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Department of Forestry

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**Traditional Ecological Knowledge of Ethnic Groups in
SUFORD AF Production Forest Areas:
A Rapid Assessment**

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CONTENTS

Abbreviations	4
Executive Summary	5
1. Introduction	9
1.1. Background	9
1.2. Terminology	9
1.2.1. Indigenous or ethnic group	9
1.2.2. Lao Lum, Lao Theung, Lao Sung	10
1.2.3. Shifting cultivation	10
1.2.4. Resettlement or spontaneous migration	11
1.3. What is Traditional Ecological Knowledge	11
1.3.1. Indigenous “technology”, land use and settlement patterns	12
1.3.2. Indigenous taboos and regulations	13
1.3.3. Indigenous knowledge regarding plants and animals	13
1.4. Objectives	14
2. Methodology	15
2.1. Study Site Selection	15
2.2. Field Methods	19
2.2.1. Interviews and questionnaires	19
2.2.2. Community mapping	20
Part One: RESULTS	
3. Village Profiles	22
3.1. Xayabouli Province	22
3.2. Vientiane and Bolikhamxay Provinces	27
3.2.1. Vientiane	27
3.2.2. Bolikhamxay	28
3.3. Attapeu and Xekong Provinces	31
3.3.1. Attapeu province	31
3.3.2. Xekong province	32
3.4. Comparative Observations	39
3.4.1. Villages in northern/central provinces	39
3.4.2. Villages in southern provinces	42
4. Local Forest Management and Traditional Ecological Knowledge	44
4.1. Shifting Cultivation	44
4.2. Some Notes on Landscape Terminology in Kaleum	47
4.3. Sacred Forests	49
4.4. Trees, Animals and Taboos	51
4.5. Sacred Trees	57
4.6. Customary Hunting and Fishing	60

Part Two: DISCUSSION

5. <u>Participatory Sustainable Forest Management: Central Issues and Recommendations</u>	68
5.1. Forest Land use Zonation (FLUZ)	68
5.1.1. Shifting cultivation and SUFORD	68
5.1.2. Sacred forests	70
5.2. Community-Based Mapping as a TEK Tool	72
5.2.1. The mapping process	72
5.2.2. Landscape classification	73
5.2.3. What to put on the maps?	74
5.2.4. Village histories and resettlement	76
6. <u>Summary of Recommendations</u>	78
6.1. Summary of Main Findings	78
6.2. Summary of Recommendations for PSFM and Planning Process	80
<u>References</u>	83
Appendix 1.0: Ethnic Minorities in Lao PDR	87
Appendix 2.0: Ethnolinguistic Classification	93
Appendix 3.0: Research Topics	99
Appendix 4.0: Interview Materials	101
Appendix 5.0: Landscape and Animal Interviews	114
Appendix 6.0: Selective Tree Use (Katu, Kaleum)	117

ABBREVIATIONS

DAFO	District Agriculture and Forestry
DOF	Department of Forestry
FMA	Forest Management Area
FMU	Forest Management Unit
FMP	Forest Management Plan
GOL	Government of Laos
GVFO	Group of Village Forestry Organizations
IK	Indigenous Knowledge
LFNC	Lao Front for National Construction
LWU	Lao Woman Union
NAFES	National Agriculture and Forestry Office
NGO	Non Governmental Organization
NPC	National Project Coordinator
NPMO	National Project Management Office
NTFP	Non Timber Forest Product
PAME	Participatory Management and Evaluation
PAFO	Provincial Agricultural and Forestry Office
PFA	Production Forest Area
PFO	Provincial Forest Office
PSFM	Participatory Sustainable Forestry Management
SFM	Sustainable Forestry management
SUFORD AF	Sustainable Forestry and Rural Development Project
TA	Technical Assistance
VA	Village Association
VD	Village Development
VDF	Village Development Fund
VDG	Village Development Grant
VDP	Village Development Plan
VDU	Village Development Unit
VFO	Village Forestry Organization
VFC	Village Forestry Committee

EXECUTIVE SUMMARY

Objectives: A rapid assessment of traditional ecological knowledge (TEK) was undertaken during three months (October 2009-January 2010) among ethnic groups in the SUFORD AF Production Forest Areas. The aim was to document and draw lessons from traditional ecological knowledge and forest management practices among these groups – including indigenous technologies, practical knowledge about animals and plants, systems of forest- and land classification, traditional resource-use practices (hunting, fishing, gathering and shifting cultivation), and cultural notions and customs relating to such forest- and land use practices – that can be integrated into SUFORD’s project activities. A specific objective of the study was to try out and propose tools for documenting relevant TEK and forest-management practices – particularly in connection with the FLUZ planning process.

Methodology: Four field trips were carried out between October 2009 and January 2010. The study covered 17 villages in seven districts in five provinces (Attapeu, Bolikhamxay, Vientiane, Xayabouli, Sekong). The study villages were inhabited by 12 ethnic groups belonging to Tai-Kadai (also called Lao-Tai), Mon-Khmer and the Hmong-Mien ethnolinguistic families (see Appendix 1.0 and 2.0). A total of 55 days were spent in the field. For practical reasons – and given the short time available for the vast task at hand – it was decided to focus the study on the most heavily forest-dependent communities in the village sample, namely the Mon-Khmer speaking groups in the southern provinces of Attapeu and Xekong. Of these groups, the Krieng, Katu, Hrlak and Chetong in Xekong were given most detailed attention. On the whole, these Mon-Khmer groups (possibly including the Khmu in Bolikhamxay) are also the most dependent on traditional/rotational forms of shifting cultivation in our study sample. Field methods consisted of interviews, village meetings, a village survey, forest walks and ground-truthing of information collected during interviews and village meetings, and community-based mapping exercises. The mapping exercise proved to be a particularly valuable tool for documenting local forest- and land-use classification and their spatial distribution, and the distribution of culturally and economically significant plant and animal species.

Comparative observations: Although the main focus of the study was on the Mon-Khmer groups inhabiting the southern provinces (particularly Xekong), field visits in the northern province of Xayabouli and the central provinces of Vientiane and Bolikhamxay suggest significant socio-economic and cultural differences between the southern and the northern-central study communities which are of central relevance for SUFORD’s project activities. Thus, the study villages in the northern and central provinces (inhabited predominantly by Hmong, Emien, Lao Lum, and Khmu) were on the whole considerably larger than those in the south (inhabited mainly by Krieng, Katu, Hrlak and Brau). The northern-central villages were to a larger extent than the southern study communities constituted by immigrant communities which, partly as a result of state resettlement policies, had moved to their present location in relatively recent times and often from home areas located far away from their present locations. These resettlement villages were also generally composed of several ethnically distinct groups originating from entirely different home territories, fused into a single composite and government-sponsored resettlement village.

By contrast, villages in the south were mostly mono-ethnic or dominated largely by a single ethnic group – although sometimes villages could contain settlement groups (of the same ethnic group) originating from distinct source villages, regrouped into a single resettlement village. Usually, however, resettlement movements in the south (Xekong) have been comparatively shorter than in the northern-central provinces; village movements tend to be confined to a single district or adjacent districts.

These differences in the scale and distance of movements in response to state resettlement policies have important consequences local forest use and environmental knowledge: thus, traditional ecological knowledge and forest management practices tend to be significantly more functional and better adapted to local environmental conditions in communities and among groups remaining in their home areas and familiar habitat (as in the case of the southern groups) than in cases where groups have been relocated to distant and unfamiliar localities (as among many northern and central groups). From an environmental (and cultural) point of view, long-distance resettlement and village movements may have disastrous consequences.

The southern study villages (and ethnic groups) are, furthermore, more forest dependent and reliant on (rotational) shifting cultivation than the corresponding villages/groups in the northern-central provinces, where intensive paddy cultivation and cash-crop production is prevalent and sometimes dominates agriculture. On the whole, the northern communities are more integrated into the modern market economy than the southern ones; local agriculture and the collection of NTFPs are increasingly becoming – and are being perceived as – commercial endeavors while, among the southern groups, these livelihood pursuits are still largely governed by traditional attitudes and values.

One may therefore assume that the projected SUFORD activities will have far greater social and cultural impact – and require more radical social and cultural changes – among the southern (Mon-Khmer) groups than among the groups in the northern-central provinces. On the other hand, logging seems to be a far greater problem for the forest-living ethnic groups in the south than in the north. It is therefore imperative that SUFORD carefully monitor the impact of both its own project activities and the ongoing commercial logging activities in the project areas of the southern provinces.

Shifting cultivation: The southern Mon-Khmer groups are, by and large, dependent for their livelihood on a traditional form of long-cycle, rotational shifting cultivation with fallow periods of between 6-15 years – although fallow periods (rotation cycles) are becoming shorter as a result of the government's efforts to reduce and eventually eliminate shifting cultivation in Laos.

Recent research and available evidence on the environmental impact of rotational shifting cultivation suggest that this form of long-cycle shifting cultivation is a sustainable and environmentally – and labour-effective – form of resource use in tropical forest environments. Closely integrated with indigenous social and cultural institutions (including belief systems and fundamental moral precepts regulating social behaviour), traditional shifting cultivation may indeed function as a safeguard against over-exploitation of the local forest environment. Furthermore, fallows are the preferred habitats of a number of plants

and animals – including important NTFPs – which are essential for local livelihoods. Our study also showed that traditional shifting cultivators (in our village sample) do not, as a rule, clear and burn old/primary forest but prefer to clear secondary/fallow forest for cultivation.

“Sacred forests”: Perhaps the most important finding of our study was the realization that most of the groups visited in the course of the consultancy have a concept of “sacred forests” which serve – or did so until recently – as a powerful sanction against cutting and burning forests of high conservation value. This notion refers to forest areas which are believed to be inhabited by powerful spirits and, therefore, not cleared, burned or cultivated by the local population. Although common among both the northern, central and southern groups, this belief and the accompanying restrictions against cutting and burning such forests appear to be most strongly upheld among the Mon-Khmer groups in the south – largely because these groups still tend to live in their homelands and are less penetrated by the market economy and the modern social and cultural values underpinning it (see above). Our data suggest that such sacred forest areas are locally perceived – and actually function – as traditional bio-diversity reserves, i.e. areas held to be critical for the regeneration of plants and animals on which the local people depend for their livelihood, and which are therefore ultimately preserved for the reproduction of human society. Indeed, old or primary forests were almost universally classified as sacred forests in the (southern) study villages and, vice versa, the areas marked off as sacred forests generally coincided with very old forest and/or forests of high conservation value. [Check!??]

The customary prohibitions – taboos – against cutting and burning sacred forests derive their moral force from the belief that such forest areas are inhabited by powerful spirits who, if disrespected or insulted, will punish the offender – the person who breaks the taboo – with sickness, misfortune or even death. In many cases it is also believed that the punishment may befall not only the offender himself but also his family or anyone else in his home village. This, then, is a powerful sanction; breaching the taboo puts the entire community at risk. Accordingly, the whole local society has a stake in upholding the taboo and the ethical system of which it forms a part. The whole system amounts to a kind of animist moral ecology.

Similar taboos apply to certain animals and specific plant species considered to be inhabited by or materializations of spirit beings. Such taboos usually extend to the areas surrounding them and, particularly, to areas in which they are abundant or, in the case of animals, where the species breed and reproduce. Such spirit plants and animals, and the areas in which they are found, are prohibited to cut or kill – they are considered taboo and therefore protected. These ideas, just as the notion of sacred forests, amount to a traditional conservation ethos which, by being self-enforcing, may be the most effective institution for safeguarding important bio-diversity areas and forests of high conservation value in areas inhabited by indigenous peoples.

Community mapping: Several important lessons can also be learnt from the community mapping exercise in the study villages:

- That the mapping exercise is an important tool for obtaining knowledge about different land-use and forest categories;

- That, in order to obtain reliable information on forest- and land-use classification, it is imperative to achieve a basic understanding of local perceptions of – and reasoning about – land, resources and resource use;
- This lesson is particularly important when attempting to map shifting-cultivation areas since shifting cultivation tends to imply a complex (and to “outsiders” unfamiliar) system of classifying forests and fallows in different stages of regeneration which may be confusing to SUFORD project implementers;
- It is important to include sacred forests and other locally protected forest areas on the FLUZ maps; however, great care must be taken to explain the purpose of mapping this category of forest since villagers tend to be “shy” or reluctant to supply this information (given the prevalent prejudices among government officers and the dominant Lao population against indigenous groups and their spirit beliefs). Areas mapped and registered as “sacred forests” should be carefully monitored over time in order to determine their destinies.

Sacred areas and the customary taboos that underpin them should be respected and, when feasible, reinforced by SUFORD staff since they serve as powerful means to protect and preserve old forests and areas of high conservation value. The same applies to the customary rules regulating hunting, fishing and the extraction of plant species considered sacred by local people.

1. INTRODUCTION

1.1 Background

The inclusion of ethnic groups, as well as their customs, into the participatory forest management has become a key issue for the SUFORD AF project due to the diversity and nature of the ethnic groups that are included in the new project provinces, namely Attapeu, Xekong, Bolikhamxay, Xayabouli and Vientiane.

The SUFORD project preparation process involved a Social Impact Assessment (SUFORD, 2008) which looked at the issue of ethnic groups in relation to the World Bank's regulations on Social and Environmental Safeguards. It was subsequently recommended that attention must be paid to include traditional land management systems and regulations when working with vulnerable social groups.

In addition, without proper understanding of certain issues which are highly relevant to the ethnic group livelihoods, SUFORD AF risks having a negative impact on the local communities. Such issues, which SUFORD must take great care to understand include;

- Traditional access to resources
- Traditional sustainable land use practices
- Proper demarcation of village land use areas

Therefore, a major aim of SUFORD-AF is to introduce the concept of traditional ecological knowledge into the participatory forest management plans. The integration of traditional ecological knowledge is a fundamental pre-requisite to all subsequent forest management activities, spanning from the establishment of the village development organizations to the "forest land use zonation" (FLUZ) and for participatory management planning process.

1.2. Terminology

1.2.1. Indigenous or ethnic group?

The term "indigenous" group is often used as a synonym for "ethnic group". Literally, the term "indigenous" denotes groups that are *autochthonous* or "original" inhabitants of an area. However, this is in fact *not* the case with many groups referred to as indigenous in this report. For example, the Hmong although having a distinct and unique culture, do not originate in Laos. (Nor do the Lao themselves originate in Laos, however.)

In this report we use the term *indigenous* to distinguish those groups who do not share the mainstream culture of the dominant group in Laos, the Lao. It thus carries the same connotations as the term "ethnic minority" or "ethnic group". Some people argue that

“ethnic minority” is not a suitable term for groups in Lao since the Lao are not really a “majority people” in the country (Ref? xxxx). Therefore, the term “indigenous group” is used to indicate all groups living in Lao PDR which are not Lao and have distinct cultures and traditions of their own.

In the majority of cases these indigenous groups are *Animists* – i.e. believe in a variety of nature spirits – whereas Lao predominantly are *Buddhists*. Another main difference between the indigenous groups and the Lao are that they are usually shifting cultivators whereas the Lao are wet rice farmers. However, sometimes the differences are not so clear cut, many groups whose language are almost indistinguishable from mainstream Lao (and thus these groups are classified as Lao Lum, see below) nonetheless have very strong animistic belief systems – sometimes mixed with some Buddhist elements. This is, for example the case with the Nhuan Doi and the Tai Moi.

1.2.2. Lao Lum, Lao Theung, Lao Sung

For many years after independence, the official system of classifying the ethnic groups in Laos was to only distinguish them into three main groups of “Lao” people: the Lao Lum (the Lowland Lao”), the Lao Theung (the “Midland Lao”) and the Lao Sung (the “Mountain-top Lao”). Although these names supposedly differentiated peoples according to where they lived, Lao Lum in practice referred to the Lao-speaking lowland groups proper as well as all Thai/Tai groups (see Appendix 1.0 and 2.0). Lao Theung referred to the Khmu and all other mon-khmer groups and Lao Sung, finally, referred to the Hmong and Emien (and related groups). Now, this tripartite system is no longer officially in use, but many ethnic minorities are not aware of this and will still insist they are Lao Lum, Lao Theung etc.

In this report the group commonly referred to as “Alak” is called “Hrlak” since it is our opinion that this latter name is closer to the groups own pronunciation. Likewise, the group commonly referred to as “Talieng” will here be referred to as “Tarieng”. In general, Lao people have problems with strong or rolling “r” sounds and they have therefore slightly changed the names of certain groups. For the same reason, Krieng might sometimes appear as “Kalieng” in some reports.

By the notion of “Lao-Lumisation” I mean the ongoing process of cultural change among upland groups towards a lowland-Lao style of life – including the adoption of the Lao language as the first spoken language.

1.2.3. Shifting Cultivation

The term shifting cultivation stands for a form of extensive cultivation system in forest areas whereby areas of forest are cleared and burned and subsequently cultivated. It is common to distinguish rotational from pioneering systems of shifting cultivation. Whereas, in very simplified terms, pioneering shifting cultivators exhaust the soils of the area cultivated and thereafter move on to a new area, rotational shifting cultivators generally cultivate within a defined “fallow area” and return again to the same “plots” after a number of years (5-30 years). Pioneering shifting cultivation is generally considered unsustainable, whereas leading

expertise consider rotational shifting cultivation a sustainable and highly adapted agricultural form.

Traditional systems of shifting cultivation are complex forms of forest-land use and management (as will be discussed in this report). I use the term shifting cultivation rather than slash-and-burn cultivation because of the pejorative connotations associated with the latter term. The notion of shifting cultivation is used here as a synonym for swidden cultivation. The term “swidden” refers to fields that have been cleared and burned (and cultivated). Recently the term “fallow cultivation” has come into use as an approximate synonym for rotational shifting cultivation – and may come to replace the latter term in policy contexts.

1.2.4. Resettlement or spontaneous migration

Since the late 1970s there has been government policy in Laos to relocate upland communities relying on shifting cultivation to lower land in order to promote permanent (paddy) cultivation, facilitate administrative control and the provision of modern social services. In this report, we refer to communities that have been encouraged to relocate from one place to another in compliance with state policies as *resettled* communities. Communities are normally induced to relocate through a combination of state incentives under the National Development Policy. However, in many cases the villagers simply do not have other options.

By *spontaneous (im)migration* we refer to cases when a village itself has decided to move to a new location, in recent decades often because of a breakdown in their original shifting cultivation landscape (in turn caused by a number of factors, many of which derived from policies going back all the way to French colonialists, but also including more recent schemes such as collectivisation, loss of land to larger commercial agricultural enterprises, gazetting of forest land into protected areas and insufficient land to conduct traditional rotational agriculture on sufficiently long rotations due to population increase and lack of land. However, the distinction between resettled and immigrated communities is not distinct since even “spontaneously” migrating communities and villages can only resettle on land with government permission. In many cases the government in fact announces that “empty” land is available and invites communities to resettle into these designated districts.

1.3. What is Traditional Ecological Knowledge?

Indigenous knowledge (IK) or “traditional ecological knowledge”, hereby referred to as TEK, is a subject with many definitions. For the purpose of this study -- related to the participatory forest management aspects of the SUFORD project -- we recognise three key areas, namely:

- (i) Indigenous technology, land use and settlement patterns
- (ii) Indigenous taboos and regulations relating to the landscape and to wild animals

(iii) Indigenous knowledge regards plants and wild animals

1.3.1. Indigenous “technology”, land use and settlement patterns

This refers to the manner in which the indigenous people use and extract resources in the forest and natural and human-shaped landscape surrounding the villages; the tools, materials and resources they may or not use.

For example, it is commonly believed that the shifting cultivators are the cause of the destruction of large tracts of “primary forest” in Laos. However, a mere analysis of the technology that is available to most of these groups, reveals that – up until today – they have never cut any large diameter hardwood species (nor any very large diameter trees whatsoever, for that matter). When they do cut primary forests, they inevitably choose areas where tree trunks are not too large to be cut etc. Thus, the kind of trees that are most valuable to the logging sector has historically been economically void of value to the indigenous groups, who simply even now do not have the technology nor know-how necessary to cut such trees. For example, villagers in Lamam could be seen burning a large stump (ca 2m³) of extremely valuable hardwood that loggers had left behind. Since they did not now know how to use the wood, nor even how to sell it, they simply had to try to burn it away to “tidy up” the area where the stump had been left.

This is one example how “technology” influences these groups’ impact on the natural environment. Another is the widespread use of renewable construction materials such as grass and bamboo, and the fact that only smaller trees would traditionally be used for house construction (the only timber in a traditional house are the poles and roof beams). In most villages today, outside help is still required to produce planks from large trees.

The fact that large trees have not been used in the past as a resource, neither for construction nor for trade, also means that we will not be able to find any *traditional* institutions which sanction the extraction or sale of timber, since this is a novelty. Institutions evolve over many generations. However, as we shall see, many primary forests and large trees are nonetheless protected -- by taboos and spirit beliefs.

The way the indigenous people carry out their subsistence activities, for example, their shifting cultivation or hunting, also falls under this topic (and the forest-related taboos and regulations may even be seen as a sub-topic of this). Settlement patterns are also of importance for this category, for example, whether settlements are large and concentrated or small and scattered, also have a huge impact on the level of impact the indigenous community will have on the landscape and environment in which they live.

The technology and settlement patterns may be the most important aspect of the TEK; however, since it is too large a topic to be dealt with in a single short-term consultancy report it is not the main topic in this report. However, it is important to take into consideration when making plans affecting both the natural landscape and the local communities.

1.3.2. Indigenous taboos and regulations

It might seem strange that we consider the ethnic groups' "taboo systems" as a major component of their TEK. However, as a matter of fact, the taboo systems are probably the most important factor regulating the indigenous peoples "code of conduct" in the forest. In fact, among traditional groups, it is a more important regulatory factor than government laws and regulations. Taboos are often what is keeping many traditional groups from practising shifting cultivation in large areas of primary forest within their village territories, *not* government regulations. Moreover, taboos often protect many animal species from hunting.

Therefore, the local rules and regulations need to be integrated by SUFORD, and the challenge of carrying out sustainable exploitation of timber resources must be done in conjunction with proper benefit sharing systems and regulations for local ethnic groups. In many cases this may not have happened in the past. It is hoped the participatory management plans will improve this issue in the future.

1.3.3. Indigenous knowledge regarding plants and wild animals

Finally, we have tried to gauge and understand the local communities' **knowledge** about plants and wild animals, as well as their ways of using these plants and animal products for daily subsistence.

The indigenous communities clearly possess a very extensive body of practical knowledge about animals and plants. Despite the fact that, in recent years, meat from large game animals has virtually disappeared from indigenous peoples' diets, smaller animals such as fish, frogs, forest mice (etc.) still make up a considerable part of their protein intake. Indeed, prominent researchers and experts on dietary patterns (c.f. Jutta Krahn) have concluded that the indigenous traditional food diets are far superior to the newer, more "modernised", food patterns that are appearing (which are more rice-heavy, but almost lacking in wild foods).

Wild plant foods, such as rattan shoots, bamboo shoots, mushrooms and wild fruits are even more important of the daily diet than the animal foods. However, for full comprehension of these issues further studies need to be conducted.

Focus: The focus of this short term consultancy was on a number of aspects of traditional ecological knowledge crucial to the management of each Lao Production Forest Area (PFA). At present, there are still certain traditional regulations which seem to preserve fauna and aquatic resources from depletion, but customary laws and institutions are weakening due to societal change, and it is therefore important to provide input about how to include TEK components into the PSFM management plans of SUFORD. Many of the problems facing the indigenous communities are compounded if crucial ecological resources are destroyed or carelessly extracted by outside agents, such as timber logging companies. Not only do logging companies virtually never give any compensation to the local communities for the timber they take, the timber extraction often destroys habitats of wild animals and vital NTFP (non-timber forest products) collection grounds for the villagers.

1.4. Objectives

The goal of this consultancy was to undertake a rapid assessment and review of traditional ecological knowledge, rules and regulations and customary rights as a prerequisite to the implementation of forest management planning in the new areas. Specifically, the aims from the Terms of Reference are as follows:

- To submit a brief profile of each major ethnic group studied (with particular reference to those that have been deemed of highest ethnic sensitivity and dependence upon forest resources, e.g. the southern mon-khmer groups – Brao, Hrlak, Katu, Krieng, Tarieng etc - in Attapeu and Sekong).
- To investigate the traditional systems for managing forest resources; including traditional classification systems, rotation lengths, extraction systems for major animal and plant NTFPs.
- To document lessons from traditional management practices that can be integrated into SUFORD forest management activities.
- To make recommendations on the projects PSFM manual, in particular with regards to tools related to the documentation of customary rights and regulations, identification of shifting cultivation and traditional land use.
- To make recommendations on how to integrate TEK into the PSFM manual and participatory planning process; in particular on how to document customary rights, taboos and regulations; identify high conservation value areas (areas important from a customary or spiritual point of view).
- Finally, the proper identification of customary shifting cultivation land remains to be properly carried out and integrated into the “Forest Land Use Zonation” (FLUZ) process.
- To make recommendations on the feasibility of development of pilots in sustainable hunting in pilot areas, with specific recommendations regards documentation of traditional and customary rules of monitoring, seasonal harvest and regulations, and additional research required.

2. METHODOLOGY

2.1. Study Site Selection

The SUFORD AF PFA areas are shown in Figure 1.0. The eight new SUFORD areas include Attapeu, Bolikhamxay, Xekong, Vientiane and Xayabouli provinces. These areas might contain more than 35 different ethnic groups (if subgroups are counted, c.f. Chamberlain 2008). Due to the limited time available for the study it was not possible to visit all the areas and groups living within the project area.

In all provinces some groups had to be excluded from the study. Where two or more groups were considered to be culturally very similar the features of one group might be taken as representative of the other groups (for example, the Krieng and Katu in Xekong are culturally very similar to each other).

It was therefore decided to focus the research on the most heavily forest-dependent communities which comprise the *mon-khmer* groups located in Attapeu and Xekong, with shorter rapid assessment trips to the ethnic groups in the northern provinces since it was impossible to get equal coverage for all the groups in the SUFORD PFA areas. The southern *mon-khmer* groups, however, merit this special attention for a number of reasons. These groups are clearly both more traditional *and* more forest-dependent than the northern groups. As this report will show, the forests and hills are to them spiritual areas and often take the centre stage in their religious life. Even more important, however, is that they are often almost entirely dependent on shifting cultivation for their livelihood. This places them at further disadvantage since the government of Laos is set on eradicating this livelihood form. The problems are compounded by the fact that these groups often have very low levels of formal education and are thus clearly disadvantaged in their interactions with the authorities and with other agents of the outside society (some of which do not always have the best interest of the ethnic groups at the fore of their agenda). Therefore the center of attention of this report will be on groups such as the Krieng, the Katu, the Chetong and Hrlak in Sekong, as well as the Khmu (in Borikhan), while other groups such as the Emien, the Hmong and the Brau will only be briefly covered.¹

The consequence of this choice is that additional TEK input will be required as concerns groups such as the Hmong and Emien.

Four field trips were carried out between October 2009 and January 2010. The field-work covered 17 villages in seven districts in five provinces (see Table 1.0, which shows the names and location of villages selected for the field study).

¹ The Krieng are sometimes referred to as Nghe. The Government officials now use the name Krieng and discourage the use of "Nghe" which they claim is an erroneous denomination imposed by the French. The villagers of Tang Plang claimed that they were "Chetong" although a large number of families in the village were also Katu and perhaps also Krieng. They appear to be culturally very similar to the Krieng (sometimes considered a sub-group of the latter).

-- October 25-November 16, 2009: Xekong: Huay Pen PFA; Attapeu: Nampa PFA
Groups studied: Krieng, Katu, Hrlak, Tarieng, Brau

-- November 25-December 5, 2009: Vientiane: Nongpetnaseng PFA and Xayabouli:
Phouphadam PFA. Groups studied Hmong, Emien, Nyuan Doi and Lao Lum.

-- December 10-December 23, 2009: Bolikhamxay province: Pakbeuk PFA (Borikhan district)
Groups studied: Phong (pronounced "Po-óng" with a rising "o"), Khmu and Hmong.

-- January 9rd-January 21, 2010: Xekong province; Huay Pen PFA, Kaleum district.
Groups studied: Krieng, Katu, Chetongng.

The exact time spent in the field was 55 days out of 63 working days allocated for this study. However, this "field time" also includes the time for transportation to and from Vientiane, as well as between the villages and districts so that the actual effective time that could be spent working in the villages ended up being somewhat shorter.

The least explored province was Vientiane (2 days), followed by Xayabouli province. The most detailed work was carried out in Kaleum district (Xekong province), where more 20 days were spent, and about 8 days were spent in a single village (Loy village) on two separate field trips. Kaleum district in Xekong province was visited twice, whereas all other study provinces were only visited once.

It should be noted that there is a some cultural overlap between all the shifting cultivating ethnic groups, even those belonging to entirely different linguistic families so that in many cases generalities can be applied across the ethnic groups as they have similar lifestyles and livelihoods in the upland areas of Laos.

Table 1.0
Study Site Locations, including village names, ethnic groups and time spent in each location.

Xayabouli province				
Districts	Village	Ethnic group	<i>Study Time</i>	Notes
Phieng	Dong Louang	Nhuan Doi, a few Pllai households	2 days	
	Khounpone	Hmong, Emien	2 days	
Paklai	Nathoun	Lao Lum	1 day	
Vientiane province				
Districts	Village	Ethnic groups		
Feuang	Natoun	Lao Lum, Khmu	2 days	

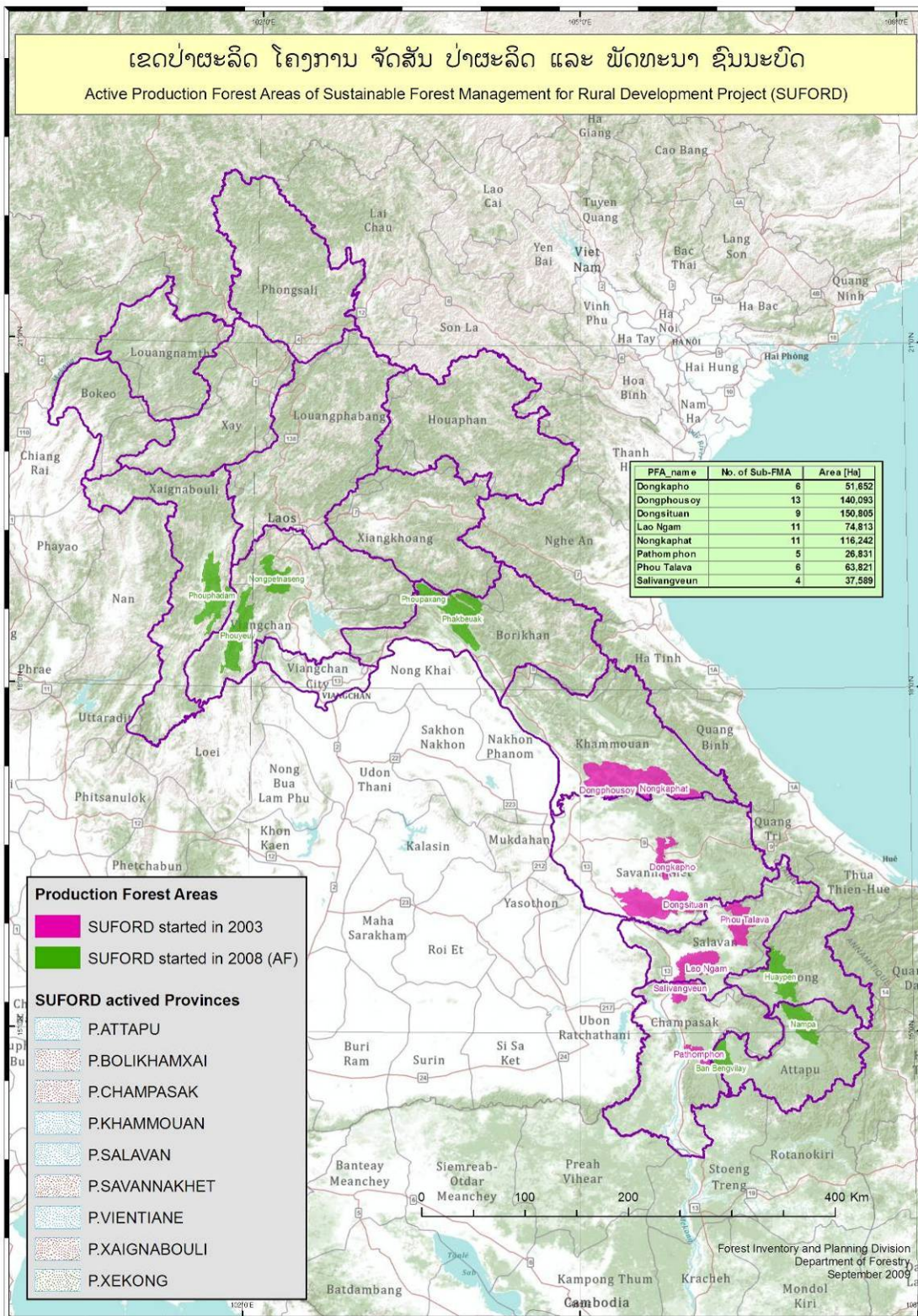
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Bolikhambxay province				
Districts	Village	Ethnic groups		
Borikhan	Xiang Lu	Phong	3 days	
	Hin Ngon	Hmong, Khmu	3 days	
	Pakphoy	Khmu	1 day	

Xekong province				
Districts	Village	Ethnic groups		
Kaleum	Loy	Krieng (“Nghe”)	9 days	Visited twice. “Focus village”.
	Hatpe	Krieng (“Nghe”)	3 days	
	Thongkai	Katu	3 days	
	Chrehh	Krieng (“Nghe”)	3 days	
	Tangklang	Chatonng	3 days	
Lamam	Songkhon	Krieng (“Nghe”), Hrlak (Alak)	2 days	
	Nangyong	Hrlak (Alak)	2 days	

Attapeu province				
Districts	Village	Ethnic groups		
Sanxay	Thatseang	Hrlak, Tarieng	2 days	
	Dak Po May	Hrlak, Tarieng	2,5 days	
	Thatkoun	Brau*	2,5 days	
		Total	46	

Figure 1.0
 Location of SUFORD Production Forest Areas in Laos PDR; indicating previous areas and those covered by the current phase of SUFORD.



2.2. Field Methods

Field methods evolved as the study progressed. They consisted mainly of interviews, the use of survey questionnaires (focused on villagers livelihood activities) and community map-making exercises at meetings of varying sizes. Additionally, the team walked extensively in the village forests together with villagers, using a camera and a gps tracker, while also carrying out additional interviews while in the forest. In order to contextualise the central research issues of the consultancy (summarised in 1.4 above), relevant information on social organisation, village histories and spirit beliefs was collected in each study village.

2.2.1. Interviews and Questionnaires

A survey questionnaire was developed previous to the first field trip. This test questionnaire served as an interview guideline for the consultant and his interpreter/research assistant. The questionnaire was then tested during the first fieldwork and then further refined. The survey questionnaire was intended mostly as a tool to get some quantitative data, insofar as possible, about the villagers' agriculture and forest use as well as their dependency on the forest for food during the various months of the year (Appendix 1.0). Both individual and group interviews were carried out in all study villages. The village "official" headman was interviewed at the first possible opportunity after arriving to a new village, either individually or in a small group together with other important villagers (including one or more of the village elders). Who would be interviewed at this initial stage would however naturally depend on their availability. The purpose of the meeting was to introduce to the village headman the study and the nature of the research questions and to get an understanding of the broad picture of village conditions.

Topical interviews: Interviews were conducted with individuals or small groups. Interviewees who were considered particularly knowledgeable about the topic in question (e.g. "hunting", "forest classification" etc.) were selected. The headmen and other important villagers were then consulted about who could be suitable informants for further inquiries (for a list of topics, see Appendix 3.0).

Village meetings: After some initial information has been gathered (1-2 above), a village meeting was be organised to discuss selected topics with more villagers. If possible, maps of the "village landscape" were created together with the villagers (see below).

Questionnaire: The survey questionnaire was used to elicit further information about relevant topics (Appendix 4.0).

Village/forest walks and "ground-truthing": The purpose of these was to check to what extent the participatory maps corresponded to reality by walking to swiddens, hunting trails, NTFP collection areas etc. together with villagers. As often as was possible, these walks also included the use of a GPS-tracker and a camera so that the information gathered during the walks could be correlated with both the community based mapping as well as with satellite maps (mainly from Google Earth).

2.2.2. Community Mapping

Community mapping activities serve a number of useful purposes and are an essential part of this study. Firstly, community made maps enable the researcher with limited knowledge of the local landscape, to be able to “spatially organise” much of the information that he receives through interviews about topics such as shifting cultivation and sacred forests etc. Although community made maps are obviously never accurate, they can help to enable us to understand various landscape features.

It was also considered, in this study, as a form of capacity building for the local villagers, as well as a way to determine their aptitude for these forms of activities; in particular to evaluate whether the communities had any issues with understanding spatial issues as this technique is an integral aspect of the SUFORD PSFM planning process. In other words, by being encouraged to create their own maps, with a varying level of guidance -- we expected that this would develop their ability not only to create future village maps (which will be expected of them as part of SUFORD’s activities), but also their ability to read and understand maps. Community mapping also provided the villagers with another way to reveal information that they were afraid of revealing through the interviews, which often had to be carried out in front of high-ranking officials.

The community maps were developed together with the villagers (initially together with small groups of 4-5 individuals) then sometimes at larger village meetings. For this purpose, base maps of the relevant area (the area of the village and the village forests) showing (only) streams were produced beforehand. The “bean method” was used during these mapping exercises mainly as a way to learn more about where the villagers collected NTFPs, hunted etc. The “bean method” consisted of asking the villagers to place beans on the locally produced maps to indicate locations (and sometimes quantity etc.) of important NTFPs, animal populations, and places where the villagers place traps. Moreover, local names of streams were marked on the stream map. Thereafter, various other landscape elements were added (including, cultivation areas, primary forests, forbidden areas etc.). Old village sites (sites where the village was located in the past) were also be added on the map (at least for non-pioneering shifting cultivating communities this is highly relevant). Areas classified as sacred -- which could include not only forests/hills, but also salt-licks, caves, waterfalls and watering holes -- were also marked on the maps when relevant.

Part One
RESULTS

3. VILLAGE PROFILES

Part One presents the main findings of the study. The present chapter provides an overview description of the villages covered by the study, ordered according to provinces. The main quantitative data on the study villages is summarised in Tables 2.0, 3.0, 4.0 and 5.0 at the end of this section, p 37).

3.1. *Xayabouli province*

Village 1: Dong Louang; Phieng District; Phou-Phadam PFA. Ethnic composition: Nyuan Doi ("Lao Lum") and a few Pllai households). Population: 574.

General information: This village had a very particular village history, having moved to Thailand in 1975 because, at the time, a few people in the village feared the Pathet Lao (Lao Communist Party) and these individuals convinced the whole village to follow them to Thailand in search of a better life there. However, in Thailand they were confined to living as refugees in a camp (and were were also not allowed to carry out agriculture). Therefore, the village was very happy to receive a delegation from the Lao government in 1989 who invited them to come back to Laos. The government, however, didn't want them to move back to the remote area where the village had originated, and instead instructed the village to settle at its current location, near Phieng district centre.

The villagers are *Nyuan Doi*, a group that officially counts as Lao Lum. However, interviews with the elders indicated that, in the past – before moving to Thailand -- they subsisted entirely on shifting cultivation, fishing and hunting. According to elders, fishing and hunting provided a lot of the food in the past ("you could eat wild animals and fish whenever you wanted"), but today almost nobody engage in these activities.

Although the villagers are content live as free citizens, rather than as the confined refugees they had been in Thailand, they are now facing very serious problems since they do not have access to any shifting cultivation land (nor to any forest land whatsoever). All the forest land surrounding the village is claimed by its neighbouring villages. At the same time, for various reasons, the wet rice paddies of the village can only cater for a small percentage of the village's subsistence needs. The villagers have to try to get by "stealing" shifting cultivation land from their neighbours, working as hired agricultural labour or simply seeking work elsewhere. The villagers are constantly in debt to loan-sharks and others, and every year they have to sell their "future harvest" at a cheap price in order to buy rice in the present.

Differences in Land Ownership

Many of the villages in Xayabouli province and Vientiane, as opposed to the mostly mono-ethnic villages in the south, have a system of "private/individual ownership" of swidden land (sometimes with government papers, sometimes without). We were, for example, told that villagers of Dong Louang village would sometimes be caught while trying to secretly carry out shifting cultivation on the land of the neighbouring villages, and would be fined by people who claimed to be the owners of that land. They would be forced to pay even if the "land owners" did not have any papers to support their claims.

Similarly, in the next village, Khounpone (below) the families "who arrived to the village first" (about 50 years ago) claimed ownership of most of the land surrounding the village and if families who arrived later wanted to use that land they would have to make arrangements with those "landowners". Khounpone villagers, however, had no papers to confirm any land ownership; all arrangements are carried out according to the local customs (Hmong-Emien).

In the Krieng, Katu and Hrlak (Alak) villages in the south, on the other hand, all villagers insisted that nobody could claim a piece of fallow land or forest to be his personal property. However, if several villages (that had previously been separate entities) had been merged into a single large village then the families belonging to the various "traditional villages" would most likely continue farming on their respective customary land areas: It was not uncommon for villagers to walk 5 km or more to access their traditional farmland, and there were instances where villagers would even walk to 20 km. In the past, however, when villages were more mobile, a village would never be located so far away from land currently used. Current policies, however, do not allow villages to relocate on their own initiative.

If someone belonging to another of the "village groups" wanted to cultivate there he would at least have to ask the original families of that area for permission. Thus, knowing the "pre-sedentarisation history" -- i.e. the names and location of the various villages before they were concentrated into a single village -- is essential for land use zonation and management planning purposes. The village settlement history might also give an indication of power divisions and conflicts of interest within the village.

Village 2: Khounpone, Phieng District; Phou-Phadam PFA. Ethnic composition: Emien, Hmong. Population: 642 (Emien: 426, Hmong: 211)

General information: This village is populated by Hmong and Emien who have immigrated in waves since the 1950s. The Emien arrived first and this group is originally from Luang Prabang. The Hmong groups came to this village later ("following the government's policy of moving all villages down to the road") and their old village was located in the same district about 15-20 kms away from the present village. The village totally lacks suitable wet rice land and is thus entirely dependent on shifting cultivation for subsistence.

The first group that arrived to this area "owns" the land near the village. Those who came later have to go a bit further away to do agriculture. The groups that came last have to farm even further far afield. If the families that arrived most recently want to farm closer to the village they have to ask for permission and pay the landowner in labor or money. However, if they are close friends with the landowners they might be allowed to farm without payment. The average fallow period according to people interviewed is about 10-12 years. Sometimes some Hmong families travel to their old villages to farm there, taking turns staying in temporary farm huts in that area to protect their crops. The old villages of the Hmong families are located about 15-20 km away (and officially do not belong to this village). Sometimes the Hmong will make deals with the Emien so they can farm closer to the village.

This village has not had any formal land allocation. Despite not having any wet rice land the authorities do not permit them to clear "forests". The villagers claimed that they were not exactly sure what the government defines as "forest" but they believe that they are still allowed to cut forests with trees "less thick than a man's thigh". An elderly Hmong explained about shifting cultivation practices in the past:

“In the past our forefathers didn’t care about protecting water sources. Our forefathers just thought that such places had good soil and were suitable for farming. But now we can't clear those areas because the government doesn’t allow us. In Pou Faah in the past we [Hmong] cleared all the forests until only grass covered the area. However, now that area has become deep forest again [they moved away from there many decades ago]”

At present, before the villagers go to clear a new field they will call their ancestors to come with them on the first day of work. If on that day they see a muntjac or any other kind of large mammal, they will not clear that place. This will particularly be the case if the place they intended to clear is an old forest (i.e. a forest with large trees). But this omen is not very important if the place is a recent fallow; “on a young fallow you can still clear even if you see wild animals there”.

Religion. According to people interviewed in the village the village shaman (or “fortune teller”) was still a respected and important figure. The shaman tells villagers that the reason why they have become ill is because they have disturbed particular spirits in the forests by entering certain areas or by behaving bad in those places. Although these villagers do not carry out proper worship after successfully catching game they explained that

“in the past, if a hunter caught “anything bigger than a squirrel on a particular mountain, that person would take some paper money and burn it for the spirit of that mountain.”

Hmong-Emien hunting

“Hunting isn’t important in this village. If you spend time hunting you can’t do agriculture. If you spend one day in the forest maybe you will just get one squirrel”. The government only permits us to hunt boars and squirrels. There are some hunters in the village but we don’t know how many exactly. Hunting is important for those few families, but not for the rest of the village. The hunters never share with the other villagers, if you want to eat wild meat you have to go and buy it from the hunters. In the past hunters also only divided meat with close relatives, but never with the entire village. They hunt with dogs and use rifles. Some people hunt squirrels with crossbow but if you want to catch anything bigger you need to use a rifle.

This area doesn’t have many wild animals. Even when we first arrived here there were not many animals because the village area is not very big and there are two other villages nearby. It’s still possible to catch monkeys in this area but not many because of too much hunting in the past. The few hunters left in the village go to the primary forest areas or to the riparian forests (*pa dong dip*) along the streams, but there aren’t many such forests left.”

Non-Hmong people living next to Hmong villages (for example the villagers of Dong Louang and Nathoun in Vientiane) often claimed that Hmong were very proficient hunters and hunted much more than they themselves (i.e. Lao Lum, Nhuan Doi and Khmu people). The villagers of Dong Louang, claimed that the Hmong groups living in isolated mountain villages were very “rich” and therefore had a lot of “leisure time” which they could spend on hunting while they could let others do the agricultural work for them.

We were also able to observe that the Hmong communities catered a lot of wildlife to the NTFP markets near district centres and around Vientiane. However, we were not able to observe any Hmong hunting first hand. It is clear, however, that traditionally even Hmong hunting was circumscribed with many *hunting taboos*, just like the hunting practises among the southern mon-khmer groups. For example, Chauzée observed that the Hmong had a taboo that forbade them from hunting near saltlicks for fear of annoying the Saltlick Spirit.

Tree cutting taboos. “Mai hai” (Hmong: *yen tssou diannng*) and “Kop sieng”: If these trees grows on the place the locals want to clear (because the shadow from the tree would otherwise prevent the crops from growing well) they need to ask a Buddhist novice to come and cut it for them, “because they themselves do not dare to do it”. The Hmong and Emien themselves never cut these species, at least not if they are large trees. However, if there are bees’ nests on these trees, they must absolutely not be cut, however small: The locals believe that bees are the “owners of the tree” and that the presence of bees also indicates that “a spirit lives there too”. [It is unclear whether bee hives would make other tree species

sacred as well. The importance of bees and bee hives as indicators of spirit activity was also noted among the Phong and Khmu in Borikhan district.]

Previous SUFORD activities. SUFORD invited a few of the important people in the village to join a meeting in the district and showed them a video tape. The people invited belonged among the best educated in the village. The participants of the meeting said that the aim of SUFORD was:

- To explain to them about forest production.
- To inform them that SUFORD has a budget of 4000 USD to develop the village.
- SUFORD and the villagers will plant and grow trees.
- "The purpose of planting trees is to produce fresh air and then sell the oxygen."

Village 3: Nathoun village, Paklai District; Phou-Phadam PFA. Ethnic composition: Lao Lum. Population: 647

General information: Nathoun is a Laos Lum village or more than 700 individuals living deep inside the forest in a village at present only accessible by tractor. It appears that the forefathers of the villagers immigrated to the area 100-200 years ago making this village the "oldest" village that we visited in Xayabouli province. Wet rice land is abundant thanks to the fact that the villagers have converted a huge swamp area to wet rice land. Nonetheless, as all visited communities, this village is heavily dependent on NTFP for food, medicine and construction materials.

Recently, villagers feel disturbed that a certain *thau ke* ("big man"; referring to the owner of a logging company) has been cutting timber in the villager area. Although, as is often the case, the "big man" had a quota, the district authorities (DAFO) confirmed the villagers' suspicions that the company had overcut their quota substantially. Another company that built the village school as well as a road between this village and a more remote village (but no road to the district centre) was also paid in timber quotas. The villagers have no complaints about this latter company, however.

About their meeting with SUFORD: "SUFORD came here and gave a speech and showed us pictures. They also made a map [with the villagers]. They wanted to divide/allocate the responsibility for the forest management in the village and suggested the headman to be the president of the "forest group". The whole village was invited to the meeting. SUFORD explained "the need for wood" in Laos and around the world and asked us what wood is used for. They explained that everyday a lot of wood is needed for furniture etc. and that if forests disappear, people would die. So to avoid this, SUFORD explained, we have to help each other by not slashing and burning forests or cut timber illegally. They did not mention anything about planning to cut timber in this area. They only told us about the necessity of preserving the trees green and how their would be famine and drought, climate change and disease if the forests were to disappear."

3.2. *Vientiane and Bolikhamxay Provinces*

3.2.1. Vientiane province

Village 4: Natoun, Feuang District, Phou Youy PFA. Ethnic composition: Lao Lum, Khmu. Population: 760 (about half the families are Khmu)

General information: This village was originally entirely populated entirely by Lao Lum but now has a large community of Khmu immigrants. The Khmu immigrated to the village in the early 90s following conflicts within the village itself between the present families and some “enemies”. The “enemies” appear to have been some form of anticommunist elements, perhaps former members of the village. After the “enemies” left many of the original families in the village also decided to leave due to the problems (several people had died in the conflict) and some of the village’s wet rice land was now available; that is why the Khmu were invited to come and restock this village. The original Lao Lum families are virtually all wet rice farmers. At present, the village possesses quite large areas of wet rice but it is unequally distributed between the Khmu and the Lao Lum. Whereas most of the Lao Lum can cultivate wet rice fields, among the Khmu in the village many families are still lacking wet rice fields (ca 50%). However, there are also a few newly married Lao Lum families that are also, out of necessity, carrying out shifting cultivation. The Khmu have to use land further away from the village for their shifting cultivation, since the land adjacent to the village generally belongs to the Lao Lum. This year, a fairly large section of primary forest was cleared in an area not far from the village to make fields for several families Khmu families.

According to the villagers gathered at the village meeting, there was a (SUFORD?) team that came in 2007 or 2008 to establish a Production Forest. However, the villagers did not understand what they were and were not allowed to do in the PFA. They believe that the old forest clearing that they carried out this year, is inside the PFA.

The village appeared to be one of the most modernised of all the communities visited; the district centre and the main road to Vientiane capital is only 10 minutes away by car so this village is naturally very accessible. Although the villagers get most of their money from selling agricultural products and livestock, they all agreed that NTFPs were very important to them for subsistence, medicine and food. Although they claimed that a large area of the adjacent forest traditionally belongs to the village (they were very clear about this), they did not hunt.

Most of the Khmu in the village are living almost exactly like their Lao Lum neighbours and this village is thus virtually indistinguishable from any other Lao Lum village in Laos. The main source of income for the villagers is selling rice and other farm crops, as well as livestock, but they also sell NTFPs as a side income. Although the villagers claimed they did not hunt, they said that neighbouring “Lao Sung” (Hmong) villages sometimes hunted in their forests.

The villagers use the surrounding forest to gather a variety of products, many of which they sell:

- Thoun rattan. This rattan species has also given the village its name. In the past the village area had a lot but now the resource has almost depleted.
- Collect herbs for the herbal medicine industry
- Bamboo shoots for sale and consumption
- Rattan and rattan shoots both for sale and consumption
- Bamboo for local construction and to make handicrafts for sale
- Frog for sale and consumption (in rainy season month 6-7)
- Fish for consumption (only in rainy season)
- Honey: "In the past there was a lot but we didn't sell it. Now honey is rare."

About wild animals and hunting in Natoun:

"There were a lot of animals in the past: We had deers, muntjacs, elephants. But now the animals seem to have disappeared. We don't know where they have gone but we don't think they have disappeared because of hunting, maybe its just because there are so many people living here now so there isn't enough forest for the animals. Now there are quite a lot of villages in this area but villages that pose the biggest threat to the animals are the Lao Sung villages. The Lao Sung are very good at hunting. There are still many kinds of large wild animals in the forest but very few of them. For food we rely almost exclusively on mice, birds and bats. We only catch a few wild pigs every year. For example in 2009 the village caught 4-5 wild pigs in traps. We rarely shoot pigs, we usually catch them in traps that we put in areas where people rarely go, like in the mountain range. Only a few people go to make traps frequently. The traps are mostly set in the rainy season when there are a lot of bamboo shoots and wild pig come to eat these."

3.2.2. Bolikhamxay province

Village 5: Xiang Lu village, Borikhan district, Phakbeuk PFA,. Ethnic composition: Phong (Vietic branch of the Mon-Khmer language family). Population: 340

General information: This village is populated by the small and relatively unknown ethnic group called *Phong*. The Phong immigrated to this area from the neighbouring district in the 90s on the government's recommendation since the present village is deemed to have land suitable for wet rice cultivation. According to the villagers themselves they do not do any shifting cultivation whatsoever, although not all of their rice cultivation is "wet" – in other words, some of it is rain-fed perennial dry rice cultivation in the valley that passes through the village. This village, and perhaps the Phong ethnic group as a whole, is heavily "Lao-Lumisized", and a lot of the group's original customs appear to have disappeared and become replaced with Lao culture and traditions.

As in all other villages visited, the forest is used for NTFP collection, construction materials as well as for some "forest gardens" along streams (for example small banana plantations). The forest walk revealed that the villagers also collect *kisii* that has naturally fallen to the ground, as well as all the other commonly used NTFPs (rattan, bamboo shoots, honey etc.). The villagers believe that they are not allowed to hunt anything except wild pigs and that a large part of the forest is off-limit even for the collection of NTFPs (although, ideally, they would like to be allowed to collect NTFPs in those areas as well). The villagers also seemed a bit

concerned about a new road that is being built by the army that goes from this village to Xieng Khoang province.

The area now occupied by this village was previously occupied by some Hmong groups that were unwilling to resettle according to the government policy, wherefore there appears to have been some conflicts in the area -- prior to this village's resettlement in the 90s. Traces of these prior groups, or perhaps of the conflicts, can be seen in the forest where some areas have been ravaged by forest fire (probably in the late 80s or early 90s).

Village 6: Hin Ngon village, Borikhan district, Phakbeuk PFA. Ethnic composition: Hmong, Khmu. Population: 550 (about 70% Hmong families)

General information: This village is populated by both Khmu and Hmong, both of which are relative newcomers to the area. The Hmong are from Xieng Khoang province whereas the Khmu are from Luang Prabang. The Khmu arrived first in the late 80s and 90s due to what could perhaps be termed a "broken resource base" in Luang Prabang, as the land in their homeland was too degraded for shifting cultivation to viable: According to villagers it was impossible for them to continue practicing shifting cultivation in the north because there were "no forests left there". The entire landscape had turned into grassland or young fallows which, when farmed, produced weedy crops requiring a huge labour input.² The villagers then heard through the radio that land in Borikhan district was available for settlement and decided to move here. With the Hmong, the story was virtually the same, but they arrived in 2005-6.

The original inhabitants of the village were Tai Moi (Lao Lum), who although they were heavily involved in wet rice farming, appeared to have been animistic in their world view. The Tai Moi fled this area during the Indochina War and didn't return afterwards because of the conflicts that persisted in this particular area. Nonetheless, they managed to pass on to the Khmu and Hmong settlers many of their spirit beliefs related to the village landscape: Both the Hmong and the Khmu deeply respect the sacredness of the high and distinct mountain range that can be seen to the north of the village (Talabatt mountain). The mountain range is also a government-protected area and is the home of both gibbons and elephants. The Khmu villagers in both Hin Ngon and neighbouring Pakphoy village showed deep knowledge and interest in wild animals and both gibbons and elephants were protected by traditional taboos. The Khmu also had many taboos related to their family names which prohibited certain families from eating certain wild animals or harming certain plants in the forest.

² The breakdown of the northern "shifting cultivation landscape" is a very complex issue and many factors need to be taken into account to understand it. However, it is not enough correct to simply blame the practise of shifting cultivation for this breakdown, since these farming practises themselves have been subjected to massive changes as a consequence of various government policies (and even French colonial policies). Moreover, the north has also been affected by waves of immigration as well large scale resettlement programmes which have completely broken any human-environment equilibriums that might have existed in the past.

Village 7: Pakpoy village, Borikhan district, Phakbeuk PFA. Ethnic composition: Khmu. Population: 80 families.

Pakpoy village was generally in most respect similar to Hin Ngon, except that it had no Hmong community (only Khmu families from Vientiane province).

Phong and Khmu animal knowledge: gibbons and elephants

“This area still has gibbon but not many. This species has difficult to spread and increase in numbers. One gibbon group normally has about 4-6 individuals. The reason is because when the female gives birth she sometimes kicks out her female offspring because it only wants to have male offspring. The gibbon female likes to have many husbands. In some groups a single female will live with 5 males. If the female does give birth to a female and takes care of it, she will nonetheless kick the female offspring out when she starts getting bigger because if she lets the younger female stay in the group then some of the young males will like the young female. Sometimes when the young female leaves (is chased away), one or two of the young males will follow it and start a new group with the young female. The old female gibbon controls the gibbon group, even though she is smaller than the males. Because of the above reason, as well as because of hunting, the gibbon population is decreasing.” (Phong, Xiang Lu)

“According to the stories they have heard, gibbons live in small groups where there is only one female and when the female gives birth to female she will often kill the female offspring. Gibbon males don’t like to fight each other they like to live together in peace with each other. When they breed they do it similar to humans, hugging and kissing each other. They take turns to copulate with the female. In the armpit of gibbon females there is a sticky substance. Normally people can never get hold of this substance because it is not possible to shoot the gibbon female, but if get hold of it they would bring it home and worship the spirit of the substance and ask it to protect them from bad events. It is very difficult to hit the female – hunters always miss it. Female gibbon are not really spirits, but they are protected by the magic in that substance (Lao: kisii tani). The elders have always told people that they should not kill gibbons because gibbons were once human who were transformed into gibbons through magic. Also, unlike macaques, gibbons and khaang [another primate] never steal food from humans [a long story follows]... (Khmu, Hin Ngon)

About elephants: “When people want to have children they sometimes go to worship the king of elephants to get some power from it. If those people are honest and kind (with their husbands, wives etc.) the elephants will help them, otherwise the elephants will know that they are “dirty” and chase them away. Elephants are honest and moral, same as people.

Every year elephants gather in their sacred places, they will return to their sacred places even if people have started slashing and carrying out agriculture there. August to September is the holy period for elephants and they will come to their sacred place during that time. Every year the villagers see 5 elephants pass on their way to that area. All of them are female, but maybe the group meets males somewhere else because recently the villagers saw one of the elephants with a baby. The place they go to is Pou Ma Tao. That place is covered by very deep jungle. Normally, only foresters go there.

Elephant mothers have a single baby once every 3 years. A female elephant is pregnant for about 12 months per year.” (Khmu, Pakpoy)

3.3. Attapeu and Sekong Provinces

3.3.1. Attapeu province:

Village 8: Thatseang, Sanxay District, Nampa PFA, Attapeu province. Ethnic composition: Hrlak (Lao: Alak), Tarieng (Lao: Talieng). Population: 898

Village 9: Dak Po May village, Sanxay District; Nampa PFA. Ethnic composition: Hrlak, Tarieng . Population: 281

Village 10: Thatkoum village; Sanxay District; Nampa PFA. Ethnic composition: Brau.

General information: The two first villages (Thatseang, Dak Po May) were mainly populated by ethnic Hrlak but also had a few Tarieng families which appear to be culturally almost identical to the Hrlak except for that their language is slightly different. The villagers explained that Hrlak and Tarieng have co-inhabited villages as far back as anybody could remember and that both the ethnic groups in fact had the same clan names.

Thatseang village was a very large village with almost 900 inhabitants, the result of the governments plan to make it into the centre of a sub-district. It was composed of several smaller original villages that had been merged into one. The village had received massive infrastructure investments from both government organisations and INGOs but the villagers still claimed that most of the families had to go to their customary fields, sometimes more than 10 kms away, to carry out supplementary shifting cultivation.

Dak Po May village was interesting in that it had very little primary forest within its traditional territory, but villagers claimed that the forest cover had not been significantly larger even when the old people in the village had been young. Most of the village's territory was fallow forests but the villagers did not express much concern about future land problems. The land here was flatter and up on a plateau and it seemed that shorter fallow periods in this village compared to those of many other villages did not cause problems, most likely because the soils here are better. The fact that XXX NGO was introducing coffee to the villagers seems to confirm the good soil conditions (since coffee can only grow on high quality soils). This village was still located in its home territory and had not been affected by the governments resettlement programme. The village is located on the eastern side of the high plateau which makes up the bulk of Nampa PFA. A massive road is being constructed straight through the PFA connecting Sanxay district (and Attapeu provincial centre) with Vietnam.

The last village, Thatkoum, was a Brau village not far from the district centre. The village was still living on the same land that it had been occupying for about half a century or even longer. Prior to that, the groups that now constituted this village had lived elsewhere; at least one of the groups claimed to hail from Kontum in Vietnam. The village were currently strictly forbidden from carrying out shifting cultivation in their customary forest land and this was arguably the most serious problem in the village since they were not capable of making

enough wet rice fields out of their available flatland. The shifting cultivation land that had previously been used by Thatkoum village had now instead been taken over by two other villages (one of which was Dak Kiet), both of which originate deep within the PFA but had now been moved to the district centre. The villagers believed that the two new villages had the district's permission to use Thatkoum's land since they had now been resettled near the district. In any case, the Thatkoum villagers were strictly forbidden to continue using what they considered to be *their* land. This illustrates the typical domino effect often caused by resettlement programmes, breaking the fragile balance of land access that has often been worked out between villages over decades.

The villagers also explained that wild game animal populations, which had previously been an important source of food for them, had severely declined due to commercial hunting aimed at catering for the district centre with wild meat. They claimed that the most active commercial hunters in this area were immigrated Lao Lum.

Land Issues: Most of the villages which are today adjacent to the Nampa PFA in Sanxay district in fact appear to have been living *inside* the PFA before the governments massive resettlement programme in this area. Many communities cannot farm in their new village locations since there is simply not enough land for them there. Other villages, further away from the district, have been resettled to lowland dipterocarpas forests, which they claim cannot be used for agriculture.

The government and a number of INGOs are gradually helping the villages creating wet rice fields but the functional wet rice land is not enough. Thus the villages are facing a number of problems and many villages therefore continue to farm in their traditional areas, many of which inside the PFA, even if it means they have to walk up to 20 kms to access them. Some small groups also appear to have moved back into the PFA on a more permanent basis although this will naturally not appear in any statistics.

Many of the resettled villages in Attapeu are also facing problems of cultural erosion and are rapidly heading towards "Lao Lumisation". For many groups abandoning their homelands (home forests) and their livelihood practices (shifting cultivation) basically means they need to discover an entirely new identity for themselves, with the consequence that they will rapidly adopt the culture of mainstream Lao society.

3.3.2. Sekong province:

Village 10: Loy, Kaleum District, Huay Pen PFA, Xekong province. Ethnic composition: Krieng (Nghe). Population: 200.

Village 11: Hatpe, Kaleum District, Huay Pen PFA. Ethnic composition: Krieng (Nghe). Population: 230.

Village 12: Tongkai, Kaleum District, Huay Pen PFA. Ethnic composition: Katu (some Ta-Oi families). Population: 235.

Village 13: Chrehh, Kaleum District, Huay Pen PFA. Ethnic composition: Krieng (Nghe). Population: 356.

Village 14: Tang Plang, Kaleum District, Huay Pen PFA. Ethnic composition: Chatonng (some Katu and Ta-Oi families). Population: 200.

Village 15: Songkhon, Lamam District, Huay Pen PFA, Xekong province. Ethnic composition: Krieng (Nghe) and Hrlak.

Village 16: Nangyong, Lamam District, Huay Pen PFA. Ethnic composition: Hrlak.

Kaleum and Lamam districts: The research team visited 7 villages in Sekong province; 5 in Kaleum and 2 in Lamam district. The villages in Kaleum were: Loy, Hatpe, Tongkai, Chrehh and Tang Plang. In Lamam, the villages visited were Songkhon and Nangyong.

General information (Kaleum district): The villages in Kaleum differ from the villages visited in the northern and central provinces in that they are less accessible and seemingly more traditional. Although there are dirt roads to most villages, many of these small roads are not serviceable all year round. On both the occasions that we visited Kaleum, we traveled to the villages by a combination of boat and by foot. There is no bridge across the Sekong River in Kaleum so people wanting to visit villages in the interior of Kaleum by car will need to use a small ferry boat to cross.

The second fundamental difference between the Kaleum villages we visited and virtually all other villages covered by this study is that villagers have been less affected by the government's resettlement programmes insofar as movements have been shorter – often within the original district or to a neighbouring district (such as Lamam). Several resettlements are planned in Kaleum due to major hydropower and mining projects. Obviously, resettlement due to hydropower projects are hardly experienced as “voluntary” and can entail considerable problems for the concerned communities: when an area is to be flooded by a hydropower construction, villages have had to abandon and leave everything behind (fields, fruit gardens, fallow fields, cemeteries, ritual communal houses etc) and this is naturally a very painful experience.

Ban Loy and Ban Hatpe: mountain and river villages: Ban Loy and Ban Hatpe may be seen as two typical Krieng villages. However, whereas Ban Loy was situated in a high area and did not have access to the Sekong, Hatpe village was located right next to the Sekong river. Thus, Loy and Hatpe in a way typified the two village archetypes that are prevalent in Kaleum, (1) the “highland village” which often have access to more forest (and agricultural) land and perhaps wild animals, and (2) the “river village” which often has slightly less land but which is heavily dependent on fishing for their livelihood: for all the villages along the Sekong, fish was the primary protein source (non rice food source). However, both the villages were new to wet rice farming, and only exceptionally had a family or two managed to create wet rice fields. As flat areas are scarce in Kaleum, there does not seem to be much land that can be developed into wet rice land either.

People in both villages practised dry-rice rotational shifting cultivation and professed a belief in ancestor spirits (*yang*), and the spirits (*prrao*) of the hills, forests and streams: The villagers in Loy sometimes caught wild animals (occasionally a large animal like a wild boar, but more commonly small rodents) to supplant their diet whereas the villagers in Hatpe would forego most of the hunting to focus on fishing. However, both the villages claimed that their crops would be attacked by boars (and macaques in the case of Loy) every year and large parts of the crops are often destroyed by these animals. Therefore people in both villages build fences and set traps around their fields as well as monitor their fields from “field huts” during critical periods before the harvesting time (which is when the boar herds attack).

The Loy landscape was one of fallow forests interspersed with many fairly large “old jungle areas” which were more often than not spirit forests. Loy villagers claimed that their forests had many different animal types including even a few gibbon herds and even a small elephant herd, but also claimed that some of the surrounding villages did not have as many “old jungle” areas (nor many of the large animals which live there). For example, Loy villagers claimed that Hatpe’s forests only had boar and macaques – but no deer, muntjacs and gibbons (etc.) – they also claimed that Hatpe’s “old jungle” areas were smaller and fewer. Hatpe villagers later confirmed this picture.

Although both the villages had virtually no cash income since they only exceptionally sold anything to the market in Kaleum, they were not generally lacking in food resources; both staple crops such as rice, proteins (fish wild animals) as well as many edible NTFPs were readily available in these villages. The villagers themselves even openly claimed that in terms of food, they were “rich” (although they were “poor in everything else”).

The ideal fallow periods, and indeed the most commonly reported fallow periods, in the Kaleum villages (not only Loy and Hatpe) seemed to be 8-12 years. According to the villagers, older fallows than this would mean more and harder work when clearing the forest. However, sometimes older forests would nonetheless be cleared – for reasons we did not really understand.

Traditional rotational shifting cultivation in Kaleum

In the past, when villages were mobile, the shifting cultivation naturally “circulated around” the entire village area so that old forests would inevitably be (re)cleared at one point or another. In the past shifting cultivation was often kept fairly close to ntfp resource areas (such as wild animals and stream fish) and since these ntfps would start to be depleted after a village settlement had been “stationed” in a particular place for a few years, it would make sense to move the village to the next place in the cycle – which might necessitate clearing some old forests. Krieng, katu and chatonng Villages in the past rarely had more than 100 individuals, but even now the villages in sekong were much smaller than villages elsewhere (200-300). However, even a village with a population of a 100 people will eventually thin out the fish resources available in small mountain streams, wherefore periodically moving the villages in the past certainly made sense from a food-intake point of view.

Table 2.0: Village populations and ethnic groups

Province	District	Village name	Ethnic groups/ Language skills	Population	Nr. of families	
Xayabouli	Phieng district	Dong Louang	Nhuan Doi, some Pllai	574	105	
		Khounpone	Hmong, Emien	Emien: 426 Hmong: 211	96	
	Paklai district	Nathoun	Lao Lum	647	110	
Vientiane	Feuang	Natoun	Lao Lum, Khmu	760	137 (56 Khmu)	
Bolikhamxay	Borikhan	Xiang Lu	Poóng	505		
		Hin Ngon	Khmu, Hmong	550 (ca 70% Hmong)		
		Pakphoy	Khmu			
Sekong	Kaleum	Loy	Krieng*	200	36	
		Hatpe	Krieng*	230	43	
		Tongkay	Katu, Ta-oi	235	36	
		Chrehh	Krieng*	356	75	
		Tang Plang	Chetonnng		41	
		Lamam	Songkhon	Krieng*, Hrlak		
		Nangyong	Hrlak			
Attapu	Sanxay	Thatseang	Hrlak, Tarieng	898	173 (75/103)	
		Dak Po May	Hrlak, 6 Tarieng fam.	281	52	
		Thatkoun	Brau			

Table 3.0: Agriculture

Province	District	Village name	Shifting cultivation (# hh)	Average fallow	Wet rice/other	
Xayabouli	Phieng district	Dong Louang	96	3-10	47 wet rice land: "40 families do both wet rice and shifting cultivation. 1 fam does wet rice only."	
		Khounpone	All	6-12		
	Paklai district	Nathoun			All wet rice	
Vientiane	Feuang	Natoun	22 +		Only 36 fam. do wet rice exclusively. Others engage in shifting cultivation sporadically. 22 families do shifting cultivation every year.	
Bolikhamxay	Borikhan	Xiang Lu	No dry rice		Rainfed rice in valley. Some wet rice	
		Hin Ngon	No dry rice		All	
		Pakphoy	No dry rice		All	
Sekong	Kaleum	Loy	All	7-10	None	
		Hatpe	All	6-12	None	
		Tongkay	All	6-12	Few hh wet rice	
		Chrehh	All	6-12	Few hh wet rice	
		Tang Plang	All	6-12	Govt. prepared wet rice but water source dried out, now 0%.	
		Lamam	Songkhon		6-12	
		Nangyong			6-12	
Attapu	Sanxay	Thatseang	Most fam.	4-12		
		Dak Po May	All	6-10	6 ha coffee planted this year (all families). No cash crop rev.	
		Thatkoun	None		Most families. But not enough suitable land	

Table 4.0: Livestock and property

Province	District	Village name	Cows + Buffalos	Pigs+ Goats	Poultry	Tractors	Motor- cycles
Xayabouli	Phieng district	Dong Louang					
		Khounpone	120	200+50	500	9	50+2 cars
	Paklai district	Nathoun				Ca 35	
Vientiane	Feuang	Natoun	120+26	40+20 goats	150	18	50
Bolikhamxay	Borikhan	Xiang Lu					
		Hin Ngon					
		Pakphoy					
Sekong	Kaleum	Loy	10+45	50+25 goats	100		
		Hatpe	35+60	200+25 goats	300		
		Tongkay	31+69	56	360		
		Chrehh					
			Tang Plang				
	Lamam	Songkhon					
		Nangyong					
Attapu	Sanxay	Thatseang					
		Dak Po May	50+0 (9 buff died last y.)	15 (150 died this y.)	50 (700-800 died last y.)		
		Thatkoun					

Table 5.0: Poverty³ and village problems

Province	District	Village name	Poverty			Other projects	Problems
			Very poor	poor	middle		
Xayabouli	Phieng district	Dong Louang	40	60	4+1 rich		No forest/shifting cultivation land
		Khounpone	9	45	32 ⁴		
	Paklai district	Nathoun					Some illegal logging by companies
Vientiane	Feuang	Natoun	22	69	36		Not enough w rice land at present
Bolikhamxay	Borikhan	Xiang Lu	30	41	25	Luxembourg	Not enough w rice land at present
		Hin Ngon					
		Pakphoy					
Sekong	Kaleum	Loy					
		Hatpe	8	15	20		Flooded in 2000 future dam will submerge village
		Tongkay	20	16			
		Chrehh					
		Tang Plang				Adp, OXFAM, Talenyo	Unexploded ordinance
		Lamam	Songkhon				OXFAM
Attapu	Sanxay	Nangyong					Flooded in 2000
		Thatseang	105	-	67		Timber logging without proper compensation companies.
		Dak Po May	3	21	28	IFAD	
		Thatkoun					Not enough w rice. No shifting cultiv. land

³ The poverty figures here are those according to the villagers themselves. Sometimes this was based on village data compiled together with district officials, sometimes the data given is entirely the perceptions of the villagers. In some cases the villagers could not find their official data. The person in charge might not have been available or he might have lost his notebook etc.

⁴ Note: all Hmong in this village were considered middle or well off.

3.4. Comparative observations

3.4.1. Villages in northern/central provinces

Large vs small villages: All villages in Xayabouli, Vientiane and Bolikhamxay that were visited are either composed of *resettled* or “spontaneously immigrated” communities, or, in a few cases, a mixture between autochthonous (non-immigrant) inhabitants and immigrants. In the last case, the autochthonous inhabitants are often Lao Lum. The study villages in the north are considerably larger than those in the south. This can be seen as an indication that these ethnic groups are less adapted to shifting cultivation (have not historically engaged in shifting cultivation as long as the Mon-Khmer shifting cultivators). However, the government has now for the last several decades engaged in a policy of merging villages and is therefore creating larger villages in the southern province. Large villages can be seen as one factor motivating ‘*pioneering*’ shifting cultivation or short-cycle forms of rotational shifting cultivation – both environmentally destructive forms of cultivation. The current food demands are simply so great that the communities cannot afford to have a more sustainable agricultural approach.

Large villages seem to be the “cultural ideal” among Hmong villages (as it is among many “Lao Lum” peoples). Scholars have taken this to indicate that Hmong culture was once a wet rice based culture (thus explaining the comparatively unsustainable shifting cultivation farming methods of this ethnic group): Whereas wet rice requires a high concentration of able bodied labour to work smaller units of land, shifting cultivation per definition requires lower population concentrations and larger forest areas to be feasible. Therefore most shifting cultivation groups – if unaffected by government policies – naturally tend to have much smaller village populations (in the past often not even numbering a 100 individuals).

This is the case with the southern Mon-Khmer groups, who up until today have maintained much smaller communities and villages tend to “spread out” evenly and thinly in the landscape which results in more sustainable land management. In recent year, however, various government policies have made it difficult for the southern communities to maintain smaller village sizes since a process of village-amalgamation has been energetically implemented. In many cases villages have even asked for permission to splinter up into smaller groups but been denied.

Mono vs. multiethnic: Northern villages have been more affected by ethnic mingling than the southern villages as a result of the government’s resettlement policies. Among the villages visited both in the north and the centre (Borikhan), most villages were in fact multiethnic. (There exist, however, remote mono-ethnic Hmong villages in the north.) It is our impression that the large multi-ethnic villages in the north tend to be considerably less cohesive than the smaller and predominantly mono-ethnic villages in the south.

Buddhism vs. animism: Buddhists and wet rice farming usually go hand in hand. Buddhists and wet rice farmers and all groups denominating themselves “Lao Lum” generally depend less on shifting cultivation than non-Buddhists but simultaneously also have fewer sacred places associated with the forest. There are fewer “sacred” areas in the areas used by the

northern villages and the sacred areas are generally smaller than among the southern villages. Some of the Buddhist wet rice farming communities may have had many sacred places in the forest in the past, which they have now “farmed-over” (i.e. turned into wet rice fields). Thus, the policy of encouraging all ethnic groups to turn towards wet rice agriculture can be criticised from two standpoints:

The conversion of many ethnic communities from traditional shifting cultivation to wet rice farming for many of the smaller ethnic groups means that they will see themselves forced to also abandon their traditional culture and religion, thereby gradually becoming Lao Lum, through a process known as *lao-lumization* (c.f. Baird, 2005, Chamberlain 2006, 2003, 2002). Although wet rice farming is generally considered as a solution to the “deforestation problem” it has recently been observed that the more permanent transformation of the landscape caused by wet rice farming can have negative impact on the local ecology. Areas deemed suitable for wet rice are often core areas for the local ecology, and wet rice farming can dramatically alter the local hydrology.

Livelihood and SUFORD impact: The northern villages are less likely to be impacted by SUFORDs planned future activities than the southern groups because many are already primarily engaged in wet rice farming. This means that there will be fewer incidences where SUFORDs production forest areas will compete with the local peoples “traditional upland agricultural areas” (that is, the forests which they had intended to use for farming). Moreover, the “cultural threat” posed by potential logging activities is also less serious since the forests are less imbued with religious meaning to the local inhabitants in the north. This is the case because the populations in the north are predominantly recent immigrants. Some sacred places still exist, however, and often these sacred places have been “inherited” by the original inhabitants of the area which must be located during the SUFORD PSFM process.

Most of the northern villages/communities and ethnic groups are familiar with wet rice farming techniques and many groups efficient cash croppers. Many of their cash crop farms, even if produced with “slash and burn” techniques, will also have a clear legal status since the government of Laos encourages and gives legal recognition to cash crop agriculture (as opposed to shifting cultivation intended for food subsistence which will not be legally recognised and will be strongly discouraged). The northern communities also engage more in trading NTFPs in the marketplace and thus have many more ways to earn cash and trade it for food; market access is also easier. The southern villages, on the other hand, are almost entirely dependent on their own food production for subsistence.

Hmong appear to carry out shifting cultivation in a less sustainable manner than the southern Mon-Khmer groups. For example, Hmong informants readily admit themselves that they carried out shifting cultivation near stream sources in the past. There have always been elements within Hmong society, however, that have discouraged such unsustainable practises and tried to restrict them. Some Hmong communities have also had traditional rituals with the sole purpose of maintaining the protection of certain forests or stream source areas. Overall, however, the sustainability of Hmong shifting cultivation is not comparable to that of the southern Mon-Khmer groups in this study (including the Khmu). Perhaps this can be “shown to be due to the fact that up until now the Hmong have not been settled in any given area for a long period of time. Whereas the southern groups may

often be described by laymen as having been “nomadic” before the advent of the government’s sedentarisation policy, this is a misconception. Although the southern communities did move their villages periodically in the past, they always stayed within the boundaries of the village territory. More research on the Hmong groups is recommended.

The Khmu

Although culturally similar to the Katuic and Bahnaric groups in the southern provinces (Xekong and Attapeu), the Khmu are distinct from all the other mon-khmer groups in Laos for several reasons. Firstly, as the original inhabitants (or at least as very longstanding inhabitants) of northern Laos – the Khmu have had much more close cultural interactions with the Lao Lum for as long as a thousand years. The cultural distinctiveness of the Khmu vis a vis the Lao Lum is therefore quite remarkable (as are the many cultural similarities with the forest-living groups in Sekong and Attapeu).

In this study, the kmu villages visited were both multi-cultural villages -- were the kmu were living together with hmong – and, moreover, resettled from northern laos. Despite this, the kmu showed more similarities with the mon-khmer in the south than with either hmong and or lao lum. However, the fact of being a resettled / migrated group thoroughly changes a village’s cultural life.

As noted, the northern groups are often composed of more than one ethnic group. The various ethnic groups in the village have often immigrated or been resettled to the new village during different periods and therefore have different levels of access to land – both forest land and agricultural land. As a rule, late-coming groups will have to do shifting cultivation further away from the village and have less or no access to wet rice land. For example, if group 1 arrived in 1970 and group two in 1990, then group 2 will have to do shifting cultivation further away from the village and – although already at a disadvantage vis-à-vis the first-comer communities in the village – also be more prone of losing land to SUFORDs production forests and being punished for their shifting cultivation etc. Thus, in all multi-ethnic communities which continue to be dependent on shifting cultivation, the “traditional land rights” of the different groups in the village must be assessed. Whereas one ethnic group in the village might have nothing to lose to SUFORD, others might end up in a very vulnerable situation.

All communities are still very dependent on NTFPs, regardless of whether they do shifting cultivation or not. SUFORD should take precautions to avoid impacting on the NTFP resource base. Encouraging the marketing of naturally occurring NTFPs must be done carefully, since the increased market value and sale of may lead to a rapid breakdown and collapse of the NTFP resource base, which may permanently eradicate an important component in the local diet.

3.4.2. Villages in southern provinces

Resettlement: The southern provinces (Attapeu, Sekong) are inhabited by (southern) Mon-Khmer groups which are heavily dependent on rotational shifting cultivation. By contrast to the groups in the northern and central provinces, paddy cultivation is here relatively marginal. The study villages in Sekong province are relatively less affected by the government's resettlement programme than the northern and central villages in the sense that they tend to be relocated to areas inside or adjacent to their traditional homelands. However, since fertile paddy land is in short supply in both Lamam and Kaleum districts, many villagers in these districts see themselves forced to continue using their old swidden fields – sometimes located as much as 20 km away from their new/present village location.

In Attapeu, most villages have been moved out of the PFAs (prior to the establishment of SUFORD AF) and down to lowland areas near the district centre. Some of these villages still attempt to farm inside the PFA, others have “grabbed” traditional swidden land from villages originally located near Sanxay district centre. A few unfortunate villages have been strictly prohibited from carrying out shifting cultivation while, at the same time, not being able to cultivate enough wet rice.

Sacred forests vs. timber logging: A substantial part of the landscape in both Attapeu and Sekong provinces is “fallow forest” (has been farmed in the past). The villagers know the history of the forest very well: they may even point out places where agriculture was carried out a century ago. Almost all primary or “old forest land” (“forests that have never been cut”, or, at the very least, “never cleared for agriculture”) is what the locals call “spirit forests” (Lao: *pa mi phi*, *phou mi phi*; “forests that have spirits”) and has thus up until recently been *protected* by the religious beliefs of the villagers. Spirit forests can be very important for NTFP collection and sometimes hunting is allowed in these areas. However, there are also areas of the sacred forests where hunting is restricted by customary beliefs. The restrictions are in the form of traditional taboos, not in the form of formal village rules. The sacred hills/forests are sometimes the *most* important locations for collecting certain NTFPs (notably rattan).

The taboos in spirit forests usually only prohibit swidden cultivation and the extraction of large trees. The concentration of certain tree species, such as strangler figs, also serves to define an area as the abode of spirits. Although some “sacred” tree species (the strangler fig, for example) are in themselves “useless” (for construction etc.), the taboo comprises other trees in the vicinity of such non-usable trees and thus serves to protect a larger area of old forest. These beliefs appear to be stronger among the southern groups which – as opposed to many northern communities – inhabit their traditional homeland.

However, local populations do not seem to oppose powerful agents, such as the government of Laos, from extracting trees from sacred forests. Indeed, they may even hope that the government will “defeat” the spirits (so that they will not have to suffer the negative consequences of the actions taking place). The problem is that timber logging activities in sacred areas will “undo the spiritual power” of those forest areas, thereby leaving them

vulnerable to all forms of future exploitation. It seems this has already happened in some locations, and some villagers have now started exploiting such areas (with the help of outsiders) in the wake of the external companies' initial logging). Often the external companies have been allowed to log in return for constructing schools or inter-village roads etc.). However, the sacred areas are also often the habitats of gibbons or even elephants (in Kaleum district) and the opening up of these hitherto untouched forests renders the already fragile habitats of these animals even more vulnerable.

4. LOCAL FOREST MANAGEMENT AND TRADITIONAL ECOLOGICAL KNOWLEDGE

This chapter summarises the findings relating to the core topics of the study – local forest management practices and traditional ecological knowledge as broadly defined in section 1.3. Most of the data in this chapter derives from the study villages in the southern provinces inhabited predominantly by Mon-Khmer speaking traditional shifting cultivators. Accordingly, this chapter starts with some general but often neglected observations on rotational shifting cultivation among forest dependent upland peoples. For these groups, not only does shifting cultivation provide the basis for their survival but it also largely defines their culture, their religious beliefs and general outlook on life.

Shifting cultivation, then, is much more than a form of agriculture/traditional agro-forestry – it is a whole livelihood culture, a meaningful way of life. It should also be stressed that the analytical distinction as regards TEK made in the introductory chapter are difficult to uphold when we scrutinise its practical applications in real life situations. Here subsistence practices, beliefs in spirit forests, local environmental knowledge and customary rules and regulations (taboos) all fuse into an integral whole, defining and structuring local resource use and forest management.

4.1. *Shifting cultivation*

Shifting cultivation remains the dominant mode of cultivation among the indigenous groups of Laos. The Lao government is firmly committed to reduce and, eventually abolish, this form of agriculture. Scientists have widely diverging views on the topic of the sustainability, efficiency, productivity and environmental implications of shifting cultivation (see Ducourtieux et al. 2005, Fox 2000, Rambo 2009) for a review of recent contributions to this debate/controversy...). It is worth emphasising in this context that shifting cultivators have been active in forested areas of Laos for thousands of years. Although traditional shifting cultivators have inevitably altered the forest landscape, they have not made it unproductive or uninhabitable to wildlife. Indeed, they have in many places managed to maintain the area of forest cover relatively constant (c.f. Robichaud et al. 2009).

It should also be noted in this context that traditional (rotational) shifting cultivation as a culturally informed “total” forest-management system – intimately related to traditional spirit beliefs and behavioural regulations (taboos) – may well serve to uphold environmentally sound behaviours rather than the reverse. When the traditional system of shifting cultivation – and the values which go with it – erodes, so do other cultural mechanisms for forest protection and sustainable resource use. Shifting cultivation forms part of a cultural and institutional “package” which has served to safeguard the upland forest environment in Southeast Asia for generations...

Importance of fallow lengths: Rotational shifting cultivation with sufficient/appropriate fallow periods (>5 years) does not permanently halt forest growth. Insufficient fallow

periods, on the other hand – short rotational cycles (<5 years) – may degrade the forest and progressively turn it into weedy (*imperata*) grassland.

Shortened fallow cycles and the ensuing forest degradation is less often caused by natural (demographic) growth than by government imposed restrictions on the farming population: i.e. farmers find themselves compelled to overexploit a given area because of imposed land restrictions rather than any real absence of land. Note, however, that in the north of Laos has historically been so affected by immigration from other areas (for example as a consequence of the Vietnam-American War) that immigration can be a factor when considering land degradation. In the south, by contrast, population densities among ethnic minorities remain so low that any land degradation must be explained by the impact of government policies or commercial enterprises.

Lamet shifting cultivation: Lessons to be learned

Karl Gustav Izikowitz, who carried out over a year of intensive fieldwork among the Lamet in northern Laos in 1937-38, produced one of the most detailed accounts of traditional shifting cultivation available to date. He describes the landscape of the Lamet:

“the high jungle clad mountains are the most striking feature of the whole landscape. [however,] There are but few places where such a rich vegetation exists that it can be considered as having the character of virgin forest (...) The forests as a rule seem to be quite young which is due to the swiddens [shifting cultivation] of the Lamet. Almost everywhere the forest has at some time been cut down (...) However, grassy plains covered with *imperata* and other varieties of grass are seldom to be seen in the Lamet district.” (Izikowitz: p 35)

Izikowitz quote above highlights two important points regarding rotational shifting cultivation: Firstly, is that much of the forest landscape of Laos has been “disturbed” for so long (many centuries or even millennia) by shifting cultivators that it is controversial to regard its “baseline” state as “untouched forest”. These forests have, so to speak, been “degraded” for so many centuries that the term “degraded” can only be relevant from an industrial forestry point of view (i.e. as an indication of the quality/value of the timber). Secondly: Rotational shifting cultivation as carried out by the Lamet although shaping the landscape, does not permanently degrade it. Hence the absence of grasslands despite the longstanding presence of the Lamet in the area.

In fact, many of the communities visited during this study did shifting cultivation almost exactly as Izikowitz describes the farming practises of the Lamet. Many communities claimed to have the same fallow period length (10-12 years) that Izikowitz ascribes to the Lamet, and many insisted that it was also pointless to clear older forest than that.

A note on the importance of fallow land and forest patches within the agricultural zone:

Fallows are not *only* agricultural land: It should also be noted that fallows, which inevitably form part of the shifting cultivation cycle, also function as:

-- Habitats for many animals.

-- Can be used for grazing livestock.

-- Are used to collect firewood.

-- Are used to collect a variety of vital NTFPs used for food. Indeed the women, who were the primary NTFP gatherers, claimed that fallow forests were where they usually collected NTFPs, and that they only occasionally would go to primary forest areas for NTFP collection.⁵

-- Are used to collect construction materials. One interesting finding from our community mapping was that even heavy construction materials (timber) was often collected from “fallow forest” rather than “old forest” or “jungle” (*aruiah* rather than *chrung*, see below). Usually construction materials have to be located close to the village, they do not venture into forests located further away for large tree trunks.

-- Villagers will often leave patches of trees even within their “agricultural zone” (most notably trees on hill tops). Several reasons were given for this:

(a) To avoid soil erosion (which can have a negative effect on their crops, now or in the future).

(b) To protect water sources since these are important for their crops (i.e. for the fertility of the soil).

(c) To serve as “fire-breaks” when setting fire to cleared patches of land before planting. Fires can easily spread if the surrounding vegetation is bamboo forests but fires do not easily spread through uncut forest areas with non-bamboo forests.

(d) To speed up fallow regrowth: If there are no forests in the vicinity of fallows the seeds necessary for forest regrowth might not be possible; some forest seeds cannot travel very far. Having “forest areas” nearby the “fallow areas” ensures speedy regrowth with the same species as those in the surrounding forests.

-- Note also that for many purposes tree trunks left on the field after it have been burnt can still be used in construction and/or as firewood.

-- On the other hand, it should be noted that some NTFPs cannot be found in fallows and require what botanists tend to call “fire-free forests”. This is the case, for example with several important palm tree species, which are used by villagers for various purposes (leaves for construction, other parts as food). In order to have a “full range” of NTFPs villagers thus need to have both “fire forests” (fallows) and fire-free forests. This might be seen as one possible explanation for the existence of forest taboos (see below: Sacred Forests).

Summary of findings regarding shifting cultivation:

- In the villages where shifting cultivation was carried out as a dominant livelihood activity, lack of land did not appear to be a problem. There were few complaints about not having sufficiently long fallow periods. All villages reported fallow periods

⁵ See section 4.3. for more info about NTFPs, and section 4.4. for information about hunting.

typical for functioning rotational shifting cultivation (8-12 years were indicated as the “typical” or “average” fallow periods, with exceptions).

- A more serious problem for some communities was the long distance they had to travel to their fields as a consequence of resettlement.
- The most severe problem, however, for forest-dependent peoples is the national forest legislation banning villagers from practising rotational shifting cultivation in a rational and sustainable way.
- Although proportions vary, it is not uncommon in the southern provinces that 50%-75% of the village land has been used as swidden land for generations – even if those areas are currently covered by lush forest. We have less detailed information about the northern groups, but it seems likely that also large tracts of forest land in the north have for long (and before the present inhabitants) been inhabited by autochthonous shifting-cultivators (although it is often not known who the previous inhabitants were).
- The agricultural practises of the southern groups are inseparable from their spirit beliefs regarding the forest and its spirit inhabitants. The next section provides some details on the relationship between beliefs and forest-management practices.

4.2. Some notes on Landscape Terminology in Kaleum

Interviews with Krieng, Chetonng and Katu in Kaleum revealed that their landscape terminology reflected their specific livelihood pattern: Instead of having any words that would translate exactly into the English concepts of “forest” and “farmland”, the locals often graded the landscape into various forms of what they termed “krungg”⁶:

Among the Krieng in Kaleum, the entire area of the village could be denoted as various forms of *krungg*: Virtually all fallows, for example, would be *krungg*, but *krungg* could also denote primary forest (*krungg chrungg krinng*). In fact, the major distinctions in this system of classification appeared to be precisely between two “main forms” of *krungg*:

Krungg aruihh ↔ *Krungg chrungg*

Where the former, denoted something which the locals saw as the (agricultural) “production area” and the latter, *krungg chrungg*, was a “non-production area”. The word “chrungg” also carried the connotation of an older forest or even of untouched primary forest areas with large trees (the Lao words Pa dong dip [“deep jungle”] was often used to translate the word

⁶ The same, it has been argued [Baird 2008, 2009] applies for the word “brii” which is used by the Hrlak and the Brau. Note, that the Khmu use a word with an almost identical pronunciation “bri” and possibly with the same connotations.

chrung). The communities in Kaleum pointed out that they would “go to collect food much more seldom” in the *krung chrung* than in the “normal” *krung* – the *krung aruihh*. Nonetheless, villagers explained that a 5-10 year old fallow could be described as a *chrung komorr* (a virgin forest, i.e. a forest in its puberty/youth).

The basic term *krung* thus, in a sense, simply denoted “area”, since the word could be used to describe anything from a fallow to a primary forest. *Krung* would usually be omitted, however, when talking about a very young fallow. Thus:

- Presently cultivated land = *hare kamma-ke*
- This years fallow (the field after the harvest) = *halai*
- Last years fallow and older fallows (basically any type of fallow) = *aruihh*
- 15 year old fallow = (*krung*) *aruihh krinng*. *Krinng* means old or “big” (as in big trees).
- A 3-5 year old fallow could be called = *aruihh halai*
- 5-20 year old fallows could be called *krung aruihh* (if smaller trees) or *krung krinng* (if it had bigger trees)
- 20+ year forest = *krung chrung*

In sum, the Krieng Chetonng and Katu seem to regard village territory as consisting of a mixture of two core area types (*krung aruihh* and *krung chrung*): the first (and often larger part) of this area is what villagers perceive as a “production forest area”, whereas the latter, consisting of many smaller areas interspersing the primary area, will be the “non-production forests”. The term “production forest” (*pa palit*) was used spontaneously by villagers themselves when they were describing the part of the village land that was considered part of their shifting cultivation system. This use of the Lao words “*pa palit*” in fact not only came up in discussions in Kaleum, but also in some of the villages in the northern provinces. What the villagers refer to as the “production forest”, however, is obviously not the same type of area that SUFORD would call by that name. This *indigenous* production forest can thus be either fallow forests or land that is presently cultivated, but it will not include primary forests which villagers don’t regard as “production” land. SUFORD needs to take into account the ambiguity of the production forest concept and bear in mind that, to many local communities, shifting cultivation is the only form of “production” they are familiar with.

Other vegetation categories which the Krieng used were:

Bamboo areas:

Krung taang lia: bamboo area dominated by “*lia*” bamboo

Krung taang ha: *ha* bamboo area

Krung taang shrang: *shrang* bamboo area

Krung taang chrimm: *chrimm* bamboo area

Krung taang birr: *birr* bamboo area

Krung taang xinng: *xinng* bamboo area

Grass areas:

Krung taang plaang = *plaang* grass area

Fields (rice and corn only):*Öm hare:* Rice field:*Hare chö hapua:* corn field**Gardens (in the forest):***Trohh prrihh:* banana garden*Trohh birr lao:* pineapple garden**Old village site:** Vil rohh

4.3. Customary Management of NTFPs

The forests are very important for all the communities visited in this study; even for the wet rice growing Lao Lum villages. Moreover, in terms of which forest resources were utilised the communities, regardless of which ethnic groups they were composed of, showed many similarities.

- **Rattan:** various types of rattan and rattan shoots and are used for consumption and for sale, as well as for tools, handicrafts and utensils.
- **Bamboo:** bamboo was used a construction material by all groups. Bamboo shoots were used as food or sold.
- **Fungi:** “mushrooms” were not available in all villages. Further investigation could perhaps reveal why the forests of some communities were lacking mushrooms. Many groups were very knowledgeable about mushrooms. Krieng women could easily give local names for more than twenty species (both edible and poisonous). The harvesting of mushrooms was highly seasonal. In Kaleum, during certain periods of the year, mushrooms were the main complement to the rice diet.
- **Fruits:** Fruits were important as nutritional complement to meals in all communities visited. In the south, fruits are often collected in old village sites (i.e. from fruit trees that had been planted in the past). As opposed to fruit trees in the village, the fruit trees in the forest or in old village sites were common property and could be harvested by anyone. Some villages also collect wild fruits, both from fallow forests and primary forests.
- **Honey:** Honey is collected for local use and for sale as well as for use as medicine. Many villages report a rapid decline in the honey resource in recent decades, but do not know how to explain it. “Honey-trees” are sometimes considered sacred (see below). Honey is considered common property and the “finder” of honey marks the find with a sign, after which nobody else is allowed to take the honey. However, honey-combs might not be marked before they are “ripe”.

- **Khi sii;** dry resin: Mainly derived from the *Parashorea dussaudii* (“xi dong”), “chik khok” (*Shorea obtusa*) and the “tabeng khok” is collected in Bolikhamxay, as well as Lamam in Sekong as well as in some villages in Attapeu. In these districts it was collected mainly for sale. In Kaleum, almost no NTFPs were traded but *khi sii* is used for repairing boats as well as for candles etc. In the few villages where we could observe *khi sii* collection (all Bolikhamxay villages) it was collected only after it had fallen naturally to the ground. According to a report by Baird et al (2002) *khi sii* trees are often at risk when logging takes place since the trees themselves have value as timber. Also, trees are often destroyed when other nearby trees are felled.
- **Cardamom (*Amomum villosum*) (called “mak neng” in Lao):** Was collected for market sale in some of the northern villages (Xayabouli and Vientiane).
- **“Hem” vines (*Coscinium usitatum*):** The Nathoun villagers (Vientiane) collected hem vines for market sale.
- **Medicine:** Many plants are used for medicine. Most of these plants are probably known to the Laotian and Vietnamese traditional pharmaceutical traditions (deeply rooted in rural traditions). Herbal knowledge is generally not limited to experts, although experts do exist; instead virtually all adult community members will be familiar with a large range of herbal treatments. At a meeting in Hatpe village, female villagers could rapidly list about 15 plant species that were used to treat stomach aches, diarrhoea, fevers and for pain relief. Anti malaria tonics are also known to the communities in Sekong. Some NTFPs were being sold to the herbal medicine industry by villagers in Vientiane.
- **Animal medicine:** Many groups claimed that gall from certain species had medicinal properties. Among the gall types mentioned were: bee “gall” (honey), bear gall, rhinoceros gall (according to elders), python gall, gibbon “gall” (derived from glands under the female gibbons arms). However, many of the “medicine species” were considered sacred and therefore forbidden to hunt by the same groups that indicated their medicinal properties (see below). Interestingly, considering the extreme value that Vietnamese traditional medicine ascribes to animal bones (tiger bones, cat bones, “monkey” bones, horse bones ...) only the Khmu in Bolikhamxay considered animal bones to have medicinal properties (and this only applied to dog and flying squirrel bones).

Gender: Women are the primary plant NTFP gatherers, although men might be the primary fruit gatherers (women do not generally climb trees).

In sum: The main difference found between communities was mainly the extent to which the NTFPs were collected for sale, rather than for domestic consumption. In this regard, the communities in the north, which are generally located closer to the road network, were much more involved in NTFP sale whereas in the southern villages, particularly in Sekong, almost all NTFPs were consumed locally.

4.4. Sacred Forests

The notion of sacred forest or spirit forests is, as we have seen, widespread among indigenous communities in the study area, particularly among the (southern) Mon-Khmer groups. The notion has great relevance for local forest-management practices; indeed, it is one of the central conclusions of this study that the belief in sacred forests and the behavioural taboos that go with it – the prohibitions on cutting, clearing and cultivating in such areas – are a fundamental institutional mechanism for protecting high-value forest in areas inhabited by indigenous peoples.

Sacred forests can be divided into at least two types: (i) “Forests that have spirits” and (ii) cemeteries. Sometimes, the spirit forests could be further qualified into: (a) spirit forests where hunting is not allowed and (b) spirit forests where hunting is allowed. In some sacred forests no cutting is allowed whatsoever, whereas in others some collection or cutting of construction materials might be allowed. If the sacred forests are large, collecting NTFPs will generally be allowed there. It seems that the southern, autochthonous Mon-Khmer groups have larger areas which are considered sacred forests than the northern groups. Even the Hmong, however, do have various types of sacred areas in their forests, as do many groups that consider themselves “Lao Lum” (for example the Tai Moi of Bolikhamxay). But “sacred forests” (including cemetery forests) are not the only type of sacred areas that exist in the ethnic minority landscape; among many of the ethnic groups there are a number of additional places that might or might not be considered sacred, including: waterfalls, pools on hill tops or watering holes, salt licks. If there are such ecologically important places within the village territory, the villagers will most likely know about it. Interestingly, the interviews and map making activities revealed that such areas were often considered as “sacred” (“*mi phi*” => “*sac sit*”). Although the Hmong and many Lao Lum groups also have these beliefs, if they do not engage in shifting cultivation (anymore), their belief in the sacredness of certain places in the landscape will be much weaker. In the Lao Lum village of Nathoun (Paklai district, Xayabouli), for example, the farmers had already converted all the sacred areas, indicated to them “by their ancestors” into wet rice fields.

It should be noted that “sacred forest” areas were much more numerous and much larger *among the groups who were still living in their ancestral lands*. Among the groups studied this was rarely the case; among all the villages visited in five provinces the only (non-Lao Lum) communities still living in their “homeland” were the villages in Kaleum – all other groups had been resettled by the government or had migrated due to other reasons (see the discussion on shifting cultivation below).

Among the “northern groups” (non-autochthonous) groups, including groups such as the Hmong, Emien, Lao Lum, Phong and even the Mon-Khmer Khmu and Brau sacred areas were generally fairly small (probably too small to be of significant ecological importance as habitat for wild animals etc.) and had sometimes been “inherited” by the groups who lived in that area before. In other words, the present groups would have been told by the original inhabitants – or heard rumours about the matter – what places in their newly acquired forests were spirit areas, and thereafter committed themselves to continue to respect those places. Sometimes, however, the sacred areas, even among the non-autochthonous groups,

could be large areas. In these cases there also appeared to be a parallel enforcement due to those areas being designated also by GOL as “national protection forest”.

By contrast, among the Kaleum groups (Krieng, Hrlak, Katu, Chetonng etc.), the sacred forests appeared to have a much larger significance, both culturally and ecologically. It can be assumed that these groups can serve as an indication of the belief system that would have been prevalent among many of the other Mon-Khmer ethnic groups, before they were resettled. The Kaleum groups often invited a number of important “sacred hill spirits” to join every village ritual, and considered themselves – as a community – to be “controlled” by those hill spirits. The sacred areas could in some cases cover a significant percentage of the total village land (ca 10-20%) and were often very important places for NTFP collection (rattan, bamboo shoots, mushrooms as well as wild fruits). The sacred forests were also the habitat of many wild animal species such as gibbons and elephants, partially or completely protected by village hunting taboos (see below).

Loy village (Kaleum) – a case study

A very useful way of obtaining information about sacred forests and their local significance is by using the community-based mapping technique (see Chapter/Section XX below). The exercise in Loy village is an instructive case in point.

The map below shows the third map made by the Loy villagers. This map has been printed from a much larger map showing all the streams in Sekong province. Based on interview information and the maps drawn by the villagers on our first visit to the village, we thus “cut out” the village area from the larger map and printed it out on a A1 sheet as a “background” on which the villagers to draw the other details. In other words, the streams on the following map are printed and should be geographically accurate. Just as with the other maps we made together with villagers, we then asked them to draw other features on the map.

However, on this map we asked them to draw a somewhat different map than on the other meetings. One difference was that we asked them to lump all “agricultural land” together into one “category”; i.e. to draw all fallow land (as far back as anyone could remember) and all currently used agricultural land with a single colour. We also asked them to indicate “forests destroyed by the war” with the colour pink.

The most important “landscape features” we asked the Loy villagers to draw on their map were thus:

- Areas that have never been cut *nor* used for agriculture (i.e. “primary forests”). (Dark Green)
- Areas that have never been used for agriculture but where selected cutting has taken place. (Orange)
- All areas that have been farmed, even as far back as 200 years ago. (Yellow)
- Areas destroyed during the war. (Pink)
- Migration routes of elephants, gibbon habitats.
- Sacred areas. (Crosses)

The reason why we asked the Loy villagers to divide the landscape as per the above criteria was because we wanted to see, as clearly as possible, what part of the landscape was part of the “shifting cultivation cycle” and what part was not.

Several interesting facts were revealed by the map making session in Loy village: First of all was perhaps the massive extent in which the war had degraded the forest. However, since these areas were indicated with pink dots, the map still enables the viewer to see what kind of forest the destroyed areas are considered to be (i.e. the destroyed areas might be “untouched jungle” or “agricultural land” etc. The extent of the damage was further confirmed in during various forest walks when I questioned informants further about the forests.

What initially lead us to ask the villagers to indicate the areas destroyed or degraded by the war was the intriguing fact that some areas of the forests looked much degraded, almost like young fallows, but in fact, according to the villagers, had not been used for cultivation. However, it did appear that the war had helped expand the “agricultural frontier” of the village. Some areas that had previously been “covered with very large” trees had never been cultivated before the war. After the war, however, once the coverage of large trees had been removed by the ravaging napalm fires etc., these areas had been cleared for agriculture.

Virtually all villagers held on to their beliefs in sacred forest areas – counting three main forests as the most sacred areas in the territory. After the war, however, the government had encouraged the village to settle in the vicinity one of the important sacred hills which the villagers reluctantly accepted to do. The problem was that living in the vicinity of this place would entail using wood and other local resources, something which the villagers had up until then strictly avoided. However, the main event affecting the sacred hill was when the government decided that the timber for building the village school should be taken from that hill. As opposed to the villagers own modest use of timber, this meant that the school construction company would need to fell an unknown number of large diameter, fully grown trees (one part for the school, the rest as payment for their work). As, mentioned above, this to some extent destroyed the sacredness of this forest area completely.

The village map shows this area; it is the area just north of the village, close to the road section marked with “2003”. The colour orange indicates that the villagers no longer consider this forest as “primary forest” (“uncut jungle”). Numerous small crosses drawn in pencil still indicate the sacredness of the area. What is perhaps most unfortunate as concerns this hill is how close one of the newly built, inter-village “poverty reduction roads” passes both a watering hole (indicated with a circle) and a waterfall. This watering hole, as well as the waterfall, according to the villagers, used to be the most important area in the entire village territory for the village’s gibbon herds.

Moreover, if we look at the spirit areas marked with crosses on the map we also note the interesting fact that there are crosses on almost all the areas indicated with

green (primary forests). This, combined with further interviews conducted in Loy village seemed to confirm the fact that in these Kaleum villages (at least traditionally) primary forest will almost be synonymous with “spirit forest”. Obviously, at some point, the fallow forest or dry rice field *must* have been a primary forest, but for these villages this sort of transformation is not something taken lightly. They will inevitably prefer to use “already converted” forest and large tracts of the primary forest remain to them unconceivable as potential agricultural land.

The spirit areas were also the core habitats and feeding grounds of the village’s two small elephant herds, who were facing a precarious existence due to encroachment from other villages, occasional hunting (by non-villagers) and most of all, by the new roads. According to the villagers, the elephant herds would seasonally move from the southern spirit hill to the north-western spirit hill. Moving through the intact “spirit ridge” connecting the south with the north.

It was unclear why the neighbouring villages were encroaching, but it might be because they, in their turn have been forced to give up land to other resettled villages. The government has done a fair amount of reshuffling of the villages even in this district and some areas are now virtually empty of villages.

To the villagers, the primary forests (i.e. the sacred forests) represent instead a continuously renewable, as well as readily accessible, source of food. The spirits do not object to the collection of food, only to cutting trees, and -- most of all -- to burning. Typically, a full meal complete with proteins (fish, crabs, bats etc.), wild “vegetables” (bamboo shoots, rattan shoots, mushrooms) and fruits can be collected in less than an hour in a primary forest. Many of the NTFPs, however, are seasonal, so the villagers will only come looking for them at the right time of the year. Moreover, many prefer to collect food closer to home. For more detailed interviews from Loy village, please refer to Appendix 5.0.

Elephants and gibbons and primary forests in Ban Loy

It was clear to the villagers that both the elephants and the gibbons were highly dependent on primary forest areas. To the villagers, large primary forest trees have traditionally not been used for anything (even today they lack the technology to cut and process large trees without the help of outsiders). Even without the taboos protecting the large-tree forests, it would also have been too labour consuming, or outright impossible for villagers to clear such areas for agriculture – if they would choose to clear “primary forest” they would rather choose “primary bamboo forest” or at least a “primary forest” were the trees would be smaller (such as in the “bomb-cleared” forests).

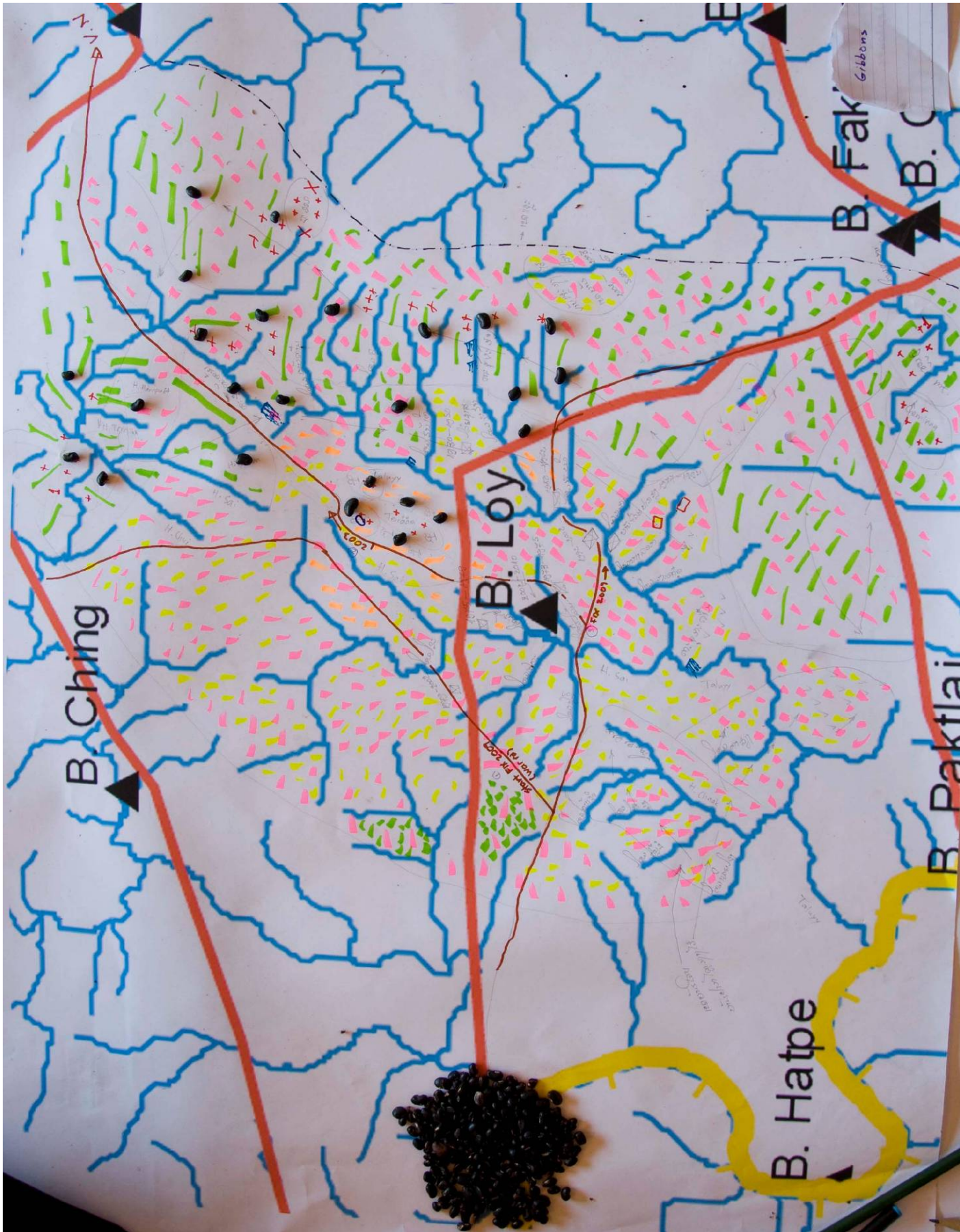
The significance of sacred forests: The widespread idea of sacred forests and concomitant traditional taboos of cutting and clearing specific forest areas locally considered of spiritual importance serves as a traditional conservation measure. The belief that certain forest areas

are inhabited and governed by powerful spirits functions as a conservation measure in the absence of written rules and formal sanctions. In one village (Tang Plang) the villagers explained how they had “retreated” from one of the sacred areas after attempting to do shifting cultivation there. The spirit of that mountain had indicated its displeasure with the villagers by causing illness and the villagers had responded by enacting a communal sacred vow never to attempt shifting cultivation on that hill again. But during the vow-taking ritual they had also told the spirit that they would continue to carry out some selective cutting on the hill for construction materials. This was not an isolated incidence, rather it is a case that illustrates one of the core underlying mechanisms of the rotational shifting cultivation practised by these groups: whereas the agricultural frontier might expand in some places, it will inevitably “retreat” in other locations.

Violation of such taboos is believed to bring down severe punishments by the spirits on the violator and his/her family and/or village... If this belief loses force and the belief system on which it rests breaks down, the way is open for a whole-sale break down of traditional institutional control mechanisms and institutions and excessive resource exploitation may follow (also see section 4.5. and 5.1.2. below).

Figures 2-3: Community mapping in Ban Loy (Picture 1 shows the meeting, Picture 2 [next page] shows gibbon habitats)





4.5. Sacred Trees

Sacred trees: Among all the ethnic groups visited, there were individual tree species* that were considered sacred or potentially sacred (i.e. these particular species were more likely than other species to be possessed by spirits). These tree species were therefore protected by traditional prohibitions (taboos) forbidding villagers from cutting them and even from carrying out shifting cultivation in their vicinity.

Kop hai, strangler figs, were considered as sacred (Lao: *sak sit/kha lam*) among almost all the groups visited (this tree species even has special connotations for rural Lao Lum). Despite the strangler fig not really being a tree (it is a climber) and despite the fact that this species cannot actually be used for anything, the taboos that surround the kop hai nevertheless have a larger ecological impact: Not only is the fig itself not cut, but the host trees can also not be cut. Moreover, if a forest area would have many strangler figs, then the entire forest would almost inevitably be declared sacred. Burning cannot be carried out anywhere near a strangler fig forest which therefore also makes agriculture forbidden. The significance of these taboos might be significant since large strangler figs are often characteristic of primary forests. Moreover, although the fig is not actually useful to humans, its fruits are nonetheless important to many animal species.

The beliefs regarding sacred trees appeared to be much stronger among the southern groups (in particular among the Krieng, Katu, Chetong) but it was nonetheless present even among the Hmong, and even sometimes among Lao Lum. In some places the kop hai taboos were no longer followed, but in fact the traditional healers in these villages were still trying to uphold the custom and insisted that people should respect these spirit trees (this was the case in one village in Lamam district). It might be worthwhile here to emphasize the importance that the spiritual healers, or “fortune tellers” (the specialists who determined the causes of diseases in the village) play in maintaining the sacredness of the landscape.

It should be emphasized in this context that not only are the individual stands of sacred trees protected by traditional taboos against cutting but they also serve to mark out an entire forest area as sacred. Thus, when the villagers in Tang Plang and Chrehh in Kaleum were asked why a particular forest was sacred, they would simply reply that it was because of the presence of certain tree species (see Table 4.0, below).

Another “type” of trees which were reported as sacred were trees that had “two or more beehives”. The exact form of this taboo varied between groups but it is noteworthy that it was found among both northern and southern groups (Hmong, Emien, Khmu and southern mon-khmer). Bees certainly serve an important ecological function and this could be worth investigating further. Many groups also had “totem species”, that is certain plant or animal species that were related to their clan names and could therefore not be cut or harmed (Khmu and southern Mon-Khmer).

Table 6.0: Tree species that have spirits (Krieng and Chetonng, Kaleum).

	English or Scientific name	Lao name	Local name
Trees	Strangler fig	May hai	Chrii
	<i>Dipterocarpus alatus</i> /wood resin tree	May nhang	Harenng halenng
	<i>Dipterocarpus intricatus</i>	May chik tabenng	Loi traak
		May paek	Hangoo
		Ban	
	Malva nut tree	Mak chong ban or possibly mak chong hin	
		May khoai sang	Tavirr
		Kop linh ngo	Nkoon
		May khen	Nkirr
	<i>Dipterocarpus obtusifolius</i>	May sat	
Bamboos			Haa
		May pa o	Pakeeh
Rattan		Vay tunn	Chervuakk
Palm trees		Kop tao	tavaak

Note: Several of the trees in the table above can actually be cut, but not burnt. However, if there is a large concentration of these species in a single area the entire area might be regarded as sacred and special rules will apply for resource use.

Table 7.0: Some trees that Khmu and Hmong do not cut (Bolikhamxay)

(Names in Lao)	Khmu	Hmong	Explanation
May bokk	X		Too hard to cut
May khen	X		
Kop hai (strangler fig)	X	X	Has spirit
Nam kieng	X		Is poisonous
May sieng	X		Has spirit
Map poey	X		Has spirit
May te		X	"If there are several beehives they don't cut the past, if the area had big may te or may n trees they couldn't slash or burn there even the soil was very nice. If the trees were big t didn't even go near even if the trees had no beehives. They would not even shoot anima those trees. Bees like may te and may nong.
May nong		X	Same as may te

The notion of certain tree species being sacred also needs to be placed in the larger context of traditional shifting cultivation: for example, among several groups (particularly the southern mon-khmer shifting cultivators) "dreaming" is required after completing the first

day of work clearing the area of a new field (usually when only a small patch has been cleared). If the farmers' dreams are "good" they may continue working the area, if not, they must abandon the area. Considering what we already know about the significance farmers ascribe to certain tree species, it is highly probable that their dreams might be influenced by what tree (and animal) species he sees during that first day of work. To push this point further; if a farmer dreams after having cleared an area with "forbidden" tree species, he will be more likely to have a bad dream, and more likely to abandon the area and seek out another plot for his farm. If anybody gets sick in the farmers family, or even in the village as a whole, this misfortune will also be interpreted as related to the area being cleared.

Thus, although this "dreaming-system" might at first seem completely irrational to an outsider, from an ecological point of view, it almost certainly will serve as a form of protection of particular local ecological systems.

Summary of "customary forestry" practices:

- In the past, in virtually all the study communities, it was not necessary to consult neither the village headman nor any other key person in the village when one wanted to cut wood for construction.
- Each village had customarily defined specific areas where it was permitted (or prohibited) to cut trees for construction work. This is still the general system for all mon-khmer groups in the study area. As for Hmong, Emien and Lao Lum groups further research may be required.
- According to customary practice only certain timber species are used for construction work. Traditionally, all mon-khmer groups would avoid cutting most hardwood tree species. The main reason for this is probably that they traditionally lacked the technology to work this kind of timber (some species might have been cut at smaller diameters for house poles). Large-diameter trees, in particular hardwoods, were thus not cut in the past, nor were there any opportunities for timber trading to develop.
- A number of tree species have also traditionally, and up until now, been considered as spirit trees (sacred trees). Certain species are considered more likely to be spirit trees but that does not mean that it is dangerous to cut every single tree of that species. Sometimes, in the past, the villagers would cut the underbrush around a particular tree (or make a single cut into the tree), and then "go home and dream" to know if the tree in question is the abode of a spirit or not. Some "spirit tree species" which reappear in many mon-khmer groups are: *kop hai*, *kop pou* and *kop baak* [names in Lao].
- Apart from sacred trees, fruit trees (both "wild" and domestic) were not cut when forest was cleared for cultivation (or construction). Note, that many of the large trees in old-forest areas within the village territory are trees that have edible fruits which the villagers seasonally collect. Many of the fruits are the same as those consumed by wild animal species. A given tree species can probably be considered as a fruit tree

and a spirit tree at the same time. The sacredness of an area or a tree does not generally mean that one cannot harvest fruit (or other produce) from it, only that one is not allowed to harm it. These beliefs are prevalent among the southern mon-khmer groups.⁷

- Traditional shifting cultivators only rarely clear “old forest” for cultivation; they prefer fallow forest or bamboo forest (see below).
- It is rare to find felled logs in a swidden field with a trunk diameter of more than ca 70cm. Even when clearing “old forest”, villagers seek out old *bamboo forest* rather than an area with large-trunked trees. When they do clear an area of large-diameter trees (60-80 cm) *they will generally leave those trees standing*. Trees left standing often have a high probability of surviving the burning of the field, possibly depending on whether the local farmers want them to survive or not. It is clear that they sometimes want some tree species to survive the burning.

(Also see Appendix 6: Tree use among the Katu in Kaleum)

4.6. Customary Hunting and Fishing

Although hunting and fishing exist in all the study villages its importance varies greatly between villages and regions. In some of the remoter villages, in particular in Kaleum and Lamam district (Xekong), herds of wild pigs and macaques every year destroy large parts of the villagers’ crops. Setting traps around the shifting cultivation fields, whether near or far from the village, thus constitutes a natural defence strategy against this annually recurring threat.

In the past, large game animals were probably an important annual source of protein during the leaner months of the year. Among the southern mon-khmer groups (Katu, Krieng and Chatong, f ex) hunting still appear to be a culturally very important activity, and large-game meat might still constitute a significant protein source during a few months of the year, especially since all large game animals are shared among the families in the village (regardless of who the hunter is).

Note that, as opposed to people living in urban areas, the indigenous groups in the study area do not slaughter their own domestic animals when they are hungry or feel like eating meat: domestic animals will virtually always be reserved either for rituals or for market sale. If livestock is sold, the money is most likely *not* used for buying food.

It is also important to make a distinction between large game (such as boars, deers, muntjacs) and small game, such as mice, squirrels, birds and also small reptiles and

⁷ The Hmong also have similar customary restrictions, and also absorb many cultural practises from surrounding mon-khmer groups.

amphibians, for whereas the larger game animals are rapidly disappearing from indigenous peoples' daily diets, the smaller animals remain an essential part of daily protein intakes. *In particular, for the "cash-poor" households - households which cannot afford buying meat from outside traders - small wild animals (and fish) remain the only source of animal protein (except when there are village or family rituals).*

Small animals (including fish) are usually caught with various forms of traps made of bamboo and other natural materials, readily available in the forest. Smaller animals thus require little or no monetary investment. However, as concerns larger wild animals they often claim that the skills and techniques to hunt them are lacking, or rapidly disappearing, among the younger generations. Both to hunt with traditional traps and with a rifle and dogs, requires skills that most people no longer possess.⁸ The new trap techniques which are being introduced to the communities, such as the technique of setting up long trap corridors in the forest using large numbers of snare traps (made of manufactured materials such bicycle break-wires) are much easier for people to learn. However, for the people in Kaleum (Xekong), these new trapping techniques are considered too expensive – or not worth the investment.

Quite often, with increasing access to markets, many of these animal NTFPs (along with many plant NTFPs) will increasingly be sold instead of consumed by the producers (hunters, collectors) themselves. Therefore, in many cases, poorer dietary patterns have been observed among communities with better market access than in more traditional communities (c.f. Krahn 2005). Naturally, if the external demand for a particular species is great, the villagers' hunting and foraging for these species will rapidly decrease their availability or completely eliminate them from a particular area.

Though our data is scarce (particularly from the northern study villages), we are able to infer a growing wildlife trade in many parts of the study area. In Xekong province, for example, the illegal trade in wildlife is spurred by ambulating (often Vietnamese) traders. Pangolins are occasionally sold to traders in the Kaleum district centre, but commercial hunting is hardly systematic or well developed (partly due to the poor road network). In villages such as Loy and Hatpe wild pigs and other large game animals are still communally shared among all households. However, the indigenous villages directly surrounding the district centre most likely sell more game meat. We know that in neighbouring parts of Vietnam, wild boar and other animals are often transported large distances to urban markets. However, Vietnamese traders are steadily making new inroads and step by step increasing their presence. For example, they have offered many villages in Kaleum money for "monkey bones" and they don't make any distinction between macaque and gibbon bones.

Borikhan district, due to the vicinity of the primary Laos-Vietnam road, is clearly also a place where a lot of wildlife extraction takes place, probably more so than in Sekong (since there is no direct route from Sekong to Vietnam). Many wildlife species are needed for the many large and small Vietnamese/Lao restaurants that cater to this important commercial artery. We did not get any indications that the villages we visited in Borikhan (Xiang Lu, Hin Ngon,

⁸ Although the basic construction of a "spear trap" is simple, making it in such a manner that the spear (a sharpened bamboo stick) will actually hit the animal in the right place is a skill beyond most indigenous hunters today (Kaleum district); the skill requires years of perfecting.

Phakpoy) sold wildlife to the district/province centres; as for yet these villages are probably to remote to engage in such activities. However, this situation might well change with the completion of the large Phakbeuk subdistrict marketplace as well as the ongoing “placement” of several thousand Hmong immigrant’s immediately adjacent to this new subdistrict market (see pictures below). It is to be expected that the pressure on Phakbeuk’s NTFPs and wildlife will dramatically increase in the near future.

Naturally, the same will also apply to Kaleum if Kaleum district (with all its inhabitants and cadres etc) is relocated to the area near what is currently Ban Loy, as has been planned (due to the planned mining operations and dam constructions). This will certainly affect the area’s ecology.

Below: A small selection of dishes available from the menu of one Bolikhamxay’s high end hotels. Note how the names of the dishes are written in Vietnamese and English (possibly for Chinese customers).

Add: Xivilay VII- Pakxan Dis- Bolikhamxay Pro – Laos
 ທີ່: ສະໜອງ ມາດຕະຖານ ມາດຕະຖານ ມາດຕະຖານ ມາດຕະຖານ
 Tel: (856-54) 791.333 – 791.444 ; Fax : (856-54) 791.222

THỰC ĐƠN TỰ CHỌN
 ສາມາດເລືອກໄດ້ຕາມຄວາມຕ້ອງການ

TT	Món ăn	No	Meals	ລ/ດ	ອາຫານ
1	Kỳ đà nấu gia cày	1	Baked Varan	1	ອົບແລນ
2	Da kỳ đà chiên bơ	2	Fried skin with butter	2	ຈົມໜັງແລນ
3	Lợn rừng hấp	3	Steam wild Boor	3	ໜັງອົບໝູ່ປາ
4	Lợn rừng xào	4	Fried wild Boor	4	ປັ້ນໝູ່ປາ
5	Lợn rừng quay	5	Bake wild Boor	5	ປັ້ນໝູ່ປາ
6	Lợn rừng nướng	6	Grilled wild Boor	6	ປັ້ນໝູ່ປາ
7	Lợn rừng nấu gia cày	7	Fragrant wild Boor	7	ອົບໝູ່ປາ
8	Lợn rừng sa téch	8	wild Boor - Steak	8	ຂະເບັກໝູ່ປາ
9	Lợn rừng xào ớt tươi, lá quế	9	Sur Fried wild Boor With Bassi Chilli & Basil	9	ຂັດເຂັດໝູ່ປາ
10	Súp ba ba	10	Turtle Soup	10	ສູບປາຕາ
11	Ba ba Tán	11	Half- done Turtle	11	ຕົ້ມເບີ້ອົບປາຕາ
12	Ba ba rang muối	12	Sur fried Turtle with salt	12	ປາຕາລົ່ວເຕັມ
13	Ba ba sốt chua ngọt	13	Sweet and-sour Turtle	13	ປາຕາລົ່ວປ່ອງໝວນ
14	Ba ba om chuối đậu	14	Steamed Turtle with bananas	14	ປາຕາອົມໝູ່ປາ-ຜັງ
15	Ba ba nướng chà lá lốt	15	Grilled Turtle	15	ປັ້ນອົບປາຕາໝູ່ປາອີເລັດ
16	Lẩu ba ba	16	Turtle in Hot Pot	16	ຕົ້ມປາປາຕາ
17	Ốc om chuối	17	Steamed Shellfish with bananas	17	ໝອດອົບໝູ່ປາ

Below: The first picture shows a large area that has been cleared for the resettlement of Hmong refugees from Thailand. The second picture shows the marketplace that is being prepared.



Importance of NTFPs for indigenous protein consumption (fish/wild game meat):

- Where villages are located near large streams or rivers, such as the Xekong, fish almost invariably constitutes the main protein source (often far more important than all the other sources put together).
- The most important protein source among the communities in the south (Xekong, Attapeu) which are *not* located along a river and centre (Bolikhamxay) will invariably be small wild animals such as mice, squirrels, bamboo rats, bats and amphibians (but these latter are usually consumed during a few months only). Only in Vientiane (and a few roadside villages in Xayabouli) does purchased meat, often brought to the village by ambulant petty traders on motorcycles, appear to be a more important source of daily protein.
- Villagers in the study area virtually never slaughter domestic animals simply for food or because they are hungry: domestic animals are either saved for important rituals, important guests (poultry, pigs) or sold for money. If they are sold, the money earned is usually used for other consumer goods than food – often prestige consumer goods.
- Meat purchased in the market is gradually becoming more important as fish and wild animal sources rapidly disappear. All villages reported declining fish populations and many villages located near district centres reported rapidly declining populations of large game animals. Many explained the decline in fish and animal resources as a consequence of the concentration of villages into a smaller areas. Many claimed that these resources had been abundant “when they had lived in the mountains”.
- Many households can easily compensate for the loss of wild foods with purchased pork or fish but poor households cannot afford to buy meat and will be the first to suffer if and when the resource base of a village decline or collapse.
- The collapse of fish and wild animal resources is also caused by too intensive extraction (in recent decades) for market sale.

Animal taboos and hunting regulations

Virtually all customary regulations (i.e. regulations not imposed by GOL) concerning hunting, are in the form of *taboos*. Thus, taboos, or “traditional prohibitions”, are the most commonly found form of restriction relating to the exploitation of natural resources among indigenous communities. Taboos, we have argued, is a more efficient form of regulation and protection than formal regulations (f ex government regulations) since they are “self-enforcing”, they do not require any team of foresters to be enforced: Villagers believe that transgressions against taboos will be punished by the spiritual entities themselves, which means that no external agency (beyond the spirits themselves) is needed to check that the rules are followed.

In fact, the high level of acceptance of, and compliance with, many government rules and restrictions in the study communities can probably and partially be explained by the fact that they, in many cases, actually reinforce already existing customary rules and restrictions. Thus, many primary forests are simultaneously protected by the government and the customary taboos, as are also certain animal species (for example, gibbons and elephants).

However, it can be difficult for outsiders to find out about taboos, since these rules are not always lumped into a single category of “taboos” as I am doing here. The indigenous

communities might give very varying reasons for why, for example, they don't shoot female gibbons (which was the case among all the mon-khmer visited). It might even be difficult to find a Lao word representing the concept of "taboo" that they will relate to (although the word "kha lam" can be useful).

Taboos are also elusive because they may take many different forms. As concerns wildlife, the taboos might be:

- Temporal: do not hunt a particular species during a particular time.
- Spatial: do not hunt in a particular place or particular kind of place (for example saltlick, or a sacred hill).
- Species specific: do not hunt a particular animal.
- Life cycle specific or situational: do not hunt a particular animal during a particular period in its development etc. Don't hunt a pangolin while it is in water.
- Gender specific: e.g. don't hunt female gibbons.

Sometimes taboos are "symbolically coded" and difficult to perceive: for example, Krieng people mentioned that it was prohibited to hunt female as well as "mute" gibbons: However, there are no mute gibbon species (in the scientific sense of the word). The Krieng who, like all indigenous peoples are acute observers and experienced naturalists, insisted that there was indeed a kind of gibbon that was mute. A possible explanation was provided by biologist XXXXX who explained that when gibbons "experience a strong pressure on their habitat", they do not sing, i.e. they are what the locals would describe as "mute". The important lesson of this anecdotic example is that we must try to understand the idiom in which local and traditional knowledge is expressed before we make any quick judgments about its veracity or dismiss it as irrational or superstitious.

The villagers of Loy in Kaleum (Sekong) also claimed that there was a very dangerous spirit hill within the village territory where a particular kind of gibbon song could sometimes be heard. Since it was lethally dangerous merely to hear that song, the villagers gave that entire area a wide berth. Here, yet again, is a "superstitious belief" that, in practice, will have the effect of protecting an important animal habitat. Why taboos of this kind have evolved is beyond the scope of this report. However, it should be emphasized that the sustainable livelihoods of the villagers are, in fact, quite well served by the taboos: the customary regulations ensure that many resources (such as important NTFPs and wildlife) are preserved and can be continuously used by the village community. If the entire landscape would instead be turned into agricultural land, local diets would naturally become less varied and poorer. Vital construction materials would become scarce, and so forth.

Table 8.0: List of some taboo animals among the different groups. Even though the Krieng and Hrlak groups in Sekong both have their own distinct language and culture (linguistically they are only remotely connected to each other), their animal taboos were almost identical, probably due to centuries of interactions with each other. The list below are far from exhaustive, it provides only a few examples of some species that are considered sacred/taboo.

Ethnic group	Taboo animal species	Explanation	
Krieng, Katu, Chetongg & Hrlak, Sekong	Gibbon	“If you shoot the female you will always miss.” “If you manage to hit the female, you will suffer very bad luck and misfortune.”	
	Elephant	“This animal is sacred, the place where an elephant also becomes sacred and cannot be used for agriculture/hunting etc.”	
	Snakes	Many snake species are considered a form of totem animal (animal connected to their ancestors/family names) of many Katuic groups. In the past they never killed or ate these animals. Some youngsters today, however, do eat or sell snakes to the Vietnamese.	
	Python	In the past python was a sacred animal. The place where a big python dies becomes sacred too.	
	Dog	Totem animal for many groups.	
	“Wild dog” (dhole)	Considered sacred/taboo. The place where a wild dog dies also becomes sacred. Some informants just claimed that it meant bad luck to hunt wild dog. They never eat wild dog meat.	
	Tiger	Is considered a spirit animal. If it attacks human it is always a “spirit tiger”. Was rarely hunted in the past. Villages would often rather move away.	
	Some lizard/gecko species	“Totem animal” of many Katuic groups.	
Khmu bolikhamxay	Gibbon	Same as for Krieng above. Also because “our forefathers told us not to hunt gibbons, they are noble animals that never steal our crops.”	
	Elephant	“Elephants are morally very pure animals who every year return to their sacred places”	
	Tiger	Same as among Xekong groups. It is also the totem animal of some Khmu groups. However, almost no tigers remain in the Khmu study villages.	
	Python	“Is a sacred animal. If its big it will have many noses and have special magical abilities. If they kill it bad things will happen to the village; storms, heavy rains, flooding or soil erosion etc.	
	Other snakes	(same as for Sekong groups)	
	White buffalo		
	Pangolin	“It is a bad omen to see a pangolin in daylight. At that time the pangolins are sacred/taboo. Pangolins are very “moral” animals because they don’t eat crops and live in monogamous couples. It is better not to hunt them.”	
Hmong	“Gibbons with red stomachs and red legs”	Because of a particular hunting story. It is unclear if this refers to some gibbon species or not.	

Part Two
DISCUSSION &
RECOMMENDATIONS

5. OBSERVATIONS ON THE PARTICIPATORY SUSTAINABLE FOREST MANAGEMENT (PSFM) PLANNING PROCESS: CENTRAL ISSUES AND RECOMMENDATIONS

This chapter takes a closer look at some of the themes already presented in the previous chapter which are particularly relevant to SUFORD AFs activities. Some of our findings can be used as a guide for, or be integrated into, SUFORD's *participatory sustainable forest management* (PSFM) plan. Each section is followed by a recommendation about how SUFORD might handle the particular issue better.

5.1. Forest Land Use Zonation (FLUZ)

FLUZ (Forest Land Use Zonation) is an important part of the SUFORD project. The FLUZ component basically means that the project will attempt to create as detailed maps as possible of the village areas in which all the various land uses are clearly indicated (protection forests, agricultural land, "cultural forests" etc). SUFORD AFs further activities in the villages within or adjacent to SUFORD PFAs will be based on the information on the FLUZ maps.

Doing land zonation in ethnic minority areas is far from easy. There are many underlying factors that make it difficult to create a viable FLUZ map: Thus, for example, local land use is seldom legalised, a fact related to the "problem" of shifting cultivation. This means that there will be a very high probability that the local people will under-report shifting cultivation since they have been told over many years that they should not engage in it, or that they should drastically reduce their shifting cultivation land. In some areas the government has been very strict (zero tolerance) against the practise of shifting cultivation, in other areas it has been more lax. But in any case, it will be very difficult for SUFORD to get accurate information on the real extent of shifting cultivation, in particular since SUFORD is obliged to employ the very same ground staff (i.e. PAFO-DAFO) that has for decades been tasked by the government to get the villagers to reduce and abandon shifting cultivation.

5.1.1. Shifting cultivation and SUFORD

Shifting cultivation is the most important agricultural production form among Lao's ethnic groups, and the ethnic groups inside the SUFORD AF area are no exception. Due to the Lao government's uncompromising stance towards shifting cultivation and its pledge to eradicate it completely, shifting cultivation is often severely underreported by officials and ethnic communities might be shy or afraid to report the true extent of their shifting cultivation. However, SUFORD has the ambition to assess the true extent of shifting cultivation and to categorise land used in shifting cultivation as "agricultural land" in its FLUZ component -- i.e. in its process of land classification.

If fallow land is wrongly classified as, for example, non-agricultural forest land when the communities were in fact planning to use it for agriculture in the future, then SUFORD will

obviously have a negative impact on these communities livelihood situation -- since SUFORD will de facto be reducing their effective agricultural land area.

The situation is rendered even more sensitive and confusing by the fact that many of the ethnic minority communities visited consider their shifting cultivation area to be their "production forest area" (they use the same Lao words that SUFORD uses to describe PFAs, except their interpretation of the words are different). Obviously, SUFORD's goal is not to increase the productivity of the ethnic minority communities shifting cultivation but rather to produce timber for market sale, and only a fraction of the timber revenue will go back to the villagers, so this is clearly a serious point of misunderstanding between the local groups and the organisation.

The root of this misunderstanding is that SUFORDs purpose has been described in too abstract and rosy terms by its Lao government counterparts at the district and province level: the counterparts downplay or choose not to mention the main focus of SUFORDs activities -- which is, in fact, to harvest the forest, albeit as sustainably as possible. The village development component and other minor aspects of the SUFORD agenda are usually given so much emphasis at village meeting that villagers might not appreciate how important, among other things, it is for them to accurately describe how they carry out their shifting cultivation and how they themselves intend to use the village land.

Recommendation:

Whenever possible, an expert familiar with the ethnic group in question should accompany the technical teams to monitor to what extent the communities are really involved in the activities and understand the purpose of the activities. SUFORD's overall purpose of carrying out sustainable forestry (i.e. to extract timber) needs to be reiterated to the villagers.

Identifying areas of shifting cultivation

The maps provide an immediate overview of the shifting cultivation of the ethnic group communities. In regards to shifting cultivation, therefore, we often asked the villagers to indicate various stages of the shifting cultivation cycle on the maps. Sometimes we would ask them to indicate currently farmed land, "young fallows", "medium fallows" and "old fallow forests" etc. Sometimes we would try with fewer categories (deleting the category "medium fallow forest", for example). On other occasions, the villagers would be asked to indicate the exact age span of the fallows in question, and to give the approximate local language equivalent to the category we were giving them. In other words, the maps were developed also as a way to understand the indigenous categories, the local peoples' way to "see the landscape".

Recommendation:

It is recommended that basic information about each village's dependency on shifting cultivation should be marked on SUFORD's village lists. During the FLUZ process the technical teams should ask local communities to explain their own definitions of land types first. Local communities should mark different stages and

cycles of shifting cultivation. Note that there is a danger that early stages of rotational agriculture are mis-classified as regeneration forest.

5.1.2 Sacred forests

SUFORD should also attempt to clearly identify the forests within each village area that are of high “cultural value”; in other words, the “spirit forests” (or “sacred forests”). Indigenous communities might be shy to talk about their spirit beliefs and be reluctant to indicate where there are sacred grounds, spirit forests, cemetery forests and so forth. This might be due to a general feeling of “cultural inferiority” which has gradually evolved in contact with the larger Lao Lum society, or it might be for fear that the government and/or international development agencies will destroy their sacred areas or attempt to “chase their spirits away”. However, once SUFORD has gained knowledge about the location of spirit forests it *must carefully monitor what happens to these spirit forests from then on*. Since these forests often contain valuable large trees, inroads are constantly attempted by external agents – be they companies contracted to build schools and roads or government agencies -- to exploit the timber, in particular if these forest areas are located near the village. In addition, these spirit forests are often very important collection places for NTFPs, while also being vital habitats for wild animal species.

High Value Conservation Forest

The concept of high conservation areas was originally launched by Forest Stewardship Council (FSC) in 1999 and has since then gained increased recognition as a very important working tool among many international organisations working in, or in co-operation with, the forestry sector around the world. There are six “types” of high conservation values (HCV’s):

HCV1. Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).

HCV2. Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.

HCV3. Forest areas that are in or contain rare, threatened or endangered ecosystems.

HCV4. Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).

HCV5. Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).

HCV6. Forest areas critical to local communities’ traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

Identifying sacred forests

The process of identifying spirit areas is fairly straightforward:

- a) Interview a group preferably composed of at least a couple of “knowledgeable” elders, as well as other key people in the village and whoever wants to participate.
- (b) State beforehand that the topic of the interview meeting will be to know more about “village traditions” and to know “which areas have spirits according to the villagers”.
- (c) State clearly that SUFORD does *not* want to intervene with or destroy these areas.
- (d) During the meeting, collect the names of all the spirit areas and try to get as many details as possible about the nature of the prohibitions and taboos that pertain to each spirit area.
- (e) Once the names of the spirit areas have been collected they can be placed on a communal map created by the villagers. See below for more details on community mapping.

Consequences if sacred forests are destroyed

As observed repeatedly in this report, many of the agro-forestry activities of the local populations are guided by their spirit beliefs. In particular, many of the restrictions that circumscribe local agroforestry are entirely derived from their animistic belief system and its array of landscape taboos. This belief system, however, is based on a “fragile balance” of fear and respect between the villagers and the spirit community: If this balance is disturbed, it might collapse altogether. In other words, villagers will not “slash and burn” nor cut timber for construction in a given area for fear of being punished by the spirit entities. If villagers perceive that taboos no longer apply, then they might well clear the area.

For example, in one village the government and a company decided that the wood for the village school should be taken from the sacred forest closest to the village. Once the company started exploiting this particular forest, the villagers came to believe that this forest was no longer sacred. Some people in the village now started cooperating with small-scale outside timber-cutters to exploit this former sacred forest. According to sources in the village, this forest was the primary gibbon habitat in the entire village area.

The extent to which an area is locally “protected” can thus often be correlated to how “dangerous” its “spirit master” is considered to be. Even “strict spirits”, however, will allow villagers to forage for food in “their” area and are thus, in a sense, considered as benevolent spirit entities and form an integral part of the village identity. Any action affecting the perceived abode of these spirits will have a very strong impact on the local culture and may speed up the processes of cultural fragmentation and environmental destruction.

In most cases villagers perceive that “it is the spirits that control their work in the forest and on the fields”. Without the spirits, therefore, there would no longer be anything to “hold back” villagers from overexploiting the landscape. *In sum, the sacred forests form such an integral part of local belief systems and forest-management practices that it is vital for SUFORD to attempt to preserve these areas.*

Recommendation:

Sacred or spirit forests and prohibited places in the forest should be respected and customary behavioural regulations with respect to such special forest areas should be encouraged and reinforced as far as possible. These traditional norms may be the

only regulating force respected by local people in the present situation of rapid change and cultural fragmentation.

5.2 Community-based mapping as a TEK tool

Community based mapping activities were conceived as an integral part of this study from the outset, and served as a very important reference tool during as concerns both all interviews relating to the village landscape as well as providing basic information which could then be explored further during the village GPS walks. Thus, once a basic map is in place, a more detailed discussion can take place around a number of topics, with the map now serving as a basic point of reference. In fact they were very useful in eliciting information about most of the core topics that the study set out to understand; in particular the following topics: Local/customary land-tenure systems, village history and village boundaries, landscape and habitat classification, cultural and spirit forest, traditional forest Management. This testing was undertaken also to see how guidelines or recommendations could be made to improve the use of the projects own forest and land use mapping that is conducted as part of the Forest Management Planning process.

5.2.1. The mapping process

The “tools” and equipment we used for the community based mapping were fairly simple, consisting of folded A0 sheets. The villagers were first asked to start by drawing the local river system on these using pencils. Thereafter they could add more details with colour felt pens as they went along. Crayons were sometimes used to fill out larger areas in a particular colour. The use of colours was hardly ever the same between two villages, but we often suggested certain colours for certain landscape features; e.g. light yellow for currently used agricultural land, light green for young or medium fallows, darker greens or even blue for older forests or “untouched jungle” areas. We also suggested that the villagers always use blue for streams, but this was not always followed.

It is naturally even more useful if a communally created map can have a high level of geographic accuracy, but for this an accurate, printed base map (showing at least some core features) has to be used. From previous experience working in Vietnam, as well as according to recommendations given in the literature on community based mapping exercises, the team considered that such printed base maps should only have a few features on them before being drawn on by the villagers. We decided to use a pre-printed base map that only contained the stream system and was otherwise white.⁹

⁹ However, since we needed to know the exact extent of the village area before being able to decide what area to get a printed base map of, we could only do this in the single village which we visited two times: on the first visit, using the entirely “freehand” map the villagers indicated the traditional village territory, on the second trip we could then identify the village traditional village area on a “real” map and create the printed base map for them to draw a second community created map. This necessarily has to be the way to do it, unless one has access to very accurate information about the village location and territory beforehand. This was generally not the case, since the village locations were very often entirely wrong on most of the official maps that I had access to. Most official maps that have romanized village names do not seem to have been updated in at least a decade and often show the village locations before they had been resettled to the present area. Even, in Kaleum, the only district were there

In most of the mapping exercises we undertook with the villagers (but not all) we did guide them to a certain extent as to what kind of information we wanted them to put on the map. We often suggested them to draw streams, rivers and roads first, believing that this was essential for them themselves to get their bearings right and be able to get decent “proportions” of the various features in the landscape.

Recommendation:

The use of community mapping techniques – using a river map as a basis – was a simple way to create fairly accurate maps together with villagers. It appeared that “stream base maps” could be understood by all groups in the study. The SUFORD project also adopts this technique but also enhances this with the use of satellite imagery. However, it is recommended that the community mapping is done using a base map first to establish local features such as rivers and mountains, before proceeding to use the satellite image. The locally created map is more likely to function as a basis for a discussion about the landscape than a more complex satellite map.

5.2.2. Landscape Classification

Once the streams were in place on the maps we encouraged them to put the various kinds of forest on the landscape. This could yield results entirely dependent on how we asked them to classify the forests on the maps. In other words, depending on how you tell them they to “divide” the forest you would get different results.

While making the village maps we asked the villagers to divide the landscape into “vegetation categories” such as (i) currently used agricultural land, (ii) young fallows, (iii) old fallows and (iv) “jungle”. However, it became clear, that when given more freedom, the locals would rather divide the landscape into somewhat different categories, such as, in Tang Plang village (Kaleum), (i) currently used agricultural land, (ii) young fallow land (iii) bamboo forest and (iv) “jungle”. In other words, in many communities any fallow older than 6-7 years becomes “forest”. However, this does not mean that those forests “cease” being fallow land, it just means that the two categories do not exclude each other, and an old fallow is foremost perceived as a forest (even it is known to be a fallow).

For the local shifting cultivators, bamboo forests appeared to often be the ideal forest to clear for cultivation. For the Tang Plang villagers, thus, the category “bamboo forest” appeared to almost coincide with the two other (non-indigenous) vegetation categories “medium fallow forest” and “old fallow forest”. Only “young fallow” was considered apart, there is a very clear correlation between shifting cultivation and bamboo forests: where there is bamboo forest there has been shifting cultivation in the past, and there will be shifting cultivation again.

are non-resettled villages (not counting a few Lao Lum villages in other provinces), many villages have been locally resettled. However, as mentioned, I used official maps that had village names in roman script; it might be that there are maps in Lao script where the villagers are more accurately indicated.

A problem facing SUFORD in their communication with the local communities is the fact that these groups have for a very long time been instructed not to do shifting cultivation and there is therefore a very high likelihood that these locals when questioned about their agriculture might simply hand you the answers they have been given by the forestry officials; i.e. *that they will tell the SUFORD / the research team what the forestry officials have told them is the agricultural land*, rather than what land they *actually use* or were planning to use.

Recommendation:

“Community mapping” exercises must be accompanied by a discussion with local experts about “indigenous categories” if it is to be “participatory”. In other words, the making of community maps needs to be accompanied by an effort to really understand how the ethnic groups *perceive the landscape and its resources*. This process can be initiated by finding out and writing down the indigenous terms for different landscape and vegetation types and features. It is important to realise that some terms may defy exact translation, and that comprehension between the villagers and SUFORD will require considerable efforts on behalf of both parties.

5.2.3. What to put on the maps?

The kind of features we suggested and encouraged the villagers to put on the maps was naturally such items that we thought would help give us more information about the main research topics outlined above. Thus, some of the typical main elements on the communally produced maps would be:

Agricultural land; presently cultivated, young fallows, medium fallows

Forest categories: attempts can be made with community mapping to separate various types of forest in the village area, for example, to separate “young forest” (including indication specifying the “age range” of this “category”) from “old forests/ old fallows” (again, trying to specify the age range of this category and the local name/names).

We also attempted to place “primary forests” on the map but this turned out to not always be very straightforward. In the end we resorted to asking the villagers to separate non-fallow forests (i.e. forests that had “never ever” been cleared in the past from forests that had “at some point been agricultural land”). Thereafter we further differentiated the “unfarmed” forests into (1) forests where selected cutting had taken place and (2) forests where it had never taken place.

It turned out, as concerned the villages in Xekong, that the forests that had “never been cut” were virtually always the “sacred/spirit forests”, whereas some form of selective cutting (or clearing for agriculture) had taken place in most other areas. However, some areas were naturally simply not adequate for agriculture (bad soil etc.) regardless of how old they were.

In a couple of villages we asked the villagers to indicate the areas of the forest that had been affected by the war. In fact, the war had left almost no area of the landscape untouched and many formerly existing primary forests had been destroyed by fire/napalm etc. Eventually the raging forest fires which erupted in the wake of the military activities turned what had previously been primary forests into something more akin to a typical fallow forest. This forest destruction opened up much of the village area for shifting cultivation that would not previously have been conceivable as “agricultural” land.

Sacred forests: Refer to the various categories of sacred/spirit forests listed above (Section 5.1.2.).

Collecting- and hunting areas: We also asked the villagers to indicate the places where they collected important NTFPs such as rattan, bamboo shoots, mushrooms and wild fruits. Note that “wild” fruits could sometimes refer to fruits that had once been “domestic”, since villagers often go to “old villages” (places where their village had been located in the past, before moving to the present location) to collect fruits. This exercise, among other things, revealed that some of the most important NTFP collection areas could be highly “feared” spirit hills. The most straightforward way for us to do this would be to ask the villagers to use a certain quantity of beans to indicate the whereabouts of the NTFPs etc. Usually we would pour out the total amount of beans next to the map and simply say ask them to use a lot of the beans to indicate a large quantity of the resource we asked about, and a small quantity of beans to indicate smaller resources (quantities).

Natural scientists may feel frustration for being unable to scientifically quantify TEK, and it has often been suggested in discussion about using beans in community based mapping, that you should use the exact same quantity of beans every time you do a “bean exercise” (so that you then can count the beans etc.). Some even divide the maps into grids and count the beans in each grid square, to make the TEK data “comparable” between different animal species or between different maps in different villages etc.

However, all such attempts are probably a waste of time. The main factor that will determine the “accuracy” of the information, far from being the number of beans used, will be **how well you understand how the villagers interpreted the task you gave them and why they carried out the exercise in a particular way**. Thus, instead of telling them, for example, “to spread out the beans evenly” (rather than clustering them all in one place as they might do), the researcher should probably dedicate his efforts to asking the villagers *why* they placed the beans in such and such a manner etc. There is a logic to what the villagers do, if they do cluster the beans into groups it is (most likely) to indicate something: For example, when the villagers in Hin Ngon were asked why they put the “gibbon beans” into clusters (very tight together) they answered that it was “because the gibbons live in groups”. The number of bean clusters also indicated the number of gibbon groups that according to the villagers were found in the area.

It is important to think carefully about the exact wording used when doing this exercise, since certain resources might be available in great quantity everywhere, but would perhaps only be “harvested” in some places (and it is more useful to find out where the resources are actually harvested). Therefore (for NTFPs) we eventually opted for the wording: “please indicate *the places which are most important for collecting X (or for hunting X)*”, rather than just asking “show us where there is X”.

The “bean technique”: The villagers of all the ethnic groups we visited, appeared to be very knowledgeable about the habitats (and habits) of the wild animals living near their villages. As for wild animals, we separated the bean exercise into two parts: in the first exercise, we would ask them to show us where they put their traps to catch certain kinds of animals (e.g. “wild pigs”, “small mammals/mice and squirrels” or “large mammals¹⁰”); in the second, we would focus exclusively on *animal habitats* and ask them, for example, “where are there gibbons”. Again, a large quantity of beans would indicate large populations of the animal in question.

Recommendation:

The ‘bean technique’ is useful as a tool in the PSFM management planning process to determine areas of hunting and NTFP collection as it provides a quantitative way of locals expressing the importance of areas. However, the technique requires that the researcher makes sure (1) that the informants understand the task at hand, and (2) that the researcher himself/herself makes a thorough effort to understand the local perceptions and reasoning regarding the issues at stake.

5.2.4 Village histories and resettlement

As noted above, many communities have moved or been resettled as part of national development policies during the past decades. This fact raises some important issues that should be addressed during the Forest and Land Use Zonation process. Thus, forest management practices and TEK is likely to differ greatly between villages that remain in (or near) their old/traditional territory and those that have been relocated to areas far away from their traditional homelands:

If the village remains in its traditional territory, it is likely:

- (a) that its members have a greater knowledge about local surroundings and TEK and thus be more strongly committed to traditional land use restrictions (taboos) and forest-management regulations than if they have relocated to an unfamiliar territory;
- (b) that the old territory, including old swidden fields, will be used (even if located up to 20 km away from the present village site) for cultivation, hunting and collection of forest produce.

¹⁰ Or rather, “large animals”, since we did not find even a rough equivalent to the scientific term “mammal”. However, in the context “large animal” is virtually synonymous with “large wild animal”.

If, on the other hand, the new/resettled village is located far from the traditional homeland of the village, TEK and customary forest-management practices will be less functional and/or respected and thus less likely to be applied in the new surroundings. Over time, new “spirit forests” and “forbidden places” will gradually emerge or be discovered as the community starts interacting with the landscape and the original inhabitants of the area. The longer a community has lived in a particular area, the more sacred areas there tend to be in the village territory.

Village histories may also explain/account for unequal access to productive forest- and agricultural land in the village territory as well as factional tensions and conflicts within a village – particularly in multi-ethnic resettlement villages. Families which have arrived late in the development of such a village are likely to have poor land resources; in areas where paddy land is scarce they are likely to be confined to shifting cultivation since all available paddy rice is usually already occupied by the original inhabitants of the area or groups that have arrived earlier.

Village maps can be useful as a tool to understand the village history more clearly. If the village has not migrated into its present area, or been resettled by the government, there will be a number of “old settlement/village sites” within the village territory. Among the Mon-Khmer groups in Xekong and Attapeu provinces, still relying on shifting cultivation, these old village sites stand out from the rest of the landscape as being the only “degraded” grassland areas within the village boundaries. Among Hmong shifting cultivators in the north, however, “degraded” grassland areas are common in landscapes indicating an unsustainable (pioneering) mode of shifting cultivation. “Old village sites” are thus a phenomena mainly to be found among the groups that are still living in their “homeland”. The “old fields” will usually be located near the old villages and are still used as food collection areas.

Recommendation:

It is important that village histories are recorded (and mapped) during the PSFM process.

(a) The village histories must distinguish the different times of arrivals of families and groups in a certain village. This knowledge is important in order to understand the distribution of power/authority and potential tensions and political fault lines in the village.

(b) In the case of villages located inside or near their old/traditional homeland, it is important that villagers are asked to mark all their current and old cultivation areas on the forest and land use zonation maps, as they may still cultivate areas outside the village territory.

6. CONCLUSIONS

6.1. Summary of Main Findings

Comparative observations: Although the main focus of the study was on the Mon-Khmer groups inhabiting the southern provinces (particularly Xekong), field visits in the northern province of Xayabouli and the central provinces of Vientiane and Bolikhamxay suggest significant socio-economic and cultural differences between the southern and the northern-central study communities which are of central relevance for SUFORD's project activities. Thus, the study villages in the northern and central provinces (inhabited predominantly by Hmong, Emien, Lao Lum, and Khmu) were on the whole considerably larger than those in the south (inhabited mainly by Krieng, Katu and Brau). The northern-central villages were to a larger extent than the southern study communities constituted by immigrant communities which, partly as a result of state resettlement policies, had moved to their present location in relatively recent times and often from home areas located far away from their present locations. These resettlement villages were also generally composed of several ethnically distinct groups originating from entirely different home territories, fused into a single composite and government-sponsored resettlement village.

By contrast, villages in the south were mostly mono-ethnic or dominated largely by a single ethnic group – although sometimes villages could contain settlement groups (of the same ethnic group) originating from distinct source villages, regrouped into a single resettlement village. Usually, however, resettlement movements in the south (Xekong) have been comparatively shorter than in the northern-central provinces; village movements tend to be confined to a single district or adjacent districts.

These differences in the scale and distance of movements in response to state resettlement policies have important consequences local forest use and environmental knowledge: thus, traditional ecological knowledge and forest management practices tend to be significantly more functional and better adapted to local environmental conditions in communities and among groups remaining in their home areas and familiar habitat (as in the case of the southern groups) than in cases where groups have been relocated to distant and unfamiliar localities (as among many northern and central groups). From an environmental (and cultural) point of view, long-distance resettlement and village movements may have disastrous consequences.

The southern study villages (and ethnic groups) are, furthermore, more forest dependent and reliant on (rotational) shifting cultivation than the corresponding villages/groups in the northern-central provinces, where intensive paddy cultivation and cash-crop production is prevalent and in many villages tends to dominate. On the whole, the northern communities are more integrated into the modern market economy than the southern ones; local agriculture and the collection of NTFPs are increasingly becoming – and are being perceived as – commercial endeavors while, among the southern groups, these livelihood pursuits are still largely governed by traditional attitudes and values.

One may therefore assume that the projected SUFORD activities will have far greater social and cultural impact – and require more radical social and cultural changes – among the southern (Mon-Khmer) groups than among the groups in the northern-central provinces. On the other hand, logging seems to be a far greater problem for the forest-living ethnic groups in the south than in the north. It is therefore imperative that SUFORD carefully monitor the impact of both its own project activities and the ongoing commercial logging activities in the project areas of the southern provinces.

Shifting cultivation: The southern Mon-Khmer groups are, by and large, dependent for their livelihood on a traditional form of long-cycle, rotational shifting cultivation with fallow periods of between 6-15 years – although fallow periods (rotation cycles) are becoming shorter as a result of the government’s efforts to reduce and eventually eliminate shifting cultivation in Laos.

Recent research and available evidence on the environmental impact of rotational shifting cultivation suggest that this form of long-cycle shifting cultivation is a sustainable and environmentally – and labour-effective – form of resource use in tropical forest environments. Closely integrated with indigenous social and cultural institutions (including belief systems and fundamental moral precepts regulating social behaviour), traditional shifting cultivation may indeed function as a safeguard against over-exploitation of the local forest environment. Furthermore, fallows are the preferred habitats of a number of plants and animals – including important NTFPs – which are essential for local livelihoods. Our study also showed that traditional shifting cultivators (in our village sample) do not, as a rule, clear and burn old/primary forest but prefer to clear secondary/fallow forest for cultivation.

“Sacred forests”: Perhaps the most important finding of our study was the realization that most of the groups visited in the course of the consultancy have a concept of “sacred forests” which serve – or did so until recently – as a powerful sanction against cutting and burning forests of high conservation value. This notion refers to forest areas which are believed to be inhabited by powerful spirits and, therefore, not cleared, burned or cultivated by the local population. Although common among both the northern, central and southern groups, this belief and the accompanying restrictions against cutting and burning such forests appear to be most strongly upheld among the Mon-Khmer groups in the south – largely because these groups still tend to live in their homelands and are less penetrated by the market economy and the modern social and cultural values underpinning it (see above).

Our data suggest that such sacred forest areas are locally perceived – and actually function – as traditional bio-diversity reserves, i.e. areas held to be critical for the regeneration of plants and animals on which the local people depend for their livelihood, and which are therefore ultimately preserved for the reproduction of human society. Indeed, old or primary forests were almost universally classified as sacred forests in the (southern) study villages and, vice versa, the areas marked off as sacred forests generally coincided with very old forest and/or forests of high conservation value.

The customary prohibitions – taboos – against cutting and burning sacred forests derive their moral force from the belief that such forest areas are inhabited by powerful spirits

who, if disrespected or insulted, will punish the offender – the person who breaks the taboo – with sickness, misfortune or even death. In many cases it is also believed that the punishment may befall not only the offender himself but also his family or anyone else in his home village. This, then, is a powerful sanction; breaching the taboo puts the entire community at risk. Accordingly, the whole local society has a stake in upholding the taboo and the ethical system of which it forms a part. The whole system amounts to a kind of animist moral ecology.

Similar taboos apply to certain animals and specific plant species considered to be inhabited by or materializations of spirit beings. Such taboos usually extend to the areas surrounding them and, particularly, to areas in which they are abundant or, in the case of animals, where the species breed and reproduce. Such spirit plants and animals, and the areas in which they are found, are prohibited to cut or kill – they are considered taboo and therefore protected. These ideas, just as the notion of sacred forests, amount to a traditional conservation ethos which, by being self-enforcing, may be the most effective institution for safeguarding important bio-diversity areas and forests of high conservation value in areas inhabited by indigenous peoples.

6.2. Summary of Recommendations for the PSFM Planning Process

On shifting cultivation and land classification: It is recommended that information some basic information about each village's dependency on shifting cultivation should be marked in SUFORDs village lists. During the FLUZ process the technical teams should ask local communities to explain their own definitions of land types first. Local communities should mark different stages and cycles of shifting cultivation. Note that there is a danger that early stages of rotational agriculture are wrongly classified as regeneration forest.

Whenever possible, an expert familiar with the ethnic group in question should accompany the technical teams to monitor to what extent the communities are really involved in the activities and understand the purpose of the activities. SUFORD's overall purpose of carrying out sustainable forestry (i.e. to extract timber) needs to be reiterated to the villagers.

On sacred forests and customary regulations (taboos): Sacred/spirit forests and prohibited places in the forest should be respected and customary behavioural regulations with respect to such special forest areas should be encouraged and reinforced as far as possible. These traditional norms may be the only regulating force respected by local people in the present situation of rapid change and cultural dissolution.

On community mapping:

- (a) The use of community mapping techniques – using a base map of rivers – was found to be a good way to involve the communities and get their opinions about the village landscape and its resources. Satellite maps might be too complex for villagers to understand and therefore it would be preferable to initiate discussions with simplified base maps and let the villagers themselves “map out” and describe the village territory.

- (b) “Community mapping” exercises must be accompanied by a discussion with local experts about “indigenous categories” if it is to be “participatory” manner. In other words, the making of community maps needs to be accompanied by an effort to really understand how the ethnic groups *perceive the landscape and its resources*. This process can be initiated by finding out and writing down the indigenous terms for different landscape and vegetation types and features. It is important to realise that some terms may defy exact translation and comprehension between the villagers and SUFORD will require considerable efforts on behalf of both parties.
- (c) The “bean technique” is useful as a tool in the PSFM management planning process to determine areas of hunting and NTFP collection as it provides a quantitative way of locals expressing the importance of areas. However, the technique requires that the researcher makes sure (1) that the informants understand the task at hand, and (2) that the researcher himself/herself makes a thorough effort to understand the local perceptions and reasoning regarding the issues at stake.

On village profiles and village histories: It is important that village histories are recorded (and mapped) during the PSFM process.

(a) The village histories must distinguish the different times of arrivals of families and groups in a certain village. This knowledge is important in order to understand the distribution of power/authority and potential tensions and political fault lines in the village.

(b) In the case of villages located inside or near their old/traditional homeland, it is important that villagers are asked to mark all their current and old cultivation areas on the forest and land use zonation maps, as they may still cultivate areas outside the village territory.

A note on communication problems:

One of the most serious problems encountered during the course of this study (although it was outside the research mandate) was that SUFORDs objectives appear to be poorly understood in many communities, even in Lao Lum villages. The lack of understanding, however, does not appear to be due to “language problems” but rather to the fact that some of SUFORD’s on-the-ground teams do not appear to consider it necessary for the local communities to full comprehend the purpose of the SUFORD project. Perhaps this is due to the fact that programmes implemented by GOL do not need to receive the consent of local villagers in order to be implemented. However, since SUFORDs statement of purpose is that its activities are to be “participatory”, this problem needs to be properly addressed – in particular with regard to SUFORD’s local government counterparts. “Participation” does not mean that a quick agreement or approval should be extracted from villagers; it is far more preferable that villagers get full information and fully understand all the activities that will take place, and what their exact rights and duties are vis a vis the project, than that they approve activities without understanding their purpose. Agreements which have been reached in a situation of “asymmetric information” between parties are void of value.

Final note of caution:

SUFORD should take responsibility to safeguard local cultures and avoid being caught in too simplistic development schemes which would endanger local culture. In particular smaller groups, such as the Katuic groups in Sekong and Phong in Bolikhamxay are culturally very

vulnerable, whereas larger groups, such as the Hmong are culturally much more resilient. Affirming the need for indigenous groups to carry out rotational shifting cultivation is a vital prerequisite for enabling the preservation of vulnerable group's cultural heritage – and thus enlisting their support for interventions aiming at protecting and preserving the local environment.

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Appendix 1.0: Ethnic Minorities in Lao PDR¹¹

(This appendix, and all the footnotes included, has been taken Chamberlain et al 2002)

I: The Lao-Tai Language Family (8 Groups) ¹²			
No.	General Name	Subgroup	Other local names
1	Lao		Lao
		Phouan	Phouan
		Kaleung	Kaleung
		Bo	Bo
		Yooy	Yooy
		Nyo	Nyo
			Thay Pheung
			Isane ¹³
			Thay Xam
			Thay Yeuang
			Thay Lane
			Thay Cha
			Thay Mat
			Thay O
			Thay Lang
2	Phou Thay		Phou Thay
			Thay Ang Kham
			Thay Kata'
			Thay Kapong
			Thay Sam Kau
			Thay Vang
3	Tai	Tai Dam	Tai Dam (Black Tai)
		Tai Deng	Tai Deng (Red Tai)
		Tai Khao	Tai Khao (White Tai)
		Tai Moey	Tai Mène
			Tai Theng
			Tai Et
			Tai Xom
4	Lue		Lue ¹⁴

¹¹ This new classification of the Lao Front for National Construction, dating from August 2000, is based on language families generally recognized by scholars internationally. It should be considered as a major step forward in the classification process even though the subgrouping has not yet followed this practice.

¹² In technical literature this family is known as Tai-Kadai.

¹³ Refers to the Lao of Northeastern Thailand who migrated to Laos.

		Kheun	Kheun ¹⁵
5	Nyouan		Nyouan
		Kalom	Kalom
		Ngiau	Ngiau ¹⁶
6	Yang		Yang ¹⁷
7	Sek		Sek
			Koy
8	Tay Neua		Tay Neua ¹⁸
II: The Mon-Khmer Language Family (32 Groups)¹⁹			
9	Kh mou		Kh mou, Kam mu
		Kh mou Ou	Kh mou Ou
		Kh mou Lue	Kh mou Lue
		Kh mou Nyouan	Kh mou Nyouan
		Kh mou Kh rong	Kh mou Kh rong
		Kh mou Rok	Kh mou Rok
		Kh mou Kh wè ne	Kh mou Kh wè ne ²⁰
		Kh mou Mè	Kh mou Mè
		Kh mou Kasak	Kh mou Kasak
		Kh mou Cheuang	Kh mou Cheuang
			Mok Pray
			Mok Prang
			Mok Tang Chak
			Mok Kok
			Mok Tou
10	Pray	Thin	Thin, Lawa, Lao May ²¹
11	Ksing Moul		Phouak, Lao May
12	Phong		Phong, Kaniang
		Phong Piat	

¹⁴ Conventional spelling found in the literature.

¹⁵ Originally from Keng Tung in Burma.

¹⁶ The Lao word for Shan.

¹⁷ The conventional spelling in Nhang, the outsider term for the group that calls itself Yay.

¹⁸ Recent immigrants from the Sze Mao area of Yunnan, not to be confused with the 'Neua' of Sam Neua.

¹⁹ Mon-Khmer is the major branch of the larger Austroasiatic Family.

²⁰ Or 'Kwène'.

²¹ More commonly referred to as 'Phay' in Laos. T'in and Lawa are names used in Thailand.

		Phong Lane	
		Phong Fène	Phong Fène
		Phong Chapouang	Phong Chapouang
13	Thène		Thène, Thay Thène
14	Oe Du		Oe Du, Thay Hat
15	Bit		Bit
16	Lamet		Lamet
17	Sam Tao		Sam Tao
		Doi	Doi
18	Katang		Brou Katang
		Pha Keo	Pha Keo
19	Makong		Brou Makong
		Trouy	Trouy
		Phoua	Phoua
		Maroy	Maroy
		Trong	Trong
20	Tri		Brou Tri
21	Jrou		Laven, Sou'
		Jrou Kong	Jrou Kong
		Jrou Dak	Jrou Dak
22	Triang		Triang
23	Ta Oy		Ta Oy
		Tong	Tong
		Yinr	In
24	Yè'		Yè'
25	Brao		Lavè, Louy Vé
		Kavèt	Kavèt
		Halang	Halang
26	Katu		Katu ²²
		Triu	Triu

²² Conventional spelling.

		Dak Kang	Dak Kang (Panh Deng)
27	Halak		Alak
28	Oy	Sapouan	Sapouan
		Sok	Sok
		Inthi	Inthi
			Mèkrong
			Mèreuyao
29	Kriang		Ngè'
		Chatong	Chatong
		Ko'	Ko'
30	Cheng		Cheng
31	Sadang		Sedang ²³
		Kayong	Kayong
		Sadang Douan	Sadang Douan
32	Souay		Souay
33	Nya Heun		Tang Kè', Heunh
34	Lavi		Lavi
35	Pacoh		Pacoh ²⁴
		Kado	Kado
		Kanay	Kanay
36	Khmer		Khom, Khmer ²⁵
37	Toum		Toum
		Liha	Liha
		Thay Cham	Thay Cham
			Thay Poun
		Thay Pong	Thay Pong
			Moy
38	Ngouan		Ngouan
39	Meuang		Moy

²³ Conventional spelling.

²⁴ Conventional spelling.

²⁵ Conventional spelling.

40	Kri ²⁶		Salang, Arem
			Tong Leuang
		Maleng	Maleng
		Mlabri ²⁷	Labri, Tong Leuang
III: The Chine-Tibet Language Family (7 Groups)²⁸			
41	Akha		Ko, Iko
		Akha Chi Cho	Chi Cho
		Akha Pouly	Pouly
		Akha Pana	Pana
		Akha Fé	Ko Fé
		Akha Nou Kouy	Nou Kouy
		Akha Louma	Louma
		Akha Oe Pa	Oe Pa
		Akha Chi Pya	Chi Pya
		Akha Mou Chi	Mou Chi
		Akha Ya Oe	Ya Oe
		Akha Kong Sat	Kong Sat
42	Singsily ²⁹		Phou Nou, Pisou
		Phou Yot	Phou Yot
		Tapat	Tapat
		Ban Tang	Ban Tang
		Cha Ho	Cha Ho
		Lao Xeng	Lao Xeng
		Phay (Phong Saly)	Phay (Phong Saly)
		Lao Pane	Lao Pane
		Phong Kou	Phong Kou
		Phong Set	Phong Set

²⁶ This is a problematic classification. The Vietic (or Viet-Meuang) subgroups of Nakai and adjacent areas consist of a number of languages, of which 'Kri' is one. Salang is a local term for this group, and Arem is the Brou term for the same group. 'Tong Leuang' (Lit. 'Yellow Leaf') is the Lao expression for hunter-gatherers that refers to the shelters constructed for short-term residence during cyclical foraging in the forest, the idea being that when the leaves turn yellow it is time to move on. (cf Chamberlain 1997)

²⁷ The Mlabri (also hunter-gatherers and hence the confusion) do not belong to the Kri group and are misclassified here, rather they are related to Khmou and Pray and are found in Xaygnaboury.

²⁸ This is the Lao term for the larger superstock known as Sino-Tibetan which consists of two main families: Sinitic (Chinese) and Tibeto-Burman. Most of the languages of this family in Laos belong to the Tibeto-Burman family, the only exception are the Chinese Ho.

²⁹ Also found written as 'Sengsaly' or 'Sengsaly Ba'. This is one of 12 Bisoid (Phou Noy) languages found in Phongsaly. When the other groups discovered that Singsily was going to be used for all Phou Noy languages they voiced exceptions since they do not consider themselves to be "Singsaly."

43	Lahu		Mou Xoe
		Lahu Dam	Mou Xoe Dam (Black Lahu)
		Lahu Khao	Mou Xoe Khao (White Lahu)
		Kouy ³⁰	Kouy Soung
			Kouy Louang
44	Sila		Sida
45	Hanyi		Hanyi
46	Lolo		Lolo
47	Ho		Ho ³¹
IV: The Hmong – lu Mien Language Family (2 groups)³²			
48	Hmong		
		Hmong Khao	Hmong Daw (White Hmong)
		Mong Lai	Mong Leng, Mong Youa (Green Mong)
		Hmong Dam	Hmong Dam (Black Hmong)
	lu Mien		Yao
		Lantène	Lao Houay, Lènetène ³³
		Yao Phon May Deng	Yao Phon May Deng
		Yao Khao	Yao Khao

³⁰ Call themselves Lahu Shi ‘Yellow Lahu’.

³¹ Yunnanese Chinese.

³² The recent name for this family is Hmong-Mien (lu Mien is the name of a particular group of Yao). The former name for this family found in the literature until about 1985 is Miao-Yao.

³³ Usually refer to themselves as ‘Kim Moun’ or ‘Mane’. The ‘Lènetène’ name is apparently a distortion from Vietnam (J. Lemoine p.c.)

Appendix 2.0: Ethnolinguistic Classification

Note: This list and all notes and comments has been taken from SUFORD SIA report (Chamberlain et al 2008)

(Ethnic groups that occur or that may occur in the project areas are shaded.)

Family	Branch/Subgroup	Exonym	Autonym
Tai-Kadai (Lao-Tai)	Northern	Nhang	Yay
		Sek, Saek	Threk
		Mène	Mène
		(Pao) ?	(Pao)
		(Pouak) ?	(Pouak)
	Southwestern		
	PH – Group		
	Lao	Lao	Lao
		Yooy	Yooy
		(Kaleung)	(Kaleung)
	Neua-Phouan	Thay Neua	Thay Neua
		Phouan	Phouan
		Phou Thay	Phou Thay
		Thay Vang	Thay Vang
		Thay Angkham	Thay Angkham
		Thay Kapong	Thay Kapong
		Thay Katak	Thay Katak
		Thay Katam	Thay Katam
		Nyo	Nyo
		Thay Khang	Thay Khang
		Thay Kaloep	Thay Kaloep
		Thay Xam	Thay Xam
		Thay Meuang	Thay Meuang
		Thay O	Thay O
		Thay E	Thay E
		Thay Laan	Thay Laan
		Thay Yeuang	Thay Yeuang
		Thay Sooy	Thay Sooy
		(Thay Sam Kau) ?	(Thay Sam Kau) ?
		(Sène Kap) ?	(Sène Kap) ?
	P- Group		
		Tai Dam	Tai Dam, Fou Tai
		Tai Deng	Tai Deng
		Tai Khao	Tai Done
		Tai Kouan	Tai Kouan
		Tai Moey	Tai Moey

		Lue	Lue
		Kalom	Kalom
		Tai Núa	Tai Núa, Tai Loe
		Shan	Tai Nyay
Family	Branch/Subgroup	Exonym	Autonym
		Nyouan	Nyouan, Meuang
		Khoen	Kheun
Mon-Khmer	Khmuic		
	Kh mou	Kh mou	Kh mou
			Kh mou Ou
			Kh mou Nyouan
			Kh mou Lue
			Kh mou Cheuang
			Kh mou Krong
			Kh mou Rok
			Kh mou Me
		Kh mou Kwène	Kwène
	Pray-Pram	Sing Moun, Pouak	Ksing Moul
		Phay, T'in	Pray
			Mal
		Tong Leuang	Mlabri
		Tai Hat	Oe Du
		Phong	Phong Laan
			Phong Phène
			Phong Tapouang
		Saloey	Phong Piat
		Kaniang	Kaniang
		Tai Thène	Tai Thène
		Kong Saat (?)	Kong Saat (?)
	Palaungic		
	Plang/Bulang	Sam Tao, Bulang	Plang
	Anguic	Doi, Sam Tao	Thou Moc
		(Kha) Bit	Bit
		(Man Met) ?	Met
	Lamet	(Upper) Lamet	Lamet
		(Lower) Lamet	Xmet

	Vietic		
	North (Viet-Muong)	Vietnamese	Viet
		Muong, Moi	Muong
		Ngouan	Ngouan
Family	Branch/Subgroup	Exonym	Autonym
	Vietic		
	Northwest	Toum	Toum
		Liha	Liha
		Cham, Phong,	Phong
	West	Ahoe	Ahoe
		Thaveung	Ahao
		Thaveung	Ahlao
	Southeast	Salang, Arem	Cheut
	Southwest	Salang, Arem	Atel
			Arao
			Makang
			Malang
			Maleng
			To'e
	South	Phong	Phong
		Kri	Kri
		Salang, Tong	Mlengbrou
	Other	Salang, Arem	Thémarou
	Katuic		
	East	Katu	Katu
		Pacoh	Pacoh
		Nge	Ngkriang
		(Kado)?	(Kado)?
	Central	Ta Oy	Ta Oy
		Katang	Katang
		Ong	Ong
		Pangan	Pangan
	West (Brou-So)	Makong, Brou, So	Makong
			Brou
			Tri
			Chalouy
			Triu
			Kanay

			Trong
			Truy
			Cali, Chali
			Thro
			Chalet
			Dak Kang
Family	Branch/Subgroup	Exonym	Autonym
	West (Kouay-Yoe)	Souay	Kouay
			Souay Anh Toua
	Bahnaric		
	North (?)	Rengao, Reuyao	Rengao
		Sedang	Todrah, Didrah
		Jeh, Die	Jeh
		Halang	Halang
		Kacho	Kacho
	East (?)	Taliang	Taliang
		Alak	Hrlaak
		Kasseng	Kasseng
		Kayong	Ca-Rong, Kayoeng
		Lavi	Lavi, Saveu
		Sok	Sok
		Tapong (?)	Tapong (?)
		Thè (?)	Thè (?)
		Pati (?)	Pati (?)
		Rakong (?)	Rakong (?)
		Ramang (?)	Ramang (?)
		Ratou (?)	Ratou (?)
	West (?)	Lavè	Brao, Kravet
		Laven, Loven	Jru
		Nha Heuñ	Nha Heuñ
		Sou'	Sou'
		Souk	Souk
		Cheng	Cheng Ho
			Cheng Phok
			Cheng Tha Lane
		Oy	Oy
		Sapouan	Sapouan
		Inthi	Inthi
		Kalen	Kalen
		Laman	Laman
Hmong-Mien	Mien-Mun	Yao	Iu Mien
		Lantène	Kim Mun, Man

	Hmongic	White Hmong	Hmong Daw
		Green Hmong	Mong Ntshoua
Family	Branch/Subgroup	Exonym	Autonym
Sino-Tibetan	Tibeto-Burman		
	Lolo-Burmese		
	Loloish		
	Southern		
	Akhoid	Ko, Iko, Akha	Pouly Akha
			Mu-Chi
			Ôma
			Pou Seng
			Oe Pa
			Cha Mé
			Cha Piou
			Sa Phé
			Mô Toe (n)
			Nou Goi
			Louma
			Chi Pia
			Pala
			Phou So
		Akheu	Akheu
		Sila	
		Poussang (?)	Baya
	Bisoid	Phou Noy	Singsaly
			Lao Pane
			Phong Kou
			Lao Seng
			Cho Hô
			Ban Taang
			Ta Pat
			Phong Set
			Phou Ngot
			Phay Pisou
			Nam Ky
			Dou Mone
	Central		
	Wonoid	Wonyi	Wonyi
		Hanyi	Hanyi

	Loloid	Lolo	Lolo
		Yi	Yi
		Ahi, Ashi	Ahi, Ashi
		Sani, Ni	Sani, Ni
		White Lolo	White Lolo
		Hani	Hani
Family	Branch/Subgroup	Exonym	Autonym
	Lahoid	Lahu	
		Black Lahu	Lahu Na
		Yellow Lahu, Kouy	Lahu Shi
			Lahu Aga
	Chinese	Yunnanese	Ho

Appendix 3.0: Research Topics

The main research topics of the study were outlined in a study plan which was conceived prior to undertaking fieldwork:

(1) Social Organisation [background information]:

- Basic data on social organisation for each ethnic group/village
- Leadership pattern/local authority structure
- Relevant religious beliefs and cosmological concepts

(2) Local/Customary Land-Tenure:

- Traditional property rights: lineage ("clan") property rights, extended family property rights, individual ownership
- Is their permanent ownership over land and forest resources or can these be exploited freely/randomly?
- Customary rights as concerns hunting trails and NTFP areas
- Is their "common property ownership" of forest resources?
- Shifting cultivation land tenure systems

(3) Village History and Village Boundaries:

- Is the village indigenous to the area or not? What is the geographic origin of the village?
- What are the major differences between resettled villages and villages still living in their ancestral homeland
- What are the main differences between ethnically homogenous and multiethnic villages? [Note that many resettled villages in Laos are also multi-ethnic]
- To establish what the villages' *traditional* boundaries are and compare them with *official* boundaries
- Compare village resource use to both the traditional and official village boundaries

(4) Landscape and Habitat Classification:

- Local classification systems of forests and vegetation types
- How do local people differentiate different types of forest vegetation and forest?
- What is considered "agricultural land" and what is "forest land" to the local people? How do their concept differ from ours/SUFORD's?
- When were the various fallow areas in the landscape last used?
- Corroborate landscape terminology and interview data with photographic and GPS evidence from "GPS walks" in the forest

(3) Cultural and Spirit Forests:

- Gather information about various types of sacred forests and *other sacred landscape features* (including “sacred hills” and “cementeries”, “poisonous” forests, “sacred pools” (sacred watering holes), sacred salt licks, sacred stream sources etc.
- Where are these forests located, how big are they and what types of forests are they?
- This information can be of high relevance for guiding the projects identification of High Conservation Value Forest (Cultural Value) and in the integration of ethnic group knowledge into PSFM process
- Location and relative size of sacred or prohibited areas
- Analyse the effectiveness of the local taboos/spirit beliefs as a form of forest protection system
- Different types of forest related taboos (e.g. no cutting, no burning, no hunting etc.)

(4) Traditional Forest Management:

- How the forest is *used* in terms of shifting cultivation, hunting and gathering ?
- What are the crops/plants planted in the forest? How is fire used to manage forest areas?
- Which are the main NTFPs collected (including wild animals)? Are the agricultural products/NTFPs/wild animals used mainly for domestic consumption or are they sold to external markets? To what extent is the pressure from the external market increasing? What has been the effect on the village forest resources?

(5) Traditional Rules and Regulations:

- Conduct interviews to establish any local and traditional internal mechanisms for regulating the forests
- Are there any traditional rules that govern the local forest, e.g. for exploitation of timber for house or for resource use between villages?
- Are there any internal conflict resolution mechanisms or penalties for the breaking of local laws?
- This information will be used to assist in the guidelines of the determination of village rules in the management plans, and TEK needs to be considered in this respect

Appendix 4.0: Interview Materials

(Survey Questionnaires, Seasonal Calendar Worksheets, Checklists)

SUFORD

Interview sheet/NÅ 2009

Headman questionnaire

Province: _____

District: _____

Village: _____

Name of headman + other people (age of each person): _____

Introduce ourselves

1. Basic village information

Basic information about the village (do they have statistics?): _____

- Ethnic groups in the village
- population (how many people):
- nr of houses (how many house structures)?
- nr of households []:
- nr of households of each group:
- nr of extended families []
- which family names in the village []
- which family name is the most common/ which family is the biggest in village:
- Deaths in 2008-2009
- Births in 2008-2009

Rich and poor (according to themselves):

How do you locally define/estimate rich/poor households?

Very poor:

Poor:

Average/medium:

Well off:

Rich:

Language skills:

- How many *adult* men/women people speak good Lao:
- How many *adult* men/women can read and write:
- How many people speak Vietnamese:

2. Village history (old man)

[Origin of village if the village is resettled. Otherwise ask about village movements within the local area in the past. This question is often misunderstood by research assistants.]

Where was the village located when his father was young (ca 50 years ago)

- How far from here?
- Why did the village move from that place
- did the village move a lot from place to place 50 years ago)

Where was the village located ca 20 years ago:
- why did it move from there

How many times has the village moved in the last ten years?
Why did it move?

3. SUFORD and other project interventions

Suford: what is the Suford project about (in this village)?
Do you (villagers) know about project plans and implications?
Can you foresee any problems?....

- What activities has suford done in the village?
- What is their opinion with suford?
- Any problems with suford?

Any other big problems/concerns in the village?

Have any other projects been in the village/worked together with the village?

What are the most important activities in the village right now?

4. Seasonal calendars

-Work calendar and which activities do they do during each month:

Specificy for: Agriculture

Hunting and fishing

Collecting NFFPs

-Ritual calendar (related to above):

Jan	Feb	March	April	May	June	July		
[]	[]	[]	[]	[]	[]	[]	[]	[]

August	September	October	November	December
[]	[]	[]	[]	[]

Socio-economic (agriculture, livestock, cash crops, hunting etc)

What kind of agriculture

- * dry rice
- * wet rice
- * cassava
- *

What crop (wet rice, dry rice, cassava etc.) is most important for their subsistence (for food):

How many household do wet-rice cultivation?

How many household do shifting agriculture?

How far away is the most far away dry rice field?

Cash crops (do they plant anything for selling):

Which economic activity is most important in terms of cash income? (perhaps gathering honey or commercial hunting...!?)

Livestock (Buffalos, pigs, cows etc), how many of each kind?

-Buffalos

-Cows

-Pigs

-poultry (chicken ducks etc)

Hunting:

Is hunting important in the village?

How about restrictions – government ban? Perceived as problem?....

How many people in the village hunt?

How do they hunt? Dogs, traps, guns, crossbows?

Which months do they usually hunt?

What animals do they catch:

How many big animals did the village catch last year?

Do they mainly share wild animals (share the meat with all villagers)?

Do they do rituals when they catch a big animal?

Can hunters hunt anywhere in the village area/TERRITORY or does each family hunt in a certain area? – important!

Who is the best hunter in the village (whats his name)?

How many big animals did the villagers sell last year

What are the most valuable animals to sell to outsiders (pangolins [], porcupine [], tiger [] etc?

-Who are the buyers (other ethnic, Lao, Vietnamese etc)

- are there less wild animals in the forest now than in the past?

- Why are there less animals in the forest?

Fishing:

- Is fishing important for the villagers?

- How do they fish?
- When do they fish (which months of the year)
- Are there as much fish now as in the past?
- WHY?
-

Food consumptions:

What products most important for food?

What products/NTFPs are most important for money?

Wild meat vs domestic meat (%):

Wild fish (catch themselves) vs bought fish (%):

All wild food (wild animals, forest plants and fruits, fish in streams) vs Rice, domestic meat

Traditional hunting (old man):

How did they hunt in the past?

How was hunting different in the past?

Are there less animals now than in the past?

Why (according to them)?

Where there certain animals they didn't hunt in the past (not allowed by traditional rules)?

Where there certain areas they did not hunt? What about NOW???

Where there certain animals they didn't eat?

Where there certain animals that some people couldn't eat (for example; pregnant women, children, women)

Where there certain places where they couldn't hunt because of spirits / traditional rules (for example a hill with a bad spirit that didn't let them hunt there):

- how did they call that kind of place where they weren't allowed to hunt?

- where are those places (can he say the name of any such place/ hill and say where):

- if less why?

Community Mapping checklist

Put indigenous vocabulary in the brackets, write short local definitions of the categories

“Jungle” (also ask different “jungle” categories):

Old fallows [] = old forest []

Young fallow:

Forest gardens:

Banana garden:

Pineapple gardens:

Vegetables near streams:

Cassava gardens/cassava fields:

Mushroom areas:

Bamboo areas:

Rattan areas:

Other important NTFPs

- Other important NTFPs (ask what are ten most important NTFPs, separate plants and animals).
- Write down local names
- Indicate important collection areas on the map

Old villages (abandoned village sites):

Graveyards:

Sacred forests:

Bad death forests:

Dangerous spirits:

Good fishing areas

Good frog catching areas

Where do they catch small animals?

Where do they catch big animals?

Separate important trapping areas and hunting trails (dog and rifle)

Animal habitats:

Wild pigs

Macaques

Gibbon

Other

Another ecologically important areas (indicate if they have spirits or not):

Salt licks

Pools on hill tops

Caves

Waterfalls

SEASONAL FOOD AVAILABILITY (0 = none ບໍ່ມີ, * = a little ມີໜ້ອຍໜຶ່ງ, ** = "fair amount" ມີປານກາງ, *** = a lot ມີຫຼາຍ) – THIS CAN BE USEFUL TO GET RAPID OVERVIEW OF FOOD SITUATION DURING THE YEAR AND THE SEASONAL IMPORTANCE OF NTFPS, BOTH PLANT AND ANIMAL

Foods	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Comments
1) DOMESTIC PLANTS ພືດປູກ													
Wet rice availability ເຂົ້າຮ້າງ													
Dry rice availability ເຂົ້າໄຮ່													
Cassava availability ມັນຕົ້ນ													
Corn availability ສາວີ													
Other tubers (not cassava) ພືດທີ່ເປັນຫົວ (ອົກເວ້ນມັນຕົ້ນ)													
Egg plants ໝາກເຂືອ													
Other domestic vegetables (specify) ພືດຜັກທີ່ປູກ ອື່ນໆ(ໃດຍຫຍໍ້)													
2) FRUITS ໝາກໄມ້													
i) Domestic fruits ໝາກໄມ້ທີ່ປູກ													
ii) wild fruits													

ໝາກໄມ້ຈາກປ່າ														
3) WILD PLANTS -- other than fruits ພືດປ່າ ອື່ນອກຈາກໝາກໄມ້														
Bamboo shoots ຫົ່ງໄມ້														
Mushrooms ຕຸ້ງດຊະນິດຕ່າງໆ														
Other wild plant availability (specify 5 most important) ພືດຜັກປ່າອື່ນໆ(ຢືນ 5 ຊະນິດທີ່ສຳຄັນທີ່ສຸດ)	1) _____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
	2) _____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
	3) _____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
	4) _____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
	5) _____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Rattan shoots ຫົ່ງຫວາຍ (ຍອດຫວາຍ)														

4) ANIMALS (MAMMALS, FISH, BIRDS ETC.) ສັດ (ສັດລ້ຽງລູກດ້ວຍນົມ, ປາ, ນົກ ແລະ ອື່ນໆ)													
Stream fish supply ແຫຼ່ງຫາປາ													
Small mammals and <i>birds</i> (mice, squirrel etc.) ສັດລ້ຽງລູກດ້ວຍນົມ ຂະໜາດນ້ອຍ ເຊັ່ນ: ຫູ, ກະຮອກ, ແລະ ອື່ນໆ													
Large mammal (wild pig, deer etc.) ສັດລ້ຽງລູກດ້ວຍນົມຂະໜາດໃຫຍ່ ເຊັ່ນ: ຫູປ່າ, ກວາງ, ຝານ ແລະ ອື່ນໆ													
Frog supply ແຫຼ່ງຫາກົບ													
Edible insects (write names of most common: _____ _____) ຊ່ວຍໄມ້ ທີ່ສາມາດກິນໄດ້ (ຂົນຊື່ ແມງໄມ້ ທີ່ຄຸ້ນເຄີຍທີ່ສຸດ													
5) DOMESTIC ANIMAL AND "MARKET" FOOD ສັດລ້ຽງ ແລະ ອາຫານທີ່ ຫາຊື້ ຈາກຕະຫຼາດ													
Own slaughtered livestock ຂ້າສັດໃຫຍ່ທີ່ເປັນຂອງຕົວເອງກິນ													
Own slaughtered chicken ຂ້າເປັດໄກ່ທີ່ເປັນຂອງຕົວເອງກິນ													
Bought* fish ປາຊື້													

Bought pork ຊື້ ນໝູ ຊີ້													
Bought beef ຊື້ ນງົວ, ຄວາຍ ທົ່ວ ຊີ້													
Bought rice ຊື້ າຊີ້													

Appendix 5.0: Landscape and Animal Interviews in Ban Loy

Some notes about animals from a village meeting in Loy:

(All the information is according to Loy villagers.)

- Macaques often come to eat on the fields near the village. The groups vary in size between 40 and 100 individuals. Macaques are difficult to spot in the daylight and if you are on foot they can run away very easily. If have a dog you might scare the macaque up in a tree and then you have the chance to shoot it.
- Since macaques (as well as wild boars and some other animals) often eat domestic crops they are considered as the “enemies of the crops”. The fact that they “steal” food from humans gives the villagers the moral right to hunt them.
- All types of monkeys, including gibbons as well as many small mammals and birds come to eat fruits from forest trees (including the same fruits that humans eat). The animals also eat “jungle bananas”. It is therefore useful to have large trees since humans depend on some animals for meat.
- Vietnamese pay 30 000 kip for “monkey” bones.
- “In ancient times” the villagers used the gall from tiger, python and rhinoceros for medicine
- The villagers see gibbons every year in the Terrååm mountain area when they go to collect forest fruits in the rainy season.
- Elephants move between Pa ehh, Terrååm and XXX mountain every year. They like to eat a particular kind of big climber species that is available at Pa ehh mountain (one of the sacred hills).

Some notes about shifting cultivation and the landscape in Loy:

- *When doing shifting cultivation in old forest areas, villagers have to chose place where trees are not too large and where there is large space between trees. Generally these are places with quite a lot of bamboo. Villagers never cut very large trees. (The villagers did help cut large trees for the company that built the village school and might do so if they are hired as labour, but not otherwise.)*
- *There was recently cleared swidden (cleared only weeks before our visit) on the way to Terrååm. This place had been left uncleared in the past since there was a story that a man had been killed and his head hung on the large tree in the middle of clearing. The man was one of the ancestors of Loy village and considered a hero. Many people disagreed that the family had cleared this area.*
- *Loy has a particular “forest for construction materials” which they call “prraang prraii”. It was a fallow forest, about 30 years old.*
- *During the war, villagers had taken refuge into the sacred/taboo forests as a last resort to escape American air raids. Many people died but they still feel that the strategy worked quite well and that they did receive some protection from the sacred hills.*
- *Some forest areas, f. ex. the Pinn Krunng have actually never been cleared despite looking much like fallows. These forests were destroyed by American air raids during the war.*

- *Another fallow area (ca 15 years old) called “Pinn Tuukk” (Lao: Pou Hõa) is used for hunting small mammals, small muntjacs [channg koi], large muntjacs [pååp , various birds and also to collect a mushroom called “trrö chaii”.*
- *Pa ehh, Dreen and Terrååm mountains are the most important spirits in the landscape and must be invited to all village feasts held in Ban Loy, but only if the feast involves the sacrifice of large animal (buffalo or cow). Terrååm is considered a friendly spirit, the other two are dangerous.*
- *However, all other hills also have spirits. For example, the spirit of Cha-Okk stream source is also very powerful and dangerous. if you go there you will be possessed.*

Other landscape topics

- **Salt licks:** *There are two salt licks in village area. Both located within what the villagers consider the “agricultural zone”. However, if you try to shoot animals that come to the salt lick “you always miss” because villagers believe that the animals that come to salt lick come from Dreen mountain and are thus protected by Dreen.” If you miss you know that those animals are protected and you should not try again.”*
- **Watering holes:** *There is only one “hill pool”/watering hole (terrlahh) in the entire village area. It is on Terrååm mountain. It is very important for the gibbons as well as all other wild animals in the forest. The research team could hear elephants come to this place.*
- **Elephants:** *In the past there was a single group of 7 elephants in the village but now the group has separated into 2 smaller groups and two elephants have died. Now there are two groups, the first group has 3 individuals and the other has two. Before the two groups separated the villagers saw one male, but now none of the animals have tusks. Now they don’t know . maybe now just one male. In the bigger group they one small. They believe the elephants have been shot at but they do not know by whom. In this village they take the prohibition to hunt elephants very seriously. It could have been by Vietnamese.*
- *The villagers of Loy believe that elephants can show other elephants which way they have traveled by breaking the top of a tree and “pointing” the top/crown in the direction they intend to go. The elephants never do this when they are just feeding normally. There was a Vietnamese hunter (who was actually a “Ta oi Katang”) who came here to collect bones and animal parts (from monkey, turtle, skin of python, bladder of bear , horn of deer) to sell in Vietnam.*
- *The elephants don’t go to the south to area of Hatpe and Paktrai, because those villages have no primary forests.*
- *In the dry season the elephants travel along the ridges and streams bordering with other villages (Ban Chinng, Ban Chrook, Ban Bak, Ban Hanong). They will travel near the borders but never actually leave Loy’s village area.*
- *From May to September the elephants travel from north to south and go close to the Taluuy stream. They walk towards Dreen mountain. In the dry season the elephants start moving from the south to the north, but since at this time people are active hunting and gathering along the Taluuy, the elephants keep deep inside the forest*

and walking along the high ridges and spirit forests towards Pa ehh mountain in the north.

Appendix 6.0: Selective Tree Use among Katu (Kaleum)

number	name lao	name katu	never cut	dont cut when make field	have spirit	eat fruit	eat flower	other use	commercial value	location
		lorng ternung	x	x					unknown	
		ndaang kuhh	x	x					unknown	
		alootsch	x	x	x				unknown	
		alootsch baak	x	x					unknown	
		ndaang aniang	use for houses	cut					unknown	
		giurr	use for houses	x					unknown	
		giurr koiil	use for houses	x					unknown	
		ndaang kameng	use for house poles	x					unknown	
		ndaang akokk	x	x		yes			unknown	
		ndaang lieng saalang	x	x					unknown	
		kuhh tjorrong	x	x				use for oil (2000kpl/kg)	unknown	
		ndaang aataanj	use for floors or walls of?	x					unknown	
		piir chorrpua	x	x			yes		unknown	
		ndaang arii	x	x	x			eat young leaf	unknown	
		ndaang arii2	x	x	x			birds can eat the fruit	unknown	
		tanung charraan								
		tenng karrou	x	x		yes			unknown	
		palé m'pail	x	x		yes		eat young leaf	unknown	village and old village
		palé m'pail panass	x	x		yes		eat young leaf	unknown	village and old village
		tén kriss	x	x		yes		animals can eat fruit	unknown	village and old village
		palé sit				yes		eat young leaf	unknown	village and old village
		buong	x	x		yes			unknown	village and old village
		ndaang aniang	trunk for construction	cut				eat young leaf	unknown	
		palé proth		cut because shadow		yes			unknown	

*