

Shifting Cultivation in Laos: Transitions in Policy and Perspective



This report has been commissioned by the Secretariat of the Sector Working Group
For Agriculture and Rural Development (SWG-ARD)
and was written by Miles Kenney-Lazar
Graduate School of Geography, Clark University, USA
mkenneylazar@clarku.edu

The views contained in this report are those of the researcher and may not
necessary reflect those of the Government of Lao PDR

Abbreviations and acronyms

ACF	Action Contre la Faim
CCAFS	Climate Change, Agriculture and Food Security
CGIAR	Consultative Group on International Agricultural Research
CPI	Committee for Planning and Investment
DAEC	Department of Agricultural Extension and Cooperatives
DCCDM	Department of Climate Change and Disaster Management
DAFO	District Agriculture and Forestry Office
DLUP	Department of Land Use Planning
EC	European Commission
FS 2020	Forest Strategy to the Year 2020
GOL	Government of Laos
ha	hectares
IIED	International Institute for Environment and Development
Lao PDR	Lao People's Democratic Republic
LFAP	Land and Forest Allocation Program
LPRP	Lao People's Revolutionary Party
MAF	Ministry of Agriculture and Forestry
MONRE	Ministry of Natural Resources and Environment
MPI	Ministry of Planning and Investment
NAFRI	National Agriculture and Forestry Research Institute
NA	National Assembly
NEM	New Economic Mechanism
NLMA	National Land Management Authority
NGPES	National Growth and Poverty Eradication Strategy
NNT NPA	Nakai-Nam Theun National Protected Area
NPEP	National Poverty Eradication Program
NTFPs	Non-Timber Forest Products
PLUPLA	Participatory Land Use Planning and Land Allocation
RCSD	Regional Center for Social Science and Sustainable Development
REDD	Reducing Emissions from Deforestation and Forest Degradation
SEAGA	Southeast Asian Geographers Association
SCSPP	Shifting Cultivation Stabilization Pilot Project
SWG-ARD	Sector Working Group on Agriculture and Rural Development

Cover photo: by Lamphay Inthakoun, depicting swidden cultivators weeding their upland rice field in Pha Oudom district, Bokeo province, northern Laos

Table of Contents

Executive Summary (English)	4
Executive Summary (Lao)	8
1. Introduction	11
<i>1.1 Swidden Cultivation in Laos and Southeast Asia</i>	11
<i>1.2 Methods</i>	11
2. Statistics of Shifting Cultivation in Laos	11
3. Evolution of the GOL’s Shifting Cultivation Policies	14
<i>3.1 The 1989 National Forestry Conference and the Shifting Cultivation Stabilization and Permanent Occupations Program</i>	16
<i>3.2 The 1999 MAF Strategic Vision for the Agricultural Sector</i>	16
<i>3.3 The 2004 National Growth and Poverty Eradication Strategy</i>	17
<i>3.4 The 2005 Forest Strategy to the Year 2020</i>	18
<i>3.5 The 2007 Forestry Law</i>	18
<i>3.6 MAF’s 2010 Ministerial Instruction to Prepare for the Complete Eradication of Slash and Burn Cultivation</i>	19
<i>3.7 MAF’s 2010 Strategy for Agricultural Development from 2000 to 2010</i>	19
<i>3.8 The 2010 PLUPLA Manual</i>	20
<i>3.9 The Political Report of the 9th Party Central Committee (2011)</i>	20
<i>3.9 The Seventh Five-Year National Socio-Economic Development Plan (2011-2015)</i>	20
<i>3.8 Interpreting the Policies</i>	21
4. Annotated Bibliography	23
<i>4.1 Synthesis</i>	24
<i>4.2 Sources</i>	28
Complete Reference List	45
Appendix 1: Terms of Reference	47

Executive Summary

This report addresses the complex issue of shifting cultivation, which was brought up at the 2011 Round Table Implementation Meeting between the Lao government and international donor partners. As a result of the meeting, the following task was assigned to MAF and the Co-chairs of the Sector Working Group on Agriculture and Rural Development (SWG-ARD): #8 *Agricultural land management to ensure all Lao people especially those [who] are living in upland areas can have access to agricultural land particularly relevant to the area of slash and burn agriculture.* This desk study was assigned to examine the current government policy on shifting cultivation as well as the extensive literature on the topic. There are three central focus areas of the report, which will be condensed here in the executive summary: statistical estimates of the extent of shifting cultivation in Laos, an analysis of the GOL's shifting cultivation policies, and an annotated bibliography of 26 studies of shifting cultivation.

