPA.

12.1.1 Institutional Strengthening

Specific Objective: To improve organisation structure of Nam Poui NPA Management Authority

Desired Outcome(s)

- The Nam Poui NPA Management structure is approved with its units, terms of reference (ToR) to be ready for ASEAN Heritage Park.

Responses

- Prepare draft organisation structure with units of Nam Poui NPA MA.
- Prepare Terms of Reference (ToR) for each unit (see Annex 2).
- Promote the Nam Poui NPA Management Authority as the central point of coordination for all relevant works and projects within the NPA.

12.1.2 Staffing

Specific Objective: to increase the number of staff for Nam Poui NPA Management Authority and for District Coordination Offices to work with their relevant district offices.

Desired Outcomes

- Appropriate number of staff to be additionally assigned for the HQ, sub-stations and District Coordination Offices to implement the NPA management.

Responses

- Consult with DoF, PAFO and relevant DAFO on an increase of staff number for Nam Poui NPA.
- Recruit and assign staff to work for Nam Poui NPA management at the HQ.
- Assigned staff from relevant DAFOs to work at the District Coordination Office for Nam Poui NPA.
- Orientate the staff about their job duties and the collaborative management approach

12.1.3 Strengthen Nam Poui NPA status

Specific Objective: Establish an ASEAN Heritage Park. Desired Outcomes

- The Nam Poui NPA is established and operated systematically.

Responses

- Coordinate with central level about upgrading Nam Poui NPA to an ASEAN Heritage Park
- Assist the central level to prepare the submission of Nam Poui NPA for consideration as an ASEAN Heritage Park.
- Support the evaluation of Nam Poui NPA as a potential ASEAN Heritage Park by ACB.

12.1.4 In-House Capacity Building of the NPA staff

Specific Objective: to improve technical capacity of the Nam Poui NPA MA staff in collaborative NPA management.

Desired Outcomes

- The Nam Poui NPA staff have gained new technical knowledge and skills and apply them to better NPA management.
- NPA staff shows high motivation to implement the given tasks

Responses

- Conduct needs assessment to identify the real needs for training
- Offer technical trainings by qualified experts on various topics probably including but not limited to areas such as: METT; SMART patrolling; “Beyond Enforcement Approach”; wildlife survey, research and monitoring techniques; participatory tools and methods for engaging and empowering communities; managing human-elephant conflict; nature interpretation; tourism management; visitor safety, rescue and first aid, etc.
- Conduct on-the-job training in various topics by experts in various topics (outreach, law enforcement, livelihoods, GIS etc.
- Conduct study tours for the NPA staff and partners as incentive and opportunity to explore.

- Capacity of staff livelihoods and examples of livelihood development activity.

12.1.5 NPA Headquarters' Office Operation

Specific Objective: To effectively operate the Nam Poui NPA Headquarters' office.

Desired Outcomes

- The Nam Poui NPA headquarters is functioning systematically and continuously.

Responses

- Translate the management plan into annual, quarterly and monthly work plans
- Conduct regular staff meetings to ensure that all staff are aware of their tasks and for reporting work progress and challenges.
- Develop a business plan for sustainable financing mechanism of the Nam Poui NPA
- Prepare and hold various meetings of the NPA MA including some *ad hoc* meeting if needed
- Document the results of the meetings and follow-up on them
- Prepare and hold the Nam Poui NPA Steering Committee at least once a year.

12.1.6 Infrastructure and equipment for the operation of NPA management authority

Specific Objective: Provide adequate infrastructure and equipment for Nam Poui NPA

MA. Desired Outcomes.

- Nam Poui NPA MA has the needed infrastructure at HQ, sub-stations and coordination office at district level with necessary equipment for implementing the NPA management

Responses

- Renovation of Nam Poui NPA Headquarters for about 15–20 staff
- Construction of Exhibition Office at the HQ with necessary exhibition materials
- Renovation of District Coordination Offices (3) at relevant districts
- Construction and renovation 3 field offices (Ban Vangphamon, Navene and Nam Sing)
- Construction of 4 checkpoints (Vangkham, Pak Xong, Phonkham and Ban Phon)
- Purchase office equipment and furniture for the HQ and sub-station Offices.
- Procure transportation means (5 4WD pick ups, 18 motorcycles (local))
- Purchase basic field equipment such cameras, camera traps, binoculars, GPSs, field guides and camping equipment and communication tool for outreach program.
- Maintain and regularly check the equipment.
- Procure computers, printer, LCD/projector and software
- Establish database system of the Nam Poui NPA management.

12.1.7 Monitoring, Evaluation and Adaptive Management

Specific Objective: to establish a Monitoring and Evaluation (M&E) system for operation.

Desired Outcomes

- Monitoring and Evaluation (M&E) system is functioning and providing reports in a timely manner.
- All lessons learnt of successful collaborative management practice are identified and adapted into the management framework of the Nam Poui NPA.
- Management Effectiveness tracking Tool (METT) scores show improving trend over

time

Responses

- Ensure that short activity reports are available for each completed activity and kept in the general management database.
- Produce quarterly and bi-annual summary reports on socio-economic and biodiversity monitoring results
- Prepare annual report with summarising all achievements and lessons learnt.
- Summarize lesson learnt from all practices of the Nam Poui NPA management.
- Develop and revise the NPA regulations to support collaborative management
- Conduct monitoring of all practices and apply to the management system from time to time.

12.2 Sub-Programme: Collaborative Management

For effective collaborative management of the Nam Poui NPA, the NPA Management Authority has to collaborate with local governments (district, kumban, village level), local NGOs / civil society organisations, and local people who also need to be capacitated in order to fulfil their expected roles and responsibilities. Besides - to implement collaborative management effectively - mutual agreements need to be in place that clearly define the roles and responsibilities of the different institutions and stakeholders.

Relevant district offices will have to be empowered to fulfil their official mandates in providing technical support and extension services to the villages of Nam Poui NPA. At village level, community responsibility and ownership to protect their forest land will have to be promoted. To build-up a common understanding and local ownership, conservation awareness raising has to go hand in hand with capacity building measures and community action.

Apart from negotiating and signing necessary agreements with local government, this sub-programme includes practical activities on the ground, such as outreach and conservation awareness, law enforcement and village-based patrolling.

Specific Objective: to develop collaborative management in place at each participating district of Nam Poui NPA to function effectively.

Desired Outcomes

- District agreements and village conservation agreements are well implemented with a clear understanding of their respective roles and responsibilities in the collaborative management system.
- District Implementing Teams formed in each district with capacity and skills that being able to deliver their agreement tasks effectively.
- District law enforcement team have capacity and skills that being able to collaborative management for Nam Poui NPA is operated within the government system.
- Coordination of relevant provincial offices, district offices and other stakeholders is improved.

Responses

- Discuss with involved Province and district authorities the formation of district implementation teams for supporting collaborative mgt of Nam Poui NPA
- Prepare Terms of Reference for the District Implementation Teams (DIT) (about their roles and responsibilities for supporting Nam Poui NPA collaborative management)
- Adopt and endorse the ToR of DIT by the District Governor
- Prepare and sign conservation agreements with key NPA villages upon management interventions in place.

- Provide necessary trainings as to build capacity and skills of participating districts, the DIT specifically and through relevant works
- Build ownership of the participating districts for Nam Poui NPA Management
- Organize regular meetings of the district implementation teams to review past management activities and plan for further actions
- Monitor the adherence to the conservation agreements
- Keep all records and reports on collaborative management meetings, membership lists, activity reports and ensure dissemination to the committee members.

Management Objective 2. to conserve biodiversity through management measures and monitoring

12.3 Sub-Programme: Biodiversity Conservation

12.3.1 Biodiversity Inventory (flora and fauna)

Specific objective: to conduct biodiversity inventory of Nam Poui NPA.

Desired outcomes

- Biodiversity status of Nam Poui NPA is obtained.

Responses:

- Prepare a ToR for biodiversity assessment and discuss with WWF
- Recruit a team of specialists for biodiversity assessment in the Nam Poui NPA.
- Conduct biodiversity assessment through survey samplings.

12.3.2 Biodiversity Inventory (population census for key large mammals)

Specific objective: to conduct population census for key large mammals of Nam Poui NPA.

Desired outcomes

- Populations of key large mammals e.g Asian Elephant and Gaur of Nam Poui NPA are obtained.

Responses:

- Prepare for population census of key large mammals by WWF
- Conduct population census of key large mammals in the Nam Poui NPA.
- Reporting and dissemination of the population census of key large mammals.

12.3.3 Biodiversity Monitoring

Specific Objective: to knowledge about the biodiversity according to the defined indicator species in Nam Poui NPA.

Desired Outcomes

- Results of biodiversity monitoring inform biodiversity status and for management planning in the Nam Poui NPA.

Responses

- Prepare and design biodiversity monitoring system using defined indicator
- Train NPA and relevant district staff team to help conduct biodiversity monitoring
- Conduct systematic biodiversity monitoring using indicator species e.g gibbon
- Set-up village logbooks for recording encounters of key wildlife species in the NPA
- Set-up and operate camera traps for target species monitoring (species diversity) and large mammal moving patterns
- Develop baselines for long-term biodiversity monitoring in the Nam Poui NPA
- Promote partnerships with universities/research organisations for biodiversity monitoring
- Report, publish and disseminate results of biodiversity monitoring

12.3.4 Biodiversity Research

Specific Objective: to improve new knowledge about the biodiversity and species discovery in Nam Poui NPA.

Desired Outcomes

- New knowledge from research projects in the NPA has been shared, disseminated and used for conservation planning.

Responses

- Identify possible topics and key scientific partners for specific research projects.
- Identify and coordinate key partners for research projects
- Provide small grants for student research projects
- Train NPA staff team for facilitating and participating research projects
- Conduct research projects when funding available.
- Promote partnerships with universities/research organisations for biodiversity research
- Report, publish and disseminate results of biodiversity research and applying for management planning.

12.3.5 Species Recovery Plan

Specific Objective: Gibbon, Elephant and Gaur to have specific measures of protection and enhanced.

Desired Outcomes

- Recovery plan for large mammals (gibbon, elephant and gaur) to be available for implementation.

Responses

- Consult with key experts for preparation of recovery plan for large mammals in the NPA to include gibbon, elephant and gaur.
- Prepare recovery plan for large mammals (gibbon, elephant and gaur) in Nam Poui NPA.
- Present and finalize the species recovery plan “the conservation actions”

12.4 Sub-Programme: Outreach and Conservation Awareness

Specific Objective: increase the conservation awareness for the people living in and around Nam Poui NPA.

Desired Outcomes

- The people living in and around the Nam Poui NPA have understood and become

ownership in the NPA management.

Responses

- Provide training to district outreach team on outreach and conservation awareness
- Define appropriate materials for each group communication (villager, student, public)
- Develop outreach materials to address the issues of the Nam Poui NPA (leaflet, poster, flier, village speaker, radio & TV programme) etc.
- Conduct outreach and awareness activities at village level – at least 19 target villages
- Conduct outreach and awareness activities in schools of the target villages of the NPA
- Support environmental events (world environmental day etc) with press releases
- Monitor and evaluate the effectiveness of conservation outreach activities at district level

12.5 Sub-Programme: Law Enforcement

Specific Objective: to effectively law enforcement

Desired Outcomes

- Lower case of negative impacts recorded in the Nam Poui

NPA Responses

- *Review, orientation and collection information*
 - Hold a meeting with key partners e.g POFI, police, army, courts and DAFO on improving tactics of law enforcement with clear responsibilities
 - Collect info of key traders, stores who sell gears or part of them for illegal hunting, fishing and logging in each district
 - Collect info of key hunters and wildlife traders in the NPA villages, including official in each district (office).
 - Conduct an education, awareness and law dissemination for the target groups objectively
 - Support the district government/police in collecting all illegal gear (chainsaw, guns, fishing gears etc.) in Nam Poui villages
- *Preparation and training*
 - Provide trainings for the district implementation teams in planning and evidence-based reporting (SMART) if necessary.
 - Establish and improve village patrol teams by village cluster “zone”
 - Provide on-the-job trainings for the village patrol teams in laws, GPS and filling reports
 - Equip village patrol teams (uniforms, equipment, tents, hammocks, GPS, smart phone)
 - Agree on zone for which village cluster to do and be arranged.
 - Establish and operate a hotline and corresponding network of village informants
 - Establish and operate a quick response mobile unit (based at HQ)
- *Conduct patrolling*
 - Support village patrols in and adjacent the Nam Poui NPA by agreed zones monthly
 - Support joint patrols with army in the military zone along Lao-Thai border quarterly
 - Conduct checkpoints and mobile patrol
- *Support and evaluation*
 - Support the district coordination offices/sub-stations in coordination, supervision and monitoring village patrol teams.

- Conduct information exchange meeting about lesson learnt in law enforcement (patrol) for the whole NPA

Management Objective 3: to improve sustainable livelihoods of local communities for conservation.

12.6 Sub-Programme: Land Use Planning and Zoning

Despite being a nationally protected area, Nam Poui NPA has been subject to deforestation and forest degradation in the past due to mainly forest fires and agricultural expansion. In order to fulfil its protective function, the forest cover in Nam Poui NPA has to be maintained, rehabilitated and enhanced. In this sub-component, all activities related to improving the land-use planning, management of the natural forests are included.

12.6.1 Land Use Planning

Specific Objective: to improve the management of the forest land by proper land use planning
Desired Outcomes

- Forest land of the Nam Poui NPA is managed and maintained based on the land use planning and zoning in the long-term interest of the villagers and biodiversity conservation.

Responses

- Review and update existing land use plans of 34 NPA villages, especially looking at land reserved for agricultural expansion.
- Prepare new land use planning for 14 target villages where needed, using FALUPAM approach
- Increase the understanding of land use planners of conservation principles and wildlife corridor management.
- Monitor and inspect land use at villages

Table 28 shows a plan for completion of FALUPAM over a three-year period, with quarterly budget requirement.

Table 28: Proposed schedule for FALUPAM in the villages of Nam Poui NPA

District	Activity	Nr Villages in 2021				Nr Villages in 2022				Nr Villages in 2023			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Thongmixay	FALUPAM Level 2				4								
Phiang District													
<i>Na Ven/Ponsuk</i>	Finish level 2	2											
	Level 1 (9 villages)		9										
	Level 2 (4 villages)				4								
Paklay District													
<i>Na Khayang</i>	Finish level 2	1											
	Level 1 (6 villages)								6				

Level 2 (7 villages)		1	1							5		
Budget per quarter: '000' USD	9	16	16	20	20			9	9	10	10	10

12.6.2 Area and Zoning Management

Specific Objective: to complete demarcate the boundaries and zones to avoid further encroachment.

Desired Outcomes

- Boundaries and user zones of the Nam Poui NPA are managed strictly according to the NPA regulation or village land use regulations.

Responses

- NPA boundary to be reviewed as some section being proposed for extension to be finalized with all demarcation posts in place appropriately.
- TPZ boundary to be delineated and demarcated on the ground with local communities.
- Signboards and information boards will be installed in appropriate place at visible sites, but to ensure they are good and permanent signboards.
- Monitor boundaries and zoning to be conducted regularly

12.6.3 Forest Fire Prevention

Specific Objective: to prevent human-induced forest fires in the Nam Poui NPA by village-based forest fire prevention.

Desired Outcome

- Human-induced forest fires in the Nam Poui NPA are prevented.

Responses

- Conduct awareness raising on forest fire prevention prior to the forest fire season
- Train villagers of enclave villages in establishing fire breaks at critical locations
- Fire breaks to be prepared before any burning activity
- Check and warn the persons at checkpoints before entering the NPA on forest fire prevention and responsibilities.

12.6.4 Forest Rehabilitation

Specific Objective: to rehabilitate degraded forest of the Nam Poui NPA to improved ecological conditions.

Desired Outcomes

- Degraded forest of the Nam Poui NPA is rehabilitated, by assisted natural regeneration and other necessary means.

Responses

- Some degraded forest will be defined during the land use planning
- Conduct rapid survey of severely degraded sites not able to regenerate naturally for enrichment
- Assist villagers to conduct enrichment plantings of their village forests (if needed) from

- nursery of local communities.
- Monitor forest rehabilitation works in the defined rehabilitation areas.

12.7 Sub-Programme: Livelihood Development for Conservation

Local community development linked to conservation has to be supported by Nam Poui NPA Management Authority in order to build their cooperation for collaborative protected area management. The idea to empower communities to take their sustainable development in their own hands. They shall be supported in developing sustainable livelihood alternatives for income generating activities in order to reduce their heavy reliance on natural resources. To support the livelihood activities in the PA will be closely linked to village efforts in conserving their environment. Besides, it has to be acknowledged that livelihood development is the core mandate of PAFO/DAFO, as not only the Nam Poui NPA Management Authority.

12.7.1 Improve Sustainable Livelihoods

Specific Objective: to improve the livelihood of the rural target population while at the same time conserving the natural resources.

Desired Outcomes

- The target villages of the Nam Poui NPA have better livelihood alternatives with village conservation agreements as commitment for implementation of the collaborative management.

Responses

- Coordination and livelihood activity monitoring at district level
 - Coordinate with district (relevant sectors and projects) to formally establish district livelihood teams for Nam Poui NPA by district governor (agreement letter)
 - Assess available budget at district level for livelihood development at Nam Poui NPA villages
 - Conduct monitoring of livelihood activity in the NPA target villages
 - Meeting for sharing information and identifying lessons learnt on livelihood improvement at district level
- Prepare village action plan (target villages only)
 - Assess and review potentials of livelihood development of the NPA villages for defining livelihood activities.
 - Building local ownership of the defined priority villages for collaborative management and livelihood development.
 - Draft village action plan for livelihood activities with draft conservation agreements to present and discuss the draft village action plan to the villagers (each village)
 - Prepare final village action plan and present to district for endorsement
- Implement the livelihood development incl. training
 - Identify village group/leader for livelihood improvement
 - Identify pilot families based on commonly agreed selection criteria
 - Conduct training (of trainers) on livelihood development at village level
 - Conduct farmer to farmer exchange visits on livelihood development
 - Provide support for livelihood development to village and pilot families (not in cash)
- Promote the leadership and ownership of livelihood development at local level

- Provide leadership training to village and cluster leaders including

- monitoring and reporting
- Empower village development group to conduct self-monitoring and reporting
- Refreshing local ownership of the defined priority villages for collaborative management and livelihood development.

12.7.2 Promote and Manage Ecotourism Development

Specific Objective: to promote and manage ecotourism services for the benefit of the local population and the conservation of Nam Poui

Desired Outcomes

- Local people of the Nam Poui NPA have better livelihood alternatives through ecotourism linked to conservation of nature and environment.
- Tourists have a safe enjoyable, educational and value-for-money experience; understand the value of Nam Poui and the threats it faces, become supporters of Nam Poui conservation efforts and help communicate information to others
- Income from tourism helps to fund implementation of the Nam Poui Collaborative Management Plan

Responses

- Conduct economic assessment of the value of elephants in Nam Poui and economic potential of tourism development
- Review and discuss with potential partners for ecotourism development in the NPA – including issues of concession fees; tourist numbers/carrying capacity for different activities, etc.
- Conduct survey for potential ecotourism sites and concession areas
- Prepare marketing materials (poster, leaflets, flier etc) for ecotourism
- Establish and disseminate rules and regulations for tourists and tour operators
- Consult and cooperate with interested firms for developing the ecotourism activities that can benefit the local communities and the Nam Poui NPA.
- Prepare architectural design for visitor centre (exhibition room) at HQ of Nam Poui NPA
- Provide some necessary small facilities such as information signboards as well as training for tour guides and monitoring the tourism activities for further development.

12.8 Work Schedule

The Work schedule of the Nam Poui NPA Management Plan for five-years was prepared and arranged by component/sub-programme and activity (see Annex 4). The first year of the Plan will be about recruitment, procurement, and some other necessary arrangements with some staff team training. The second year will be about socio-economic survey as part of land use planning, village actions for livelihood development/conservation agreement, zoning, signboards with NPA boundary demarcation. For the year 3 will start financing for livelihood development through village development fund and specific trainings, also biodiversity inventory and biodiversity monitoring. Also, to start some survey for potential ecotourism development and to continue the year 4, with some support and promote this sub-programme but no budget for major tourism facility development in the Plan.

12.9 Monitoring and Evaluation

Monitoring and evaluation will be conducted for measuring outputs and outcomes of the implementation of Nam Poui NPA Management Plan (see Table 29). The monitoring will be conducted quarterly for tracking outputs and the evaluation will be conducted at least annually, but often a half-term (2.5 years) and final term of the Nam Poui NPA Management Plan implementation. The Outputs will be measured in a number or percentage but the Outcomes will be measured in improved capacity of NPA staff and key partners in protected area management; and then the Impacts will be measured in a conservation success which indicates in a better biodiversity status – the defined indicator species showing positive impacts which better detections (more numbers of the species recorded on their site encounters), larger area of distribution and more numbers of species recorded. However, the impact measurement will be based on the biodiversity programme which therefore not clearly put in the targets of achievements in the table below:

Table 29: Key targets for monitoring and evaluation of the Nam Poui NPA Management

No	Sub-programme/ key activity	Level and No of achievements			Means of Verification
		Output	Outcome	Impact	
1	General Management and Capacity Building			X	Improved capacity for the NPA management productively.
	Improve NPA Organisation Structure	X	X		Organisation structure of the NPA is improved in place with Units and clear ToR to better function.
	Staffing with training events	# of trainees	X		Report of training, the trainees are able to conduct their works and train others.
	Infrastructure and necessary facilities and NPA equipments	# of	X		The proposed infrastructure/facilities and equipment for the NPA management are in place.
2	Collaborative management			X	The Nam Poui NPA management has been well collaborated from relevant sectors.
	District collaborative committee and agreements	# of	X		District collaborative committee and agreements, DOC/DIT are available to function toward the NPA management.
	Village collaborative committee and agreements	# of	X		Village collaborative committee and agreements are available to function toward the NPA mgt as village base.
3	Biodiversity Conservation and Research			X	Knowledge of biodiversity in the NPA is improved and applied for management planning
	Biodiversity assessment	# of			Report of biodiversity assessment and population census for gibbon and elephant.
	Biodiversity monitoring	# of			Report of biodiversity monitoring conducted in effective way and to use for further conservation planning.
	Biodiversity research	# of			Report of biodiversity research projects conducted specifically and to use for further conservation planning.
4	Outreach and conservation awareness			X	The target groups have well understood and supported for the NPA management.
	Outreach material	# and sets			Report of outreach, a series of outreach materials prepared for target audiences
	Villages	# of villages (38)	X		Report of outreach, # of villages with outreach completed and the local villages are raised in their understandings and ownership for NPA management.

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	Public e.g markets	# of events	X		Report of outreach, # of events held and public receives better knowledge in
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		(30)			conservation needs and cooperation.
	Schools	# of schools (38)	X		Report of outreach, # of schools with outreach completed and the school children/students receive better knowledge in conservation.
5	Law enforcement			X	Threats are addressed sufficiently
	Regulations	X			NPA Regulations in place and well disseminated.
	Poaching	# of poachers			List of target groups (hunters, loggers etc) by village and district for educating and persuading them to change their behaviors.
	Patrolling	# of patrols	X		Report of patrols held, can effectively address key threats showing lower number of cases/threats.
6	Land use planning				Forest and land have been well protected, regenerated and use the allocated land effectively.
	Review and conduct village land use	No of villages (19)			Report of land use planning, a book of village land use completion for at least 19 key villages with detailed land use planning.
	NPA Boundary	X	X		Report of completed NPA boundary with demarcation posts and signboards are in place.
	Zoning	X	X	X	Report of zoning, the TPZ with boundary demarcation posts are in place for effective law enforcement.
	Forest restoration	X			Plan and report for forest rehabilitation area (e.g 5,000 ha) and with some forest enrichment.
7	Livelihood Development			X	The key NPA villages have livelihood alternatives with lower pressures on the NPA
	Village group for livelihood development	# of			Report of livelihood work, the no of village groups for specific assisted activities formed e.g cattle raising.
	Establish Pilot families	# of			Report of livelihood work, the defined pilot families funded and can demonstrate for other.
	Assisted poor families and poachers	# of			Report of livelihood work, the defined poor families and poachers can access to the fund.
	Conservation Agreements	# of	X		Report of livelihood work, the CAs for village livelihood support are implemented in 14 villages and conservation objectives are tracked regularly.
	Ecotourism zone				Report of ecotourism work, the defined ecotourism zone is used and to ensure lower impact on biodiversity.
	Ecotourism facility and service				Report of ecotourism work, the ecotourism facilities are developed, generate incomes for local people/revenues for the NPA.

12.10 Financial plan

Indicative budget of the Five-Year Plan (2021–2025) is prepared in different areas of works/sub-programmes (see Annex 5). As the Lao Government does presently not have the financial capacity to cover the full cost for making effective management of the Nam Poui NPA it will depend for some time to come on external support. However, the past 20 years have shown that donor-funded project come and go (see e.g. Poulsen and Luanglath, 2005), and that there are frequently funding gaps between the different projects or even project phases. Therefore, Lao Government is committed to principally cover at least the basic cost of the staff, offices and necessary field operations (such as patrolling).

The total cost for the financial planning 2021–2025 is about USD 3.99 million which is not to include the GoL kind-contribution of USD 1.2 million. The basic operational costs for the GoL are close to USD 393,480 for the 5 - Year Plan, with USD 78,696 per annum. As to implement this plan requires investment cost to entirely pay for the consultancy costs (about USD 315,000).

The annual costs will reach a peak in 2023 with USD 1.14 million, and then reduce to about USD 0.29 million in 2025. In terms of budget allocation for the sub-components, most budget is allocated to the sub-programme: Sustainable livelihood development (USD 0.62 million, 16.77 percent), then Investment costs (USD 0.53 million, 14.77 percent) and Biodiversity conservation and monitoring (USD 0.47 million, 13.06 percent) (see Table 30 below and detailed in Annex 5):

Table 30: Summary of Indicative budget plan

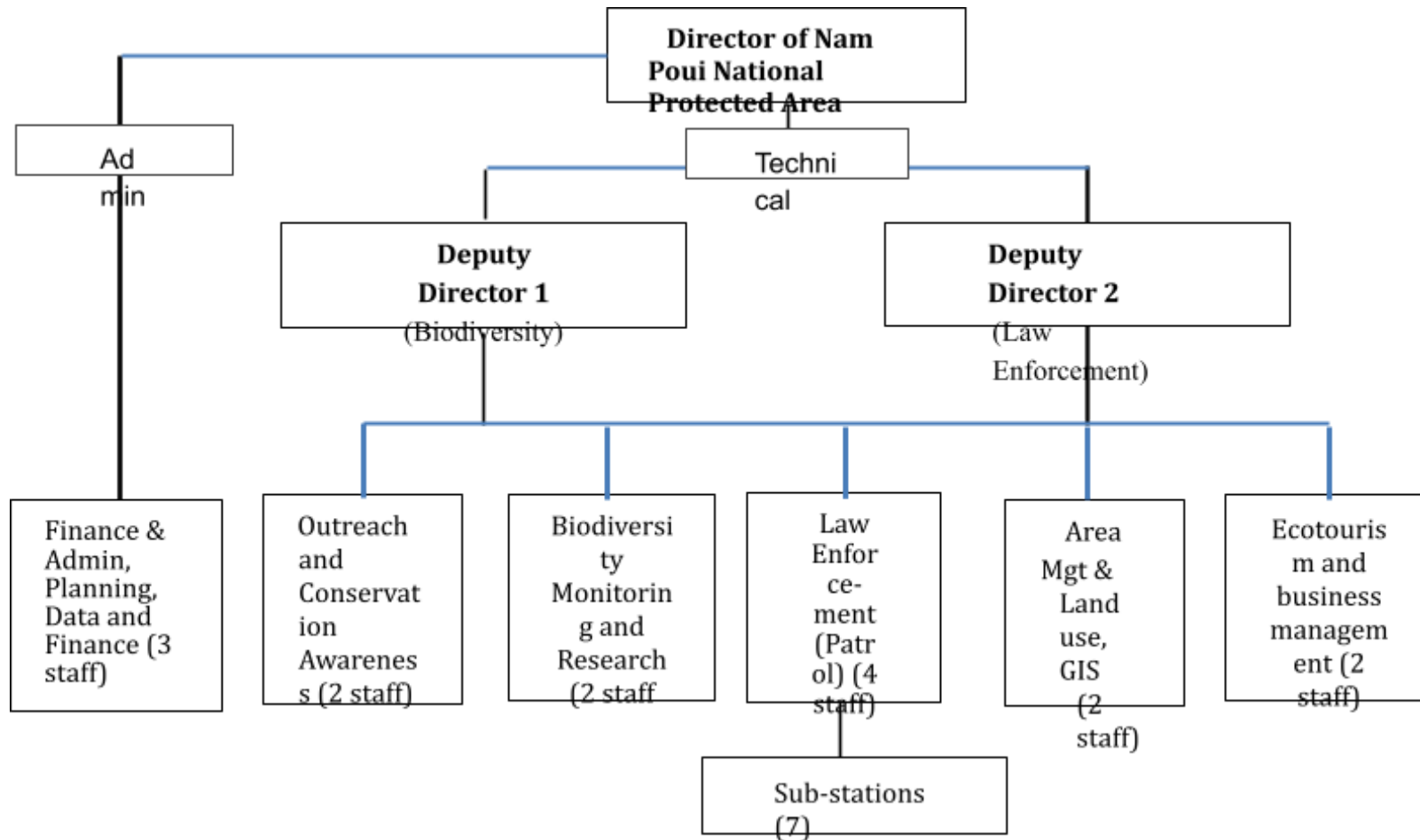
Programme/Component	Budget Plan (2021-2025)					Total costs (USD)
	2021	2022	2023	2024	2025	
1. Investment costs	332,000	44,000	75,000	75,000	10,000	536,000
2. Consulting costs	105,000	105,000	57,000	24,000	24,000	315,000
3. Sub-Programmes						
3.1 General management and capacity building	30,500	62,000	90,500	55,500	41,000	279,500
3.2 Collaborative management practice	15,000	80,200	112,000	67,000	8,000	278,000
3.3. Biodiversity conservation and monitoring	3,000	159,000	136,000	117,000	59,000	474,000
3.4. Outreach and conservation awareness	11,000	99,900	69,900	-	-	180,800
3.5 Law enforcement	59,000	92,500	77,500	59,500	32,500	321,000
3.6 Land use planing and zoning	49,500	99,500	54,500	25,950	13,500	242,950
3.7 Sustainable livelihood development	10,500	42,700	264,300	273,500	17,500	608,500
Basic operational costs	101,040	101,040	101,040	88,110	65,250	393,480
Basic costs	716,540	885,840	1,037,740	785,560	270,750	3,629,230
Contingency (10%)	71,654	88,584	103,774	78,556	27,075	362,923
Grand Total	788,194	974,424	1,141,514	864,116	297,825	3,992,153

In case, Nam Poui NPA management arrangements have been developed in place with vehicles and equipment the basic operational costs apart from GoL staff salaries will be at least USD 150,000 annum and can optimum at USD300,000. Therefore, the NPA has to have some secured budget for implementing the collaborative management of the NPA.

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Annex 1. Organisation Structure of Nam Poui
NPA Headquarters



Annex 2. Terms of References for each Unit of the Nam Poui NPA

1. Administration Unit, Planning, Data and Finance

- Maintain books and accounts (financial record keeping) on management
- Manage procurement of goods and services
- Prepare budgets and plan and monitor resource use
- Identify staffing needs and necessary training
- Monitor and evaluate staff performance
- Maintain stores and inventories of equipment and supplies
- All important information to be collect and backed-up properly.
- Collect and to ensure all documents of projects, reports to be kept in the data system.
- Work with other team to collect a series of reports by each team
- Collect and to ensure all documents of projects, reports to be kept in the data system.
- Provide necessary data and reports in cooperation with relevant units
- Provide contributions on Admin, Planning, Data and Finance into the 5-year NPA mgt plan.

2. Outreach and Conservation Awareness Unit

- Conduct a problem analysis and develop an outreach strategy to suppress the emerging threats to an NPA in partnership with other stakeholders.
- To support, training, encourage and supervise district outreach team
- Develop monthly, three monthly and annual work plans for outreach activities.
- Organize village meetings to discuss sustainable livelihood related issues and conservation issues in relation to the zoning.
- Deliver structured community awareness programmes.
- Design awareness/education publications and materials.
- Research and design curriculum-based schools programmes.
- Organize environmental education campaigns in schools, with emphasis on buffer zones.
- Conduct attitude surveys in local communities.
- Organize special events e.g wildlife day, tree planting events, nature camps.
- Provide information to, and work with, the mass media, including local radio, journalists from newspapers and magazines, television companies to promote protected area issues.
- Provide contributions on Community Outreach into the 5-year NPA mgt plan.

3. Biodiversity Monitoring and Research Unit

- To support, training, encourage and supervise district biodiversity monitoring teams
- Promote a Biodiversity Research network, championed by interested national and international academics or researchers (if possible).
 - Collate research reports and records on all aspects of biodiversity.
 - Promote biodiversity assessments on selected taxonomic groups.
- Act as counterparts to visiting researchers
- Organize a biodiversity monitoring programme (any monitoring method designed).
- Organize annual or regular censuses of endangered and threatened species.
 - Organize camera trapping surveys and line transect surveys
 - Hold annual / biannual meetings to discuss research priorities
 - Produce an annual report on biodiversity achievements
- Provide contributions on Biodiversity Research into the 5-year NPA mgt plan.

4. Law Enforcement Unit

- To support, training, encourage and supervise district law enforcement teams
- Design law enforcement strategy to guide implementation of field activities
- If needed, establish multi-functional ranger stations at strategic locations, particularly in remote border areas.
- Establish checkpoints along roads entering the protected area.
- Establish patrolling sectors within the protected area.
- Design and develop a result-based monthly patrol plan to effectively suppress emerging threats to NPA
- Monitor the boundary to ensure no encroachment or removal of boundary posts.
- Supervise capacity building of village patrolling units.
- Undertake patrols in the protected area, recording both threats and significant biodiversity sightings.
- Establish a mobile patrol unit, which operates both with the PA and the BuZ.
- Maintain a biodiversity and law enforcement database.
- Organize regular monthly meetings of senior law enforcement staff.
- Organize a patrolling strategy, comprising short patrols (1–2 days), long patrols (5–15 days), information gathering, road blocks, making and monitoring village agreements.
- Establish a legal working group to act as crime prosecution unit to deal with illegal activities may occur in the NPA
- Provide contributions on Law Enforcement into the 5-year NPA mgt plan.

5. Area Management, Land Use and GIS Unit

- Define zones and demarcate boundaries of TPZ and NPA boundaries
- Review NPA boundaries at where land use conflicts
- Collect all information of zones, NPA boundaries, including number of posts and signboards.
- To define necessary boundaries of zones of the NPA.
- To construct NPA boundary demarcation posts and signboard
- Collect all information of development projects associated with the Nam Poui NPA.
- Participate in surveys of proposed project development in the NPA
- Hold annual / biannual meetings to discuss zoning and boundary issues
- Produce an annual report on area management achievements
- Collate monthly GPS tracking data from patrolling teams, biodiversity monitoring teams, livelihood development teams.
- Work with other team to collect a series of reports by each team
- To produce a series of maps of the NPAs based on the needs
- Provide contributions on Area Mgt and Land Use into the 5-year NPA mgt plan.

6. Ecotourism and Investment Management Unit

- Establish a local ecotourism network or association, linking to the provincial tourism authority, private tour companies, service providers and hotels, and other local tourism sites to promote ecotourism within the National Protected Area.
- Develop monthly, three monthly and annual work plans for tourism activities.
- Identify recreation opportunities and appropriate recreation activities, including “tourism products”.
- Establish a fund mechanism from ecotourism to enhance support from local communities and other partners.
- Promotion and marketing of tourism products.
- Operate entrance ticketing and sales points.
- Guide visitors on specialized activities.

- Identify information needs about visitors.
- Collect information about visitors and activities.
- Design interpretative trails and information signs/exhibits.
- Define controlled use zones for recreation and locations based upon appropriateness and compatibility.
- Develop, monitor and supervise tourism concessions and commercial concessions, particularly involving local communities.
- Lead development of tourism strategies and plans, linking to private sector.
- Collect and register all investment projects, business, shops relevant to ecotourism.
- Provide contributions on Ecotourism and Investment Management into the 5-year NPA mgt plan.

Annex 3. Draft Minister's Agreement on the Nam Poui NPA Steering Committee



LAO PEOPLE'S DEMOCRATIC REPUBLIC
Peace, Independence, Democracy, Unity and Prosperity
====00000====

Ministry of Agriculture and Forestry

No

/MAF

Vientiane, Dated.....

Draft Agreement on Establishing Steering Committee of Nam Poui National Protected Area and its Arrangement for Supporting the Collaborative Management

- Pursuant to the Government's Decree No. 134/GoL, dated 13rd November, 2015 on Protected Areas;
- Pursuant to the Forestry Law No. 64/NA, dated 13/06/2019
- Pursuance Prime Minister's Decree No. 262/PM, dated 28th July, 2012 on Organisation and Activities of Ministry of Agriculture and Forestry;

Minister of MAF agrees:

Article 01. Establish the Nam Poui NPA Steering Committee

- | | |
|--|--------------|
| 1. Vice-Provincial Governor | Chair |
| 2. Deputy Director of Department of Forestry | Vice-Chair 1 |
| 3. Director of Xayabouri PAFO | Vice-Chair 2 |
| 4. Department of Secretariat/Ministry of Defense | Member |
| 5. Department of Forestry (PAMD) | Member |
| 6. Director of Provincial Planning and Investment | Member |
| 7. Director of National Front Construction | Member |
| 8. Director of Provincial Information, Culture and Tourism | Member |
| 9. Director of Provincial Lao Women's Union | Member |
| 10. Director of Provincial Military Office | Member |
| 11. Director of Provincial Education and Sports | Member |
| 12. Director of Provincial Public Health | Member |
| 13. Director of Provincial Police Office | Member |
| 14. Vice-District Governor of Phiang District | Member |
| 15. Vice-District Governor of Paklay District | Member |
| 16. Vice-District Governor of Thongmixay District | Member |
| 17. Head, Phiang DAFO | Member |
| 18. Head, Paklay DAFO | Member |
| 19. Head, Thongmixay DAFO | Member |

Article 02. Role and Responsibility of the Nam Poui NPA Steering Committee

1. Provide advice and direction of the Nam Poui NPA Management based on its management plan; be consistent with national socio-economic development plan; and relevant international treaty that Laos is being a party;
2. To appoint technical steering committee) of the Nam Poui NPA Management;
3. To improve organisation structure and appoint director and deputy directors of the Nam Poui NPA Management Authority;
4. Help negotiate with some concerned investors for mitigation adverse impacts and raising fund for the Nam Poui NPA management;
5. Help solve some problems incur in the province related to the NPA management.

Article 03. Establish District Steering Committee (for each district)

- | | |
|--|------------|
| 1. Vice-District Governor | Chair |
| 2. Head, DAFO | Vice-Chair |
| 3. Head, National Front Construction | Member |
| 4. Head, District Information, Culture and Tourism | Member |
| 5. Head, District Lao Women's Union | Member |
| 6. Head, District Education and Sports | Member |
| 7. Head, District Public Health | Member |
| 8. Head, District Military Office | Member |
| 9. Head, District Police Office | Member |

Article 04. Role and Responsibility of the District Steering Committee

1. Provide advice and direction of the Nam Poui NPA Management based on its management plan; be consistent with national socio-economic development plan;
2. Provide advice and technical support for the District Coordination Office/Technical Teams for the implementation of the Nam Poui NPA Management according to its management plan;
3. Monitor and evaluate the Nam Poui NPA Management conducted in the district;
4. Help solve some problems incur in the district related to the NPA management.

Article 05. Establish the Nam Poui NPA Mgt Technical Panel

- | | |
|--|------------|
| 1. Deputy Director of Department of Forestry | Chair |
| 2. Deputy Director of Xayabouri PAFO | Vice-Chair |
| 3. Rep. of Department of Forestry | Member |
| 4. Rep. of Provincial Forest Inspection Office | Member |
| 5. Rep. of Provincial Military Office | Member |
| 6. Rep. of Provincial Lao Women's Union | Member |
| 7. Head or Deputy Head of Phiang DAFO | Member |
| 8. Head or Deputy Head of Paklay DAFO | Member |
| 9. Head or Deputy Head of Thongmixay DAFO | Member |
| 10. Rep. of other organisations e.g NGOs | |

Article 06. Roles and Responsibilities of the Nam Poui NPA Mgt Technical Panel

5. Provide advice for the implementation of the Nam Poui NPA Management Authority to ne consistent with national socio-economic development plan;
6. Provide technical advice for the implementation of the Nam Poui NPA Management according to its management plan;
7. To provide advice for developing management plan, annual workplan and budget;
8. To approve the annual plan and budget plan with consistent support;
9. To hold a meeting to report the progress of the implementation of the Nam Poui NPA management plan;
10. Each member shall appoint 2 provincial staff to coordinate this work at provincial level and 2–3 district staff to participate at district level as District Implementing Team to support the collaborative management.
11. To monitor, inspect and evaluate the management and implementation of the Nam Poui

NPA management.

Article 07. Management authority of the Nam Poui NPA

1. Nam Poui NPA Management Authority is an unit of the government structure with at least 20 staff being operated under PAFO of Xayabouri Province;
2. The Office has administrative level at deputy director of Provincial Forestry Section;
3. The Office has to have its bank account in Phiang District with management authority;
4. For decision making process of land survey for concession will be made in consultation with central level, the Department of Forestry, MAF;
5. For technical, staff and financial matter, the Office has direct line of coordination with Protected Area Management Division of Department of Forestry, MAF;
6. All relevant projects being proposed; planned or having worked in the Nam Poui NPA shall consult and report to the Nam Poui NPA MA regularly;
7. The Managing team of the Nam Poui NPA Management Authority shall do administration, management, planning, financing and reporting regularly.

Article 08. Roles and Responsibilities of the managing team of the Nam Poui NPA Management Authority

1. To do procurement, purchase equipment/goods and recruit staff, contact staff (including experts) for the Nam Poui NPA Management Authority in close cooperation with PAFO of Xayabouri Province to ensure of principal judgment and through transparency process;
2. To do administration, planning, budgeting and reporting to appropriate levels to ensure it is transparency, accountability and timely;
3. To implement the Nam Poui NPA mgt plan as well as other government's policies, laws, decrees, plans, regulations as to ensure for consistency;
4. To conduct and participate in research, surveys, and any missions are relevant to protected area management and undertake in and adjacent to the NPA;
5. To coordinate and cooperate with all relevant government offices in the province, participating districts for implementing the PA mgt;
6. To collect data, storage, analysis and dissemination the result of work;
7. To prepare and revise NPA management plan, regulations from time to time;
8. To collect fees from tourism business in the NPA and other relevant development projects that generate negative impact on the NPA including survey projects for concession;
9. To evaluate staff performance, management and work delivery;
10. To keep records of all works conducted including administration, financial and technical aspect.

Article 09. The Working System

1. The implementation of the work will be collectively made by consensus among the managing team of the Nam Poui NPA Management Authority, assigning particular tasks to individual staff with one final decision.
2. The work will be conducted based on the plan, programme and projects with priorities and milestones set periodically.
3. To work with relevant sectors closely from central to provincial, district and site level.
4. The work will be implemented under direction, having inspected, encouraged and conducted for lessons learnt, evaluated through a series of meetings from weekly to monthly, quarterly, bi-annually and annually.

Article 10. The Budgeting

1. The financial sources for Nam Poui NPA management will from interested donors, aid projects, carbon credits and government.
2. The financing will be managed by the Nam Poui NPA Management Authority under the oversight of the Nam Poui NPA Management Technical Steering Committee.
3. Third party or the State Inspection organisation can inspect the financial matter of the Nam Poui NPA, if necessary.

Article 11. The Implementation

Departments, centre, institutions within Ministry of Agriculture and Forestry, any relevant organisations, partners working in the Nam Poui NPA as well as the participating districts, appointed persons shall be aware and implement it effectively.

Article 12. The Effectiveness

This agreement takes effectiveness from the date of signature.

Minister,
Ministry of Agriculture and Forestry

Annex 4. Workschedule

No	Component/Activity	2021				2022				2023				2024				2025				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
12.1	Strengthening the capacity for Nam Poui NPA Co-Management																					
12.1.1.1	Prepare and propose new organisation structure of Nam Poui NPA with appointing a director, deputy directors, units as well as roles and responsibilities of each unit in order to make ready for becoming a ASEAN Heritage Park in the near future.		X	X	X	X	X	X	X													
12.1.1.2	Approval of Ministry on the organization structure of Nam Poui NPA with appointing a director, deputy directors, units as well as roles and responsibilities of each unit.					X	X	X	X	X	X											
12.1.2	Staffing																					
12.1.2.1	Recruit staff based on the wanted posts					X	X	X	X													
12.1.2.2	Recruit district staff for supporting the NPA management in each district					X	X	X	X													
12.1.2.3	Conduct training needs assessment for staff by TA					X	X	X	X													
12.1.2.4	Orientate direction and co-management approach to the staff team by TA					X	X	X	X	X	X											
12.1.3	Upgrade to ASEAN Heritage Park status																					
12.1.3.1	Coordinate with central government for preparation Nam Poui ASEAN Heritage Park					X	X	X	X													
12.1.3.2	Prepare the document with central government for establishing Nam Poui AHP					X	X	X	X	X	X											
12.1.3.3	Conduct assessment, consultation and preparation for establishing Nam Poui AHP									X	X	X	X									
12.1.4	Regulations of AHP																					
12.1.4.1	Prepare draft regulations of Nam Poui AHP through a participatory approach									X	X	X	X	X	X	X						
12.1.4.2	Conduct consultation on the draft regulations of Nam Poui AHP with relevant stakeholders													X	X	X	X					
12.1.4.3	To revise and finalize for approval of draft regulations of Nam Poui AHP															X	X	X	X			
12.1.4.4	District regulations for AHP management (be equally implemented to all kumban and villages)															X	X	X	X	X	X	X

Annex 5. Indicative Budgets

I Basic Budget Costs for Nam Poui NPA Management Authority										
No	Item	Unit	Unit cost	Amount per year	Budget Plan (2021-2025)					Total costs (USD)
					2021	2022	2023	2024	2025	
1	Staff cost				60,240	60,240	60,240	47,310	24,450	252,480
1.1	Salaries				12,000	12,000	12,000	12,000	0	48,000
1.1.1	GoL staff from GoL budget	month	500	12						
1.1.2	Volunteers (5)	month	200	12	12,000	12,000	12,000	12,000		48,000
1.2	Allowances for unplanned activities				48,240	48,240	48,240	35,310	24,450	204,480
1.2.1	Director	day	30	60	1,800	1,800	1,800	900	900	7,200
1.2.2	Deputy Director (2)	day	30	60	3,600	3,600	3,600	1,800	1,800	14,400
1.2.3	Unit Heads (6)	day	30	50	9,000	9,000	9,000	9,000	4,500	40,500
1.2.4	Technical Staff and adm (7)	day	30	50	9,000	9,000	9,000	7,500	4,500	39,000
1.2.5	Field Station (9)	day	30	50	4,500	4,500	4,500	4,500	4,500	22,500
1.2.6	District Coordination staff (9)	day	15	50	6,750	6,750	6,750	3,750	3,750	27,750
1.2.7	Villagers for Checkpoints (8)	day		0	0	0	0	0	0	0
1.2.8	Volunteers (5)	day	30	50	7,500	7,500	7,500	4,500	4,500	31,500
1.2.9	District Livelihood team (12 staff)	day	7	30	2520	2520	2520	1260		8,820
1.2.10	District Law Enforcement team	day	7	30	1890	1890	1890	1050		6,720
1.2.11	District outreach team	day	7	30	1680	1680	1680	1050		6,090
2.	Office Running Cost (incl. Communication)				18,000	18,000	18,000	18,000	18,000	90,000
2.1	Headquarter Office	month	700	12	8,400	8,400	8,400	8,400	8,400	42,000
2.2	Field Station (3)	month	100	12	3,600	3,600	3,600	3,600	3,600	18,000
2.3	District Coordination Office (3)	month	100	12	3,600	3,600	3,600	3,600	3,600	18,000
2.4	Checkpoints (4)	month	50	12	2,400	2,400	2,400	2,400	2,400	12,000
3.	Transportation (Fuel and Maintenance) Costs				22,800	22,800	22,800	22,800	22,800	51,000
3.1	4WD Vehicle (7)	month	150	12	12,600	12,600	12,600	12,600	12,600	63,000
3.2	Motorcycles (17)	month	50	12	10,200	10,200	10,200	10,200	10,200	51,000
Total					101,040	101,040	101,040	88,110	65,250	393,480

II Investments for Nam Poui NPA Management Authority										
No	Item	Unit	No	Unit cost	Budget Plan (2021-2025)					Total costs (USD)
					2021	2022	2023	2024	2025	
1.	Buildings				0	44,000	75,000	40,000	5,000	164,000
1.1	HQ Office Renovation	No	1	25,000		15,000	10,000		3,000	28,000
1.2	Sub-Station offices (2) Renovation	No	2	7,000		14,000				14,000
1.3	Sub-Station office (1) construction	No	1	15,000		15,000				15,000
1.4	District Coordination Offices (3) Renovation	No	3	15,000			45,000			45,000
1.5	Checkpoints (4)	No	4	5,000			20,000			20,000
1.6	Visitor Centre (Exhibition house)	No	1	40,000				40,000	2,000	42,000
2.	Vehicles				237,000	0	0	10,000	5,000	252,000
2.1	4WD Vehicle (5) for HQ	No	5	40,000	200,000					200,000
2.2	Motorcycles (18: 4xHQ, 6xSS, 6xDCO, 4CP)	No	18	1,500	27,000					27,000
2.3	4WD Vehicle (2) Reparation (big operation)	No	2	5,000	10,000			10,000	5,000	25,000
3.	Equipment				95,000	0	0	25,000	0	120,000
3.1	Photocopy Machines (4)	No	2	2,500	5,000					5,000
3.2	Computers and Printers (15: 6xHQ, 3xSS, 6xDCO)	No	15	1,500	22,500					22,500
3.3	Cameras (17: 4xHQ, 3xSS, 6xDCO, 4CP)	No	17	500	8,500					8,500
3.4	Binoculars (10: 4xHQ, 3xSS, 3xDCO)	No	10	100	1,000					1,000
3.5	Camera traps (50 Units) for HQ	No	50	300	15,000					15,000
3.6	LCD/projectors	No	4	1,500	6,000					6,000
3.7	Outreach materials (speakers, amplify)	No	4	3,000	12,000					12,000
3.9	Uniforms for staff and village patrol team	Lump sum	1	10,000	10,000			10,000		20,000
3.10	Other necessary office and field equipment	Lump sum	3	5,000	15,000			15,000		30,000
Total					332,000	44,000	75,000	75,000	10,000	536,000
Remarks: HQ = Headquarters Office, SS = Sub-station, DCO = District Coordination Office, CP = Checkpoint										

III Consultancy for Nam Poui NPA Management Authority										
No	Item	Unit	Amount	Unit cost	Budget Plan (2021-2025)					Total costs (USD)
					2021	2022	2023	2024	2025	
1	International Consultants				30,000	30,000	0			60,000
	Fees				30,000	30,000	0			60,000
1.1.	Biodiversity Conservation Advisor	Month	12	5,000	30,000	30,000				60,000
2	National Consultants				75,000	75,000	57,000	24,000	24,000	255,000
	Fees				75,000	75,000	57,000	24,000	24,000	255,000
2.1	Protected Area Management Advisor	Month	30	4,000	24,000	24,000	24,000	24,000	24,000	120,000
2.2	Law Enforcement Expert	Month	12	3,000	18,000	18,000				36,000
2.3	Livelihood and land use Expert	Month	12	3,000	18,000	18,000	18,000			54,000
2.4	Outreach Expert	Month	12	2,500	15,000	15,000				30,000
2.5	Ecotourism expert	Month	6	2,500			15,000			15,000
	Total				105,000	105,000	57,000	24,000	24,000	315,000

12 Activity Programme and Budget for Nam Poui NPA Management

No	Activity	Unit	Unit cost	Amount	Budget Plan (2021-2025)					Total costs (USD)
					2021	2022	2023	2024	2025	
12.1	General management and capacity building				30,000	62,000	90,500	55,500	41,000	279,000
12.1.1	Organizational structure				3,000	1,000	-	-	-	4,000
12.1.1.1	Prepare and propose new organisation structure of Nam Poui NPA with appointing a director, deputy directors, units as well as roles and responsibilities of each unit in order to make ready for becoming a ASEAN Heritage Park in the near future.	Event	1,000	2	2,000					2,000
12.1.1.2	Approval of Ministry on the organization structure of Nam Poui NPA with appointing a director, deputy directors, units as well as roles and responsibilities of each unit.	Event	1,000	1	1,000	1,000				2,000
12.1.2	Staffing				5,000	1,000	-	-	-	6,000
12.1.2.1	Recruit staff based on the wanted posts	Event	1,000	3	1,000					1,000
12.1.2.2	Recruit district staff for supporting the NPA management in each district	Event	1,500	1	1,500					1,500
12.1.2.3	Conduct training needs assessment for staff by TA	Event	1,500	1	1,500					1,500
12.1.2.4	Orientate direction and co-management approach to the staff team by TA	Event	1,000	2	1,000	1,000				2,000
12.1.3	Upgrade to ASEAN Heritage Park status				2,500	5,000	-	-	-	7,500
12.1.3.1	Coordinate with central government for preparation Nam Poui ASEAN Heritage Park	Event	1,000	1	1,000					1,000
12.1.3.2	Prepare the document with central government for establishing Nam Poui AHP	Event	1,500	2	1,500	1,500				3,000
12.1.3.3	Conduct assessment, consultation and preparation for establishing Nam Poui AHP	Event	3,500	1		3,500				3,500
12.1.4	Regulations of AHP				-	3,000	16,500	-	-	19,500
12.1.4.1	Prepare draft regulations of Nam Poui AHP through a participatory approach	Lumpsum	3,000	1		3,000				3,000
12.1.4.2	Conduct consultation on the draft regulations of Nam Poui AHP with relevant stakeholders	Event	3,000	1			3,000			3,000
12.1.4.3	To revise and finalize for approval of draft regulations of Nam Poui AHP	Lumpsum	3,000	1			3,000			3,000
12.1.4.4	District regulations for AHP management (be equally implemented to all kumban and villages)	Lumpsum	3,500	3			10,500			10,500
12.1.5	Capacity building for Nam Poui NP staff and its partners by TA/experts				3,000	23,500	31,500	21,000	5,000	84,000
12.1.5.1	Training 1. Admin, office management, planning, reporting and data system including filing	Event	1,500	3	1,500	1,500	1,500			4,500
12.1.5.2	Training 2. Outreach with activity plan for district team and villages	Event	1,500	3	1,500	1,500	1,500			4,500
12.1.5.3	Training 3. Law enforcement with activity plan for district team and villages	Event	1,500	2		1,500	1,500			3,000
12.1.5.4	Training 4. Biodiversity conservation and biodiversity monitoring practice	Event	1,500	2		1,500	1,500			3,000
12.1.5.5	Training 5. Forest fire prevention with activity plan for villages with activity plan for district team	Event	1,500	3		1,500	1,500			3,000
12.1.5.6	Training 6. Forest rehabilitation with activity plan for district team and villages	Event	1,500	2		1,500	1,500			3,000
12.1.5.7	Training 7. Livelihood development and extension with activity plan for district team	Event	1,500	3		1,500	1,500			3,000
12.1.5.8	Training 8. English (vocational training at Nam Poui NPA HQ)	Event	5,000	4		5,000	5,000	5,000	5,000	20,000
12.1.5.9	Study tours for managers and staff team	Event	8,000	3		8,000	16,000	16,000		40,000

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12.1.6	<i>In-house capacity building of Nam Poui NPA team</i>				5,000	15,000	18,000	18,000	18,000	74,000
12.1.6.1	Conservation Outreach practice	Event/y	5,000	1	5,000	5,000	5,000	5,000	5,000	25,000
12.1.6.2	Law enforcement practice and network of information	Event/y	5,000	1		5,000	5,000	5,000	5,000	20,000
12.1.6.3	Livelihoods of staff and livelihood development examples		5,000	1		5,000	5,000	5,000	5,000	20,000
12.1.6.4	Exhibition and facilitation practice	Lumpsum	3,000	1			3,000	3,000	3,000	9,000
12.1.7	<i>Meetings of protected area management</i>				9,000	9,000	9,000	9,000	9,000	45,000
12.1.7.1	Meeting of Nam Poui NPA Steering Committee	Event/y	3,000	1	3,000	3,000	3,000	3,000	3,000	15,000
12.1.7.2	Annual staff meeting (information exchange, lessons learned)	Event/y	3,000	1	3,000	3,000	3,000	3,000	3,000	15,000
12.1.7.3	Meetings with stakeholders and development partners	Lumpsum	3,000	1	3,000	3,000	3,000	3,000	3,000	15,000
12.1.8	<i>M&E, Adaptive Management</i>				3,000	1,500	1,500	1,500	6,000	13,500
12.1.8.1	Conduct METT exercise involving key experts and stakeholders	Event	1,500	2	1,500				1,500	3,000
12.1.8.2	Review the results and impacts of the different components	Lump sum	1,500	1	1,500	1,500	1,500	1,500	1,500	7,500
12.1.8.3	Improve the NPA management plan as needed		3,000	1					3,000	3,000
12.1.9	<i>Sustainable Financing</i>				-	3,000	14,000	6,000	3,000	26,000
12.1.9.1	Study and identify financing sources for Nam Poui AHP	Lump sum	5,000	1			5,000			5,000
12.1.9.2	Facilitate to support for the development of financing sources e.g ecotourism	Event	3,000	1			3,000	3,000		6,000
12.1.9.3	Prepare for developing financial mechanism management	Event	3,000	2		3,000	3,000			6,000
12.1.9.4	Funding mobilization	Lump sum	3,000	1			3,000	3,000	3,000	9,000

12 Activity Programme and Budget for Nam Poui NPA Management

No	Activity	Unit	Unit cost	Amount	Budget Plan (2021-2025)					Total costs (USD)
					2021	2022	2023	2024	2025	
12.2	Collaborative management				15,000	80,200	112,000	67,000	8,000	278,000
12.2.1	Conservation agreements for collaborative management				10,500	7,200	3,000	3,000	3,000	22,500
12.2.1.1	<i>Establish district agreements by District Governor on collaborative management of Nam Poui NPA (1 agreement per district) incl. establishment of district implementation teams (e.g. outreach, law enforcement, livelihood support etc)</i>				10,500	-	-	-	-	10,500
12.2.1.1.1	Discuss with district government on developing the district agreements to support the collaborative management of Nam Poui NPA.	District	1,000	3	3,000					3,000
12.2.1.1.2	Draft the district agreement for collaborative management (army, policy, DAFO, NFC, LWU, Education and project)	District	1,000	3	3,000					3,000
12.2.1.1.3	Endorse the district agreement and implementation by District	District	1,500	3	4,500					4,500
12.2.1.2	<i>Village conservation agreements in selected target villages (14)</i>				-	7,200	3,000	3,000	3,000	12,000
12.2.1.2.1	Prepare a model for village conservation agreements	Village	200	3		3,000				3,000
12.2.1.2.2	Sign village conservation agreements for 14 villages as part of livelihood activity	Village	300	14		4,200				
12.2.1.2.3	Monitor with district the implementation of conservation agreements regularly	District	1,000	3			3,000	3,000	3,000	9,000
12.2.2	Training for district teams (DOC/DIT)				-	35,000	50,000	20,000	-	105,000
12.2.2.1	Conduct training in outreach and conservation awareness with exercises	District	5,000	3		15,000	15,000			30,000
12.2.2.2	Conduct training in law enforcement with exercises	District	5,000	3		15,000	15,000			30,000
12.2.2.3	Conduct training in livelihood development with exercises	District	5,000	3			15,000	15,000		30,000
12.2.2.4	Leadership training	District	5,000	1		5,000	5,000	5,000		15,000
12.2.3	Support training activities of relevant office districts				-	24,000	45,000	30,000	-	99,000
12.2.3.1	Conduct outreach, conservation campaigns and training by District outreach team	District	5,000	3		15,000	15,000			30,000
12.2.3.2	Conduct law enforcement by district law enforcement team	District	5,000	3		15,000	15,000			30,000
12.2.3.3	Conduct training activities for livelihood development by district livelihood deve't team	District	7,000	3			21,000	21,000		42,000
12.2.3.4	Other necessary relevant activities and training activities by district teams	District	3,000	3		9,000	9,000	9,000		27,000
12.2.4	Meetings and evaluation and adaptive management				4,500	14,000	14,000	14,000	5,000	51,500
12.2.4.1	Quarterly meeting	District	1,500	3	4,500	4,500	4,500	4,500		18,000
12.2.4.2	Evaluation and adaptive management meeting (bi-annual and annual) by Nam Poui NPA MA	Lump sum	5,000			5,000	5,000	5,000	5,000	20,000
12.2.4.3	Other necessary meetings (ad hoc)	District	1,500	3		4,500	4,500	4,500		13,500

12 Activity Programme and Budget for Nam Poui NPA Management

No	Activity	Unit	Unit cost	Amount	Budget Plan (2021-2025)					Total costs (USD)
					2021	2022	2023	2024	2025	
12.3	Biodiversity conservation and monitoring				3,000	159,000	136,000	117,000	59,000	474,000
12.3.1	Biodiversity Inventory				1,000	101,000	50,000	51,000	-	203,000
12.3.1.1	Prepare for recruiting biodiversity assessment team (ToR for advertisement)	Lump sum	1,000	1	1,000					1,000
12.3.1.2	Conduct biodiversity assessment by or with WWF/the assigned specialist team	Lump sum	100,000	1		100,000				100,000
12.3.1.2	Conduct population census of key large mammal species by WWF	Lump sum	100,000	1			50,000	50,000		100,000
12.3.1.3	Reporting and disseminations	Lump sum	1,000	1		1,000		1,000		2,000
12.3.2	Biodiversity monitoring				-	53,000	80,000	50,000	53,000	236,000
12.3.2.1	Design and prepare for long-term biodiversity monitoring (indicator and camera trapping)		3,000	1		3,000				3,000
12.3.2.2	Conduct biodiversity monitoring of an indicator species (e.g gibbon) by WWF	Lump sum	30,000	1			30,000			30,000
12.3.2.3	Conduct species diversity and large mammal moving patterns monitoring by camera trapping	Lump sum	50,000	1		50,000	50,000	50,000	50,000	200,000
12.3.2.4	Prepare baselines for biodiversity monitoring in Nam Poui NPA	Lump sum	3,000	1					3,000	3,000
12.3.3	Biodiversity research				2,000	5,000	6,000	6,000	5,000	24,000
12.3.3.1	Preparation for specific biodiversity research of interests and research proposals	Lump sum	3,000	1		3,000			3,000	6,000
12.3.3.2	Contact academia institutes and for fund raising	Lump sum	2,000	1	2,000	2,000			2,000	6,000
12.3.3.3	Conduct biodiversity research projects (including support some student research projects)	Lump sum	5,000	1			5,000	5,000		10,000
12.3.3.4	Reporting and disseminations	Lump sum	1,000	1			1,000	1,000		2,000
12.3.4	Species recovery plan				-	-	-	10,000	1,000	11,000
12.3.4.1	Define and prepare for large mammal recovery plan e.g gibbon, elephant and gaur	Lump sum	10,000	1				10,000		10,000
12.3.4.2	Incooperate the species recovery plan into any management interventions by TA									
12.3.4.3	Reporting and disseminations	Lump sum	1,000	1					1,000	1,000

No	Activity	Unit	Unit cost	Amount	Budget Plan (2021-2025)					Total costs (USD)
					2021	2022	2023	2024	2025	
12.6	Conducting land use planning and zoning				49,500	99,500	54,500	25,950	13,500	242,950
12.6.1	Land use planning and village forest land certification				36,000	84,500	35,000	-	-	155,500
12.6.1.1	Review and update existing land use plans of target villages (34)	Village	3,000	34	36,000	36,000				72,000
12.6.1.2	Conduct new land use planning for target villages at household level with land use certificates	Village	5,000	14		40,000	30,000			70,000
12.6.1.3	Assist villagers to set-up local bylaws on land use	Village	500	37		8,500	5,000			13,500
12.6.2	Area and zoning management				-	1,500	4,500	4,950	4,500	15,450
12.6.2.1	Demarcate the NPA boundaries (additional) with signs and posts	Post	50	50			1,500	1,000		2,500
12.6.2.2	Signboards of regulations and information at appropriate access for TPZ.	Sign	100	25			1,000	1,500	3,000	5,500
12.6.2.3	Demarcate totally protected zones where at access necessary together with local villagers	Village	50	19			500	950		1,450
12.6.2.4	Monitor land uses, boundaries and zoning	Lump sum	1,500	1		1,500	1,500	1,500	1,500	6,000
12.6.3	Forest fire prevention in the NPA				13,500	13,500	4,500	4,500	-	36,000
12.6.3.1	Conduct awareness raising on forest fire prevention prior to the forest fire season	District	1,500	3	4,500	4,500	4,500	4,500		18,000
12.6.3.2	Train villagers of the key villages in establishing fire breaks at critical locations	Village	1,500	3	4,500	4,500				9,000
12.6.3.3	Control the use of fire in agricultural land preparation (and enforce it after notification)	District	1,500	3	4,500	4,500				9,000
12.6.4	Forest rehabilitation in the NPA (apart from land use)				-	-	10,500	16,500	9,000	36,000
14.6.4.1	Conduct rapid survey of severely degraded sites not able to regenerate naturally	Lump sum	3,000	1			3,000			3,000
14.6.4.2	Assist villages to set-up nurseries for indigenous tree species	District	2,500	3			7,500			7,500
14.6.4.3	Support in preparing actions and conducting basic village forest management and rehabilitation	Village	1,500	19				15,000	7,500	22,500
14.6.4.4	Monitor forest rehabilitation works at village	Lump sum	1,500	2				1,500	1,500	3,000

No	Activity	Unit	Unit cost	Amount	Budget Plan (2021-2025)					Total costs (USD)
					2021	2022	2023	2024	2025	
12.7	Improving sustainable livelihoods of local communities				10,500	42,700	264,300	273,500	17,500	608,500
12.7.1	Improve sustainable livelihood development				10,500	42,700	254,300	258,500	7,500	573,500
12.7.1.1	<i>Coordination and monitoring at district level</i>				7,500	25,500	24,000	24,000	4,500	85,500
12.7.1.1.1	Coordinate with district (relevant sectors and projects) on improved comm. dev't	Event	1,500	3	4,500	4,500	4,500	4,500		18,000
12.7.1.1.2	Formally establish district livelihood teams for Nam Poui by district governor (agreement letter)	District	500	3	1,500					1,500
12.7.1.1.3	Assess available budget at district level for livelihood development at Nam Poui villages	District	500	3	1,500	1,500				3,000
12.7.1.1.4	Conduct livelihood activity monitoring in target villages (regular visits)	District	5,000	3		15,000	15,000	15,000		45,000
12.7.1.1.5	Meeting for sharing information and identifying lessons learnt on livelihood improvement at district level	District	1,500	3		4,500	4,500	4,500	4,500	18,000
12.7.1.2	<i>Target village selection for livelihood development</i>				-	3,000	-	-	-	3,000
12.7.1.2.1	Review potentials of livelihood development of the NPA villages	District	1,000	3		3,000				3,000
12.7.1.2.2	Define priority for co-management based on location (inside and coincide), threats and natural resource dependence	District	1,000	3		-				-
12.7.1.3	<i>Prepare village action plan (target villages only)</i>				-	11,200	200,000	200,000	-	411,200
12.7.1.3.1	Livelihood development programme (livelihood activities)	Lumpsum	200,000	1			200,000	200,000		400,000
12.7.1.3.2	Conduct village conservation awareness and ownership for sustainable livelihood development, including training of teams	Village	500	14		7,000				7,000
12.7.1.3.3	Identify village group/leader, pilot families for livelihood improvement	Village		14						-
12.7.1.3.4	Prepare, present and discuss the draft village action plan to the villagers	Village	300	14		4,200				4,200
12.7.1.4	<i>Implement the livelihood development incl. training</i>				3,000	3,000	28,200	28,200	3,000	65,400
12.7.1.4.1	Conduct training (of trainers) on livelihood development at village level	Village	300	14			12,600	12,600		25,200
12.7.1.4.2	Conduct farmer to farmer exchange visits on livelihood development	Village	300	14			12,600	12,600		25,200
12.7.1.4.3	Conduct some surveys to define and address some human-elephant conflicts	Lumpsum	3,000	1	3,000	3,000	3,000	3,000	3,000	15,000
12.7.1.5	<i>Promote the leadership and ownership of livelihood development at local level</i>				-	-	2,100	6,300	-	8,400
12.7.1.5.1	Provide leadership training to village and cluster leaders including monitoring and reporting	Village	300	14			2,100	2,100		4,200
12.7.1.5.2	Empower village development group to conduct self-monitoring and reporting	Village	300	14				4,200		4,200
12.7.2	Improve ecotourism development				-	-	10,000	15,000	10,000	35,000
12.7.2.1	Conduct survey for potential eco-tourism sites and concession areas	Lumpsum	10,000	1			10,000			10,000
12.7.2.2	Prepare materials for tourist potential communication	Lumpsum	5,000	1				5,000		5,000
12.7.2.3	Assist potential entrepreneurs/investors in preparing business plans (provide matching funds?)	Lumpsum	5,000	1				5,000	5,000	10,000
12.7.2.4	Construction of some necessary tourist facilities	Lumpsum	5,000	1				5,000		5,000
12.7.2.5	Design and prepare billboards for tourism info and trash bills with ECC	Lumpsum	5,000	1					5,000	5,000

Annex 6. Yellow Leaf People

Mlabri: The Endangered “Yellow Leaf” Tribe in Lao PDR



Nam Poui National Protected Area (NPA) is located in Xayaboury Province, Lao PDR. While it is best known as home to one of the two most important populations of endangered Asian Elephants in Lao PDR, and the only NPA in Laos with a population of white-handed gibbon, it is also the only NPA in Lao PDR inhabited by the Mlabri ethnic group, commonly referred to as “yellow leaf people” or “spirits of the yellow leaves”

The Mlabri or Mrabri ethnic group is found only in Laos west of the Mekong River, and parts of Northern Thailand. Estimates of their remaining population size range from as high as a mere 400 people to as low as only 100 and they have been called “the most interesting and least understood people in Southeast Asia” (Schliesinger, 2003). The name Mlabri is a Lao/Thai derivative of the khmu language word *mrbri*, in which *mra* means person, and *bri* means forest. The name “yellow leaves” comes from the fact that the Mlabri are nomadic hunter-gatherers and make simple shelters from palm leaves and banana leaves in temporary camps. When the leaves have turned yellow (or after around one week) as it gets more difficult to find sufficient food in the area around the camp, they move on to another place (Ernatzik, 1938).

In Nam Poui NPA, there are only around 30 Mlabri people who live scattered in family groups of 3–5 people in the central part of the NPA, around Phou Pu (Pu mountain) and long the Houy Pong Nang (Pong Nang stream). There are few young people in the tribe making them vulnerable to extinction. None of them are registered as citizens of Lao PDR and they do not have I.D. cards or any other form of registration papers. It is reported that this tribe is also found in another forest in Xaysathan of north-west Xayaboury Province. In 2007, no doubt with the best of intentions, an attempt was made to relocate the Mlabri outside of the NPA and wooden houses with tin roofs were provided for them, as well as clothes and household utensils. They were provided with rice and taught how to cook it. However, after the second night they all fled the new houses and returned to the forest, clearly preferring the cool shade and their simple existence under the forest canopy.

In May 2010, the gibbon survey team of IUCN Lao PDR with Nam Poui NPA staff walked through the range of this tribe and met with some people. Two of them were able to communicate (albeit poorly) in the Lao language. The team leader Phaivanh Phiapalath said that “*From these two people we have learned that this tribe likes to live in deep forest where there is a pristine and quiet environment. They take care to protect their forest, and suppress forest fires, as well as using natural resources in a sustainable way*” He went on to explain that: “*for example, when they dig koi they always leave the tip part of it for germination*”. More recently their life-style has seen some changes including clustering their shelters together in a small community at Houy Pong Nang, using knives and shovels for digging, as well as using fishing nets, and eating cooked food. Some of them also raise pigs, and have started to test planting of rice and chilli. They like to be left to themselves and don’t like people who disturb them, or those that come into the forest to hunt wildlife.

Annex 7. Calls for Asian Elephant Conservation

Nam Poui: A last stronghold for Conservation of Asian Elephants in Lao PDR



Nam Poui National Protected Area (NPA) is located in Xayabouri Province, Lao PDR. It is one of the largest NPAs in the country and holds the most important biodiversity west of the Mekong River in Lao PDR. It also connects with Doi Phou Kha National Park of Thailand, as part of a larger transboundary forested landscape. Nam Poui is one of only two NPAs in the country which supports relatively large populations of Asian Elephant. As such, Nam Poui is a key last stronghold of the Asian Elephant in Lao PDR.

In fact, Nam Poui NPA is home to both wild and domestic populations of elephants. Local villagers especially from

Thongmixay District have a long history of taking advantage of wild elephants for breeding of their domestic elephants. The people will use their elephants for labour during the dry season and then release them to the forest for 6 months in the rainy season. This provides the opportunity for their elephants to breed with the wild elephants. In January 2020, an adult wild elephant was observed staying with domestic elephants in the vicinity of “Ban That” village of Thongmixay District, and the people just left them alone to live together for several weeks for breeding. It is rare to find domestic adult male elephants that are available for breeding, and where they do exist, stud fees are around USD 3,000. Allowing your female elephants to roam in the forest and become impregnated by wild elephants is a type of ecosystem service that is clearly worth at least USD 3,000 for every occasion when mating happens! Most villagers therefore care about the conservation of wild elephants, even though there have been some rare cases of killing wild elephants by the people in this area.

As recently as 30 years ago, the Asian Elephant population of the Nam Poui NPA was thought to be as large as 350 individuals but the number today is much smaller, estimated as only 60–80 individuals. While recorded instances of hunting elephants in Nam Poui are quite rare, many other forms of disturbance may have contributed to the reduction in numbers over the last 3 decades. These include habitat fragmentation caused by road construction e.g the Thongmixay – Navene road runs from south to north through the western part of the NPA; as well as disturbance caused by people entering the NPA for logging in the past and currently for harvesting of non-timber forest products (NTFPs), fishing and hunting. In addition, human activities in the forest often cause forest fires that may have degraded the elephant habitat and driven elephants away from some areas – maybe even across the border to Thailand. New threats to the remaining elephants of Nam Poui come from mining and planned hydropower development which would flood the best remaining habitat of the elephants. The cumulative impacts from various types of disturbance, including from infrastructure projects if allowed to continue will inexorably lead to the extirpation of elephants from Nam Poui NPA, bringing us one step closer to the complete loss of elephants from Lao PDR – a country once known as the land of a million elephants!

Phaivanh Phiapalath, a Lao biodiversity expert currently developing the management plan for Nam Poui NPA says therefore *“It is high time to take action for Asian Elephant conservation in Laos by making sure that the population of the Nam Poui NPA is well protected, and to ensure all threats are reduced and any projects that would generate potentially major adverse impacts are prevented”*. He further noted that *“the recovery of Asian Elephant populations in the NPA can potentially occur both*

from population

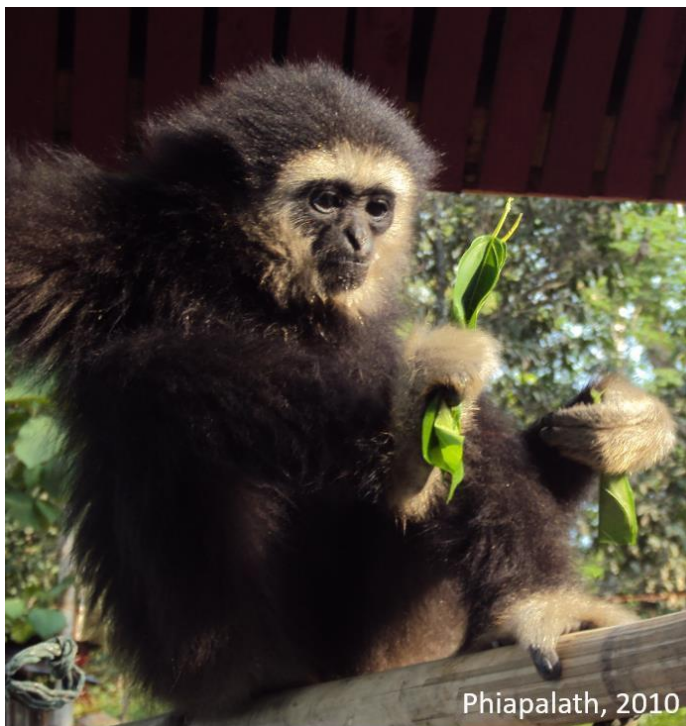
increases within Nam Poui itself, as well as by transboundary protected area collaboration with Thailand, which may allow elephants to restock Nam Poui by dispersal from Thailand”.

Recent surveys of elephants in Nam Poui conducted by WWF Lao PDR together with the NPA staff, revealed a high proportion of young elephants in the population – meaning that the elephants are still breeding well, and if threats can be removed, the population could recover quite quickly. It is still possible to image the numbers returning to 300 plus by 2050 – a much more enticing scenario than the complete loss of elephants from the land of a million elephants!

Annex 8. Calls for White-handed Gibbon Conservation

Nam Poui National Protected Area: Last Hope for White-handed Gibbons in Laos

Nam Poui National Protected Area (NPA) is located in Xayabouri Province, Lao PDR. In addition to being



home for a small number of the indigenous Mlabri people, and 60–80 endangered Asian Elephants it is also the last hope for the conservation of the white-handed gibbon in Lao PDR. Lao PDR has six gibbon species – the second highest gibbon species diversity after Indonesia. According to the IUCN Red List, all gibbons are at least endangered and half of them are critically endangered species. In Laos, white-handed gibbons are only found west of the Mekong River, and historically were widely distributed throughout Xayabouri Province. Nowadays, Nam Poui represents their main remaining protected habitat in the country. Gibbons are often considered as a flagship species for conservation and used as indicator species for long-term monitoring. Where gibbons are present and their calls are regularly heard it means that that forest is considered healthy, and higher densities of gibbons can reflect a higher biodiversity value.

Unfortunately, in Nam Poui NPA a 2010 survey found there were only around 7 groups remaining, and the white-handed gibbon here remains under severe threat. This gibbon species has also been reported outside the NPA, in Ban Sapi of Xaysathan District of Northern Xayaboury Province (7–10 individuals confirmed in 2013) and Meuang Pa (part of Phou Phadam National Production Forest) in an as yet unconfirmed report. Phaivanh Phiapalath, currently preparing the management plan for Nam Poui with the Department of Forestry (DOF) and supported by ACB’s EU-funded project Biodiversity Conservation and Management of Protected Areas in ASEAN (BCAMP), explained that *“While the white-handed gibbon population in Nam Poui NPA is not globally significant for the conservation of the species, it is nevertheless nationally significant as the last opportunity to conserve the species in Lao PDR, where it is considered as nationally critically endangered”*, adding that *“a call for action for its conservation is well described in the National Gibbon Action Plan (DoF, 2011)”*. Protection of the last remaining gibbon groups of white-handed gibbons will be described as a priority action in the Nam Poui NPA Management Plan, together with actions to save other key species and funding must urgently be found to ensure the plan is fully implemented.

Annex 9. Patrol zones