Most statistical estimates from independent researchers of the extent of shifting cultivation throughout the country are based upon census data of the number of households involved multiplied by average field size and average fallow length. The total extent of these estimates (including fallow areas) range from 1.4 to 2.5 million hectares (ha). The estimated population involved ranges from 1 to 1.9 million people. Estimates from government documents tend to be much smaller. The highest estimate of total area is 500,000 ha while the lowest is approximately 80,000 ha, although the latter is likely an estimation that does not include fallow areas. There are also estimates made using satellite imagery remote sensing methods and classifying land use and land cover change over time. The first of these was published in 1994 and estimated a total area of 4.8 million ha, but did not estimate the number of people involved. The most recent estimate using satellite imagery estimated a total extent of 6.5 million ha with 943,000 people involved. Although none of these methods are perfect, estimates made using remote sensing techniques are likely more accurate than those using census data. Census data is fraught with collection problems, especially for villages extensively conducting shifting cultivation in remote areas. Furthermore, it is risky to assume average field sizes and fallow lengths for the whole country.

The overarching policy of the Lao government related to shifting cultivation has largely remained the same over the past three decades, but some changes in approach can be seen in certain policy documents and have been confirmed by conversations with government authorities. Since 1975, slash and burn agriculture has been an important concern of the Lao government. The Lao government has consistently maintained a strict policy towards swidden cultivation, seeking to eradicate the practice altogether in favor of modern and sedentary forms of agricultural production. Shifting cultivation was perceived to be associated with low levels of productivity, poverty, deforestation, and environmental degradation. The main policy through which the government addressed the issue during this period was through resettlement of villages from upland to lowland areas. As a result of the 1989 National Forestry Conference, the government sought to reduce shifting cultivation and regulate villagers' agricultural practices in the uplands through forestland allocation. During the 1990s, the Land and Forest Allocation Program began in earnest, which was intended to be used as a mechanism to stabilize and eventually eradicate shifting cultivation. Other indirect policies such as resettlement, village consolidation, development village clusters, and focal sites were continually used to replace shifting cultivation with other types of agriculture and livelihood options.

Although the stabilization and ultimate eradication of shifting cultivation has remained at the center of the government's policy towards shifting cultivation, the methods and processes through which the policy is implemented has become more moderate over the last two decades, as can be seen in various policy documents. This has occurred in four important ways:

1. The government has re-oriented its highest priorities of upland development away from the reduction of shifting cultivation and toward ensuring food security and economic growth. These are now considered the two most important upland development goals.
2. Some types of shifting cultivation practices are acceptable, at least temporarily. What is termed 'rotational upland cultivation' is an accepted form of swiddening, whereby farmers rotate in a cycle within established boundaries of agricultural land, leaving enough time for proper fallow regrowth as a result of low population density and available secondary forest. Although this is not seen as the ideal form of cultivation, it is tolerated in cases where alternatives are not viable, but it still remains a temporary solution. Due to confusion between English and Lao terms, the concept of 'shifting cultivation' is often understood by GOL authorities to mean the pioneering type of shifting cultivation.
3. The government has increasingly emphasized achieving the goal of stabilizing shifting cultivation first before eventually eradicating the practice altogether. While the meaning of the term 'stabilization' is not completely clear, it can be understood as a stage lying somewhere between unrestricted swiddening and complete eradication and is likely viewed as a transition stage toward the latter. It likely means some form of controlled, sedentarized, and reduced shifting cultivation within agreed upon areas.
4. The government has increasingly recognized that policies related to shifting cultivation need to be implemented pluralistically, in order to take account for local variations in agro-ecological and socio-economic factors. It has increasingly been realized—partly as a result of numerous studies and conference conclusions over the years—that shifting cultivation is more appropriate in some areas than others. Policies should depend upon local biophysical and socio-economic factors, such as population density, ecological conditions, cultural practices, and potential alternative livelihoods.

The changes that have occurred in government policy concerning how the reduction of shifting cultivation should be implemented have been gradual, changing in some documents and not others. As a result, ambiguities continue to exist for outside observers as well as government authorities, as evidenced by different understandings during interviews. One area of confusion is that the government describes the implementation of its policies differently in documents intended for the international donor community than those meant to be used internally. Documents oriented toward the latter group reflect the changes in policy mentioned above, while those for the latter maintain stricter perspectives concerning how shifting cultivation should be reduced. These distinctions occur in language as well—for example, stabilization is a term that appears to mostly be used in English language documents, while the Lao versions always use the term eradication. One source of confusion within the documents concerns the meaning of 'shifting cultivation' in relationship to 'pioneering' and 'rotational' forms. In many of the documents, the term 'shifting cultivation' is used as a stand-in for 'pioneering shifting cultivation'. Therefore, when government documents call for the stabilization or eradication of shifting cultivation, it is not clear whether they mean all forms of swidden or only the pioneering

form. Another important source of ambiguity and confusion concerns the term ‘stabilization’. While it is clearly some form of restricted cultivation, it is not clear exactly in which ways it is restricted. There are three possible meanings. First, that it is the elimination of all forms of pioneering cultivation and the controlled use of rotational upland cultivation under agreed upon and titled areas with accepted cycle lengths. Second, stabilization may also mean a sedentarization of cultivation, making the practice more stable by reducing its mobility and movement. The third is that fallow lengths and the spatial extent of the practice are to be reduced. While the actual meaning in the documents likely involves all three, in practice it is often the third meaning that is implemented, restricting fallow cycles to three years as a result of LFAP.

The final section of the report provides an annotated bibliography of 26 studies on different aspects of shifting cultivation. Identified below are eleven major areas of agreement and common conclusion among the reviewed studies:

1. Since the late 1980s and early 1990s the Lao government has sought to achieve goals of upland biodiversity and forest conservation. The government has viewed shifting cultivation as an impediment to achieving such goals and thus these are two of the reasons behind the government’s policies to reduce and eventually eliminate shifting cultivation.
2. Multiple government policies, especially LFAP and resettlement, have placed significant pressure on swidden cultivators, which has in many documented cases increased household poverty levels when viable and successful alternatives are not available. Most problematic is that LFAP has reduced the amount of available agricultural land for upland farmers and as a result has reduced the length of the fallow period, which decreases rice yield and increases necessary labor time for weeding.
3. The policy of LFAP does not provide an appropriate policy space for shifting cultivation. First, this is because it does not allocate enough agricultural land to households. Second, the policy creates a distinction between agricultural and forest land. Since swidden cultivation is an agroforestry system, the separation of agriculture and forest land impedes its continuation.
4. The studies found that government policies related to shifting cultivation were implemented uniformly across the country without appropriately considering the particularities of each location. Although in principle government policy should account for local differentiation based upon biophysical attributes (soil type, slope, and forest type) and socio-economic variables (population density, availability of alternative livelihoods, and type of shifting cultivation system), the reviewed literature found that in most cases this did not occur.
5. Apart from ‘push’ factors, such as government land and forest policy, there are a number of ‘pull’ factors influencing farmers to abandon shifting cultivation and adopt sedentary agricultural production. One such important factor is the lure of increased incomes resulting from cash crop production. The other is the changing mindsets of rural youth, influenced by regional mass media as well as their educational and working experience in urban areas.
6. Increased population growth reduces the potential for sustainable shifting cultivation. In many cases, however, population increases are partly a result of government policies,

such as resettlement and focal site programs, that have created higher density populations in certain areas.

7. Swidden cultivation should not be eliminated in cases where no viable alternatives are available. In such situations, eliminating shifting cultivation will not necessarily prompt villagers to create alternatives and in many cases influences them to clear forest illegally. Alternatives should already be available and proved successful in that location prior to the transition.
8. Under low population densities when fallow lengths are long enough (approximately 15 years), shifting cultivation can be environmentally sustainable and even possibly carbon neutral. It can also be economically productive, providing enough rice for subsistence livelihoods. Additionally, some NTFPs are more prevalent in fallow areas of shifting cultivation systems than old growth forests.
9. All ethnic groups in Laos practice shifting cultivation, although it is more predominant among upland groups, and the sustainability of the system is more dependent upon bio-physical and socio-economic factors and policy constraints than the ethnic group.
10. There are few alternative forms of agricultural systems that are more appropriate to upland areas than shifting cultivation, especially alternatives that seek to increase productivity. Alternatives such as terracing, perennial tree crops, cash cropping, and increasing livestock and fisheries production have significant potential but carry risks and are often only able to be implemented in a limited fashion, in specific areas, and in addition to other components of upland systems. Livestock production and agroforestry are thought to be the most viable upland systems, especially when integrated with sustainable upland rotational agriculture.
11. The most promising approaches for upland systems are those that work with rather than against rotational upland cultivation systems in cases where such systems are sustainable. However, such improvements must be socio-economically and culturally appropriate for farmers, who must want to adopt such practices for them to be successful.

ບົດສະຫຼຸບ

ບົດລາຍງານນີ້ໄດ້ກວມເອົາປະເດັນທີ່ຍັງມີຄວາມສັບສົນຂອງການເຮັດໄຮ່ທີ່ໄດ້ຍົກຂຶ້ນມາສົນທະນາໃນກອງປະຊຸມໂຕະມົນໃນປີ 2011 ລະຫວ່າງລັດຖະບານລາວ ແລະ ອົງການສາກົນທີ່ໃຫ້ທຶນ. ຜົນໄດ້ຮັບ ຂອງກອງປະຊຸມມີດັ່ງນີ້: ກອງປະຊຸມໄດ້ມອບໃຫ້ແກ່ ກະຊວງກະສິກຳ - ປ່າໄມ້ ແລະ ຂະແໜງການ ຮ່ວມໄດ້ແກ່ ກຸ່ມທີ່ເຮັດວຽກກະສິກຳ ແລະ ພັດທະ າຊີ ະບົດ (SWG-ARD): ຜົນ ໄດ້ຮັບທີ່ໄດ້: ການ ຄຸ້ມຄອງທີ່ດິນກະສິກຳເພື່ອຮັບປະກັນໃຫ້ຄົນລາວ ທຸກຄົນໂດຍສະເພາະຜູ້ທີ່ດຳລົງຊີວິດຢູ່ພື້ນທີ່ເຂດພູດອຍ ສາມາດນຳໃຊ້ທີ່ດິນກະສິກຳໂດຍສະເພາະການມີພື້ນທີ່ໄຮ່. ການ ຄົ້ນຄວ້ານີ້ໄດ້ມອບໝາຍໃຫ້ມີການເບິ່ງຄືນ ະໂຍບາຍຂອງລັດຖະບາ ປະຈຸບັນຕໍ່ກັບການເຮັດໄຮ່ເຊັ່ນດຽວກັນກັບ ເອກະສາ ໃນຫົວຂໍ້ດັ່ງກ່າວ. ໃນບົດ ລາຍງານນີ້ມີສາມຈຸດທີ່ໄດ້ເອົາໃຈໃສ່ເປັນຕົ້ນຕໍ, ເຊິ່ງຈະເວົ້າຫຍໍ້ໃນ ບົດສະຫຼຸບນີ້: ກາ ປະເມີ ສະຖິຕິ ກາ ເຮັດໄຮ່ໃ ລາວ, ກາ ວິເຄາະ ະໂຍບາຍຂອງລັດຖະບາ ຕໍ່ກາ ເຮັດໄຮ່ ແລະ ກາ ອະທິບາຍ ຈາກກາ ສຶກສາ 25 ເອກະສາ ກ່ຽວກັບກາ ເຮັດໄຮ່.

ການປະເມີນສະຖິຕິທັງໝົດຈາກນັກຄົ້ນຄວ້າຂອງການເຮັດໄຮ່ໃນທົ່ວປະເທດແມ່ນອີງໃສ່ຂໍ້ມູນການສຳຫຼວດຂອງຈຳນວນຄອບຄົວທີ່ມີສ່ວນຮ່ວມຫຼາຍ ໂດຍສະເລ່ຍຂະໜາດຂອງໄຮ່ ແລະ ສະເລ່ຍໄລຍະເວລາ ທີ່ປະເປັນປ່າເຫຼົ່າ. ກາ ປະເມີ ເຫຼົ່ານີ້ກວມເອົາເນື້ອທີ່ທັງໝົດ (ລວມທັງປ່າເຫຼົ່າ) 1.4 ຫາ 2.5 ລ້າ ເຮັກຕາ (ຮຕ). ການປະເມີນ ປະຊາກອນເລີ່ມຈາກ 1-1.9 ລ້າ ຄີ . ກາ ປະເມີ ຈາກ ເອກະສາ ຂອງລັດຖະບາ ແມ່ ມີໜ້ອຍກວ່າ. ການ ປະເມີນເນື້ອທີ່ສູງສຸດແມ່ນ 500,000 ເຮັກຕາ ຂະນະທີ່ຕໍ່າສຸດແມ່ນ 80,000 ເຮັກຕາ, ເຖິງແມ່ນວ່າການປະເມີນ ລ່າສຸດບໍ່ໄດ້ກວມເອົາພື້ນທີ່ປ່າເຫຼົ່າ ແລະ ກໍ່ມີກາ ປະເມີ ໂດຍ ກາ ໃຊ້ ພາບຖ່າຍທາງດາວທຽມ ໃນການຈັດແບ່ງ ການນຳໃຊ້ທີ່ດິນ ແລະ ການປ່ຽນແປງການ ປົກຄຸມຂອງດິນແຕ່ລະໄລຍະ. ການຂຽນຄັ້ງທຳອິດແມ່ນປີ 1994 ແລະ ປະເມີນເນື້ອທີ່ທັງໝົດຂອງ 4.8 ລ້ານເຮັກຕາ, ແຕ່ບໍ່ໄດ້ ປະເມີນຈຳນວນຂອງ ພົນລະເມືອງເຂົ້ານຳ. ການປະເມີນ ລ່າສຸດໂດຍການໃຊ້ພາບຖ່າຍທາງດາວທຽມ ປະເມີນ ເນື້ອທີ່ທັງໝົດ ໃ 6.5 ລ້າ ເຮັກຕາ ກັບ 943,000 ຄົນທີ່ມີສ່ວນ ກ່ຽວຂ້ອງ. ເຖິງແມ່ນວ່າວິທີເຫຼົ່ານີ້ ຈະບໍ່ສົມບູນ, ການ ປະເມີນທີ່ໃຊ້ເຕັກນິກພາບຖ່າຍທາງດາວ ທຽມແມ່ ຖືວ່າມີຄວາມ ຖືກຕ້ອງກວ່າ ກາ ຳ ໃຊ້ຂໍ້ມູ ສຳຫຼວດ. ຂໍ້ມູ ກາ ສຳຫຼວດມີຂໍ້ບົກຜ່ອງຍ້ອ ບັ ຫາກາ ເກັບກຳຂໍ້ມູ , ໂດຍສະເພາະ ແມ່ນບ້ານ ທີ່ດຳເນີນການເຮັດໄຮ່ຢູ່ເຂດຫ່າງໄກສອກຫຼີກ. ຍິ່ງໄປກວ່ານັ້ນ, ມັນມີຄວາມສ່ຽງທີ່ຈະຄາດ ຄະເນຂະໜາດ ຂອງໄຮ່ໂດຍສະເລ່ຍ ແລະ ການປະເປັນປ່າເຫຼົ່າໃນທົ່ວປະເທດ. ະໂຍບາຍຂອງລັດຖະບາ ລາວ ກ່ຽວກັບ ການເຮັດໄຮ່ ໄດ້ຜ່ານການປ່ຽນແປງທີ່ສຳຄັນ ເລີ່ມແຕ່ປີ 1995. ຕັ້ງແຕ່ໄດ້ຮັບການບົດປ່ອຍ, ການກະສິກຳ ແລະ ການເຮັດ ໄຮ່ໄດ້ເຮັດ ໃຫ້ລັດຖະບາ ລາວມີຄວາມເປັ ຫ່ວງຢ່າງໜັກ. ໃ ໄລຍະ 10 -15 ປີທຳອິດຂອງກົດລະບຽບ, ລັດຖະບາ ລາວໄດ້ ຮັກສາຄວາມເຄັ່ງຄັດ, ແລະ ມຸ່ງໝັ້ນໃ ະໂຍບາຍຕໍ່ກາ ເຮັດໄຮ່, ເພື່ອຢຸດຕິກິດຈະກຳກາ ເຮັດໄຮ່ພ້ອມດຽວກັນນັ້ນກໍ່ມີກາ ເັ ພ້ອມກັບກາ ຜະລິດກະສິກຳແບບທັ ສະໄໝ ແລະ ເປັ ແບບອຸດສາຫະກຳ. ກາ ເຮັດໄຮ່ແມ່ ມີຄວາມເຂົ້າໃຈວ່າມີລະດັບ ກາ ຜະລິດຕຳ່, ມີຄວາມທຸກຍາກ, ເປັ ກາ ທຳລາຍປ່າໄມ້ ແລະ ເຮັດໃຫ້ສິ່ງແວດລ້ອມຊຸດໂຊມ. ກາ ປະຕິບັດ ະໂຍບາຍຂອງ ລັດຖະບາ ຕໍ່ປະເດັ ດັ່ງກ່າວໃ ໄລຍະນີ້ແມ່ ກາ ຍົກຍ້າຍບ້າ ຈາກເຂດພູດອຍມາສູ່ທົ່ງພຽງ. ລັດຖະບານໄດ້ຮັບເອົາ ະໂຍບາຍທີ່ມີຄວາມສັບສົ ກວ່າ ໃ ປີ 1989 ທີ່ກອງປະຊຸມປ່າໄມ້ແຫ່ງຊາດ, ວາງລະບຽບໃຫ້ຊາວບ້າ ປະຕິບັດກາ ກະສິກຳຢູ່ ເຂດພູດອຍໂດຍກາ ມອບດີ ມອບປ່າ ໃ ລະຫວ່າງປີ 1990, ະໂຍບາຍຂອງກາ ມອບດີ ມອບປ່າແມ່ ມີຄວາມເຄັ່ງຄັດ, ກາ ທີ່ຈະເຮັດໃຫ້ມີກາ ປະຕິບັດແບບຄົງທີ່ ແລະ ມີກາ ຢຸດຕິກາ ເຮັດໄຮ່ໃ ທີ່ສຸດ. ະໂຍບາຍອື່ນທີ່ບໍ່ກ່ຽວຂ້ອງໂດຍກົງເຊັ່ນ: ກາ ຍົກຍ້າຍຖິ່ນຖາ , ກາ ເຕົ້າໂຮມບ້າ , ກຸ່ມບ້າ ພັດທະ າ ແລະ ເຂດຈຸດສຸມ ກໍ່ແມ່ ເອົາມາແທ ທີ່ກາ ເຮັດໄຮ່ ດ້ວຍກາ ກະສິກຳແບບອື່ນ ແລະ ເປັ ທາງເລືອກຂອງກາ ດຳລົງຊີວິດ.

ເຖິງແມ່ນວ່າ ທີ່ສຸດກາ ຢຸດຕິກາ ເຮັດໄຮ່ຍັງຄົງຢູ່ໃນ ະໂຍບາຍຂອງລັດຖະບາ ຕໍ່ກັບກາ ເຮັດໄຮ່, ແ ວທາງ ໄດ້ມີການປ່ຽນແປງເຊິ່ງບໍ່ເຄັ່ງຄັດປານໃດໃນສອງທົດສະວັດຜ່ານມາ. ກາ ປ່ຽ ແປງດັ່ງກ່າວ ມີສິ່ງປະເດັນທີ່ສຳຄັນ .

1. ລັດຖະບາ ໄດ້ຫັ ປ່ຽ ແ ວທາງກາ ພັດທະ າເຂດພູດອຍໃຫ້ເປັ ບຸລິມະສິດເຊິ່ງຈະເຮັດໃຫ້ມີການຫຼຸດຜ່ອນກາ ເຮັດໄຮ່ໄປສູ່ກາ ຄຳປະກັ ສະບຽງອາຫາ ແລະ ເຮັດໃຫ້ເສດຖະກິດເຕີບໂຕ. ສອງປະເດັ ນີ້ຖືວ່າມີຄວາມ ສຳຄັນ ຫຼາຍ ຕໍ່ຈຸດມຸ່ງໝາຍຂອງກາ ພັດທະ າເຂດພູດອຍ, ແລະ ຖ້າມີສະຖາ ະກາ ທີ່ຮູບແບບ ຂອງກາ ເຮັດໄຮ່ ໄດ້ເຮັດໃຫ້ຊີວິດກາ ເປັ ຢູ່ຂອງຊາວບ້າ ດີກໍ່ຄວ ມີກາ ອະ ຸຍາດໃຫ້ເຂົາເຈົ້າຈີ ກວ່າຈະມີທາງເລືອກອື່ນມາແທນ.
2. ບາງຮູບແບບ ຂອງການເຮັດໄຮ່ແມ່ນສາມາດຍອມຮັບໄດ້, ຢ່າງໜ້ອຍ ໄລຍະຊົ່ວຄາວ. ການເຮັດກະສິກຳແບບ ຫຼື ງູ ຢູ່ເຂດພູດອຍ ແມ່ນຮູບແບບທີ່ມີການຖາງ ແລະ ຈູດ, ຊາວ ກະສິກອນໝູນວຽນ ແລະ ປະ ໃຫ້ເວລາປ່າເຫຼົ່າ ພຽງພໍຕໍ່ການພັ້ນຄືນ ເນື່ອງຈາກມີຄວາມໜ້າແໜ້ນປະຊາກອນຕ່ຳ ແລະ ບ່ອນທີ່ມີປ່າ ໄມ້ຂຶ້ນສອງ. ເຖິງແມ່ນວ່າ, ສິ່ງນີ້ບໍ່ຖືວ່າເປັນຮູບແບບ ຂອງການປູກຝັງ, ແຕ່ໄດ້ມີການອະນຸຍາດໃນກໍລະນີ ທີ່ບໍ່ມີທາງເລືອກອື່ນ, ແຕ່ກໍ່ຍັງຄົງເປັນທາງອອກຊົ່ວຄາວ.
3. ລັດໄດ້ເພີ່ມຄວາມສິ ໃຈ ຕໍ່ກາ ເຮັດໄຮ່ຄົງທີ່ ກວ່າກາ ຢຸດຕິກາ ເຮັດໄຮ່ໃ ຈຸດໝາຍຫຼັກ. ໃ ຂະ ະທີ່ຄວາມໝາຍ ຂອງຄຳວ່າ ຄົງທີ່ ຍັງບໍ່ຈະແຈ້ງ, ມີ ຢູ່ໃ ລະຫວ່າງຄວາມໝາຍທີ່ວ່າ ທີ່ບໍ່ເຄັ່ງຄັດໃ ກາ ເຮັດໄຮ່ແຕ່ກໍ່ບໍ່ແມ່ ກາ ຢຸດຕິ ຢ່າງສິ້ນເຊີງ ແລະ ກໍ່ຈະສືບຕໍ່ໄປ. ທັງໝົດນີ້ເບິ່ງຄືວ່າ, ຄວາມໝາຍຂອງແບບກາ ຄວບຄຸມ ແລະ ກົດລະບຽບຂອງກາ ເຮັດໄຮ່ແມ່ ຢູ່ໃ ກາ ເຫັ ດີເຊິ່ງຂຶ້ນກັບພື້ນທີ່.
4. ລັດຖະບາ ໄດ້ຮັບເອົາຫຼາຍແ ວທາງ ະໂຍບາຍອີກ. ແຕ່ກ່ອ ແ ວທາງຂອງລັດຖະບາ ແມ່ ມີແບບດຽວ, ະໂຍ ບາຍອີ ດຽວທີ່ຄວ ຳໃຊ້ຢູ່ເຂດພູດອຍທັງໝົດໃ ທົ່ວປະເທດ. ເຖິງແ ວໃດກໍ່ຕາມ, ລັດຖະບາ ມີຄວາມເຂົ້າ ໃຈຫຼາຍຂຶ້ນຈາກຜີ ຂອງຫຼາຍກາ ຄື ຄຳວາ ແລະ ກາ ປະຊຸມສະຫຼຸບໝົດປີວ່າກາ ເຮັດໄຮ່ໃ ບາງເຂດແມ່ ມີຄວາມ ໝາຍສົມກວ່າເຂດອື່ນ. ນະໂຍບາຍຄວນຂຶ້ນກັບສິ່ງແວດລ້ອມຂອງທ້ອງຖິ່ນ ແລະ ພາກສ່ວນເສດຖະກິດ-ສັງຄົມ, ເຊັ່ນ: ຄວາມ ໜ້າແໜ້ ຂອງປະຊາກອ , ເງື່ອນໄຂຂອງ ິເວດ, ກາ ປະຕິບັດວັດທະ ະທຳ ແລະ ແ ວໂ ມທາງເລືອກຂອງ ກາ ດຳລົງຊີວິດ.

ເຖິງແມ່ນວ່າສາມທົດສະວັດທີ່ຜ່ານມາໄດ້ມີກາ ປ່ຽ ແປງທີ່ສຳຄັນ ໃ ະໂຍບາຍຂອງລັດຖະບາ , ແຕ່ກໍ່ບໍ່ໄດ້ປ່ຽ ແບບຊ້າໆ, ມີກາ ປ່ຽ ແປງໃ ບາງເອກະສາ ແຕ່ບາງເອກະສາ ພັດບໍ່ໄດ້ປ່ຽ . ຜີ ສຸດທ້າຍແມ່ , ເປົ້າໝາຍຍັງສູງເກີ ໄປ ແລະ ກາ ທີ່ ບໍ່ກົງກັ ຍັງຄົງສືບຕໍ່. ສິ່ງທີ່ບໍ່ກົງກັ ກໍ່ແມ່ ລັດຖະບາ ມີ ະໂຍບາຍທີ່ແຕກຕ່າງກັ ຕໍ່ກັບອົງກາ ສາກີ ທີ່ໃຫ້ທີ ກັບອົງກາ ພາຍ ໃ ລະຫວ່າງກະຊວງ ແລະ ພະແ ກຕ່າງໆ. ເອກະສາ ທີ່ ປ່ຽ ໄປທາງປະເດັນທີ່ສອງທີ່ລົງຜີ ກະທົບຕໍ່ກາ ປ່ຽ ແປງ ະໂຍບາຍ ທີ່ກ່າວມາຂ້າງເທິງ, ໃ ຂະ ະທີ່ປະເດັນທີ່ສອງຍັງຮັກສາຄວາມເກົ່າແກ່ກວ່າ, ມີທັດສະ ະທີ່ມຸ່ງໝັ້ນກວ່າ, ຄວາມແຕກຕ່າງເຫຼົ່ານີ້ ເກີດຂຶ້ນໃ ພາສາເຊັ່ນດຽວກັ ຕົວຢ່າງ, ຄຳວ່າ “ຄົງທີ່” ແມ່ນເຫັ ໃຊ້ແຕ່ໃ ເອກກະສານທີ່ເປັ ພາສາອັງກິດ ໃ ຂະ ະທີ່ພາສາ ລາວແມ່ ໃຊ້ຄຳວ່າກຳຈັດ. ແຫຼ່ງທີ່ມາຂອງຄວາມສັບສົ ໃ ເອກະສາ ກ່ຽວກັບຄວາມໝາຍ ຂອງກາ ເຮັດໄຮ່ ແມ່ ລະຫວ່າງ ໄຮ່ ເລື່ອນລອຍ ແລະ ໄຮ່ໝູ ງູ . ຢູ່ໃ ຫຼາຍເອກະສາ , ກາ ເຮັດໄຮ່ແມ່ ໃຊ້ສຳລັບ ໄຮ່ເລື່ອນລອຍ. ເພາະສະນັ້ນເມື່ອເອກະສາ ຂອງລັດຖະບາ ເວົ້າວ່າກາ ຄົງທີ່ ຫຼື ການກຳຈັດກາ ເຮັດໄຮ່ ແມ່ ບໍ່ຈະແຈ້ງວ່າເພິ່ນ ໝາຍເຖິງແບບທັງໝົດຂອງກາ ເຮັດໄຮ່ ຫຼື ພຽງແຕ່ແບບເລື່ອນລອຍ. ແຫຼ່ງຄວາມສັບສົ ທີ່ສຳຄັນ ອີກອັນໜຶ່ງ ກ່ຽວກັບ ການຄົງທີ່. ໃນຂະ ະທີ່ມີຄວາມຈະແຈ້ງວ່າແມ່ ກາ ປູກຝັງທີ່ມີກາ ຈຳກັດ, ບໍ່ຈະແຈ້ງວ່າມີກາ ຈຳກັດດ້າ ໃດ. ມີສາມຄວາມ ໝາຍທີ່ອາດເປັ ໄປໄດ້. ທຳອິດແມ່ ກາ ລົບ ລ້າງຮູບແບບກາ ເຮັດໄຮ່ ລະບົບ ໝູນວຽນ, ເລື່ອນລອຍທັງໝົດ ແລະ ກາ ຄວບຄຸມ ກາ ເຮັດໄຮ່ລະບົບໝູ ງູ ຢູ່ເຂດພູ ດອຍພາຍໃຕ້ກາ ເຫັ ດີທີ່ຂຶ້ນກັບພື້ນທີ່ ທີ່ມີກາ ຍອມຮັບໄລຍະຂອງກາ ຫຼື ງູ . ປະເດັ ທີ່ສອງແມ່ , ກາ ຄົງທີ່ໝາຍເຖິງ ກາ ເຮັດໄຮ່ໃສ່ພື້ນທີ່ດຽວ, ເຮັດໃຫ້ກາ ປະຕິບັດມີຄວາມຄົງທີ່ໂດຍຫຼຸດຜ່ອນກາ ເຄື່ອນຍ້າຍ. ປະເດັນທີ່ສາມ, ແມ່ ໄລຍະທີ່ປະ ໃຫ້ປ່າເຫຼົ່າ ແລະ ຂະໜາດຂອງໄຮ່ຫຼຸດລົງ. ໃ ຂະ ະທີ່ຄວາມໝາຍທີ່ແທ້ຈິງໃ ເອກະສາ ມີທ່າທີ່ວ່າຈະກວມເອົາທັງສາມ

ປະເດີ , ໃ ກາ ປະຕິບັດສ່ວ ຫຼາຍແມ່ ໃຊ້ຄວາມໝາຍທີ່ສາມ, ມີກາ ຈຳກັດກາ ໝູ ວງ ແລະ ປະໃຫ້ປ່າເຫຼົ່າສາມປີເຊັ່ນ: ກາ ປະຕິບັດກາ ມອບດີ ມອບປ່າ.

ພາກສຸດທ້າຍຂອງບົດລາຍງາ ສະເໜີກ່ຽວກັບກາ ສຶກສາ 25 ເອກະສາ ທີ່ມີມຸມມອງແຕກຕ່າງກັນ ຕໍ່ກາ ເຮັດໄຮ່ ແລະ ພົບວ່າມີ 9 ປະເດີນທີ່ມີຄວາມຄ້າຍຄືກັນ ຈາກກາ ສຶກສາເຊິ່ງສາມາດສະຫຼຸບໄດ້ດັ່ງນີ້:

1. ຫຼາກຫຼາຍ ະໂຍບາຍຂອງລັດຖະບາ , ໂດຍສະເພາະແມ່ ກາ ມອບດີ ມອບປ່າ ແລະ ກາ ຍົກຍ້າຍຖິ່ນຖາ , ໄດ້ມີ ຄວາມກົດດັນ ຕໍ່ຊາວໄຮ່ຫຼາຍ. ສ່ວ ໃຫຍ່ໃ ຂະບວ ກາ ດັ່ງກ່າວໄດ້ສ້າງຄວາມທຸກຈິ ເມື່ອບໍ່ມີທາງເລືອກອື່ນ. ບັນຫາ ທັງໝົດແມ່ ກາ ຫຼຸດລົງຂອງໄລຍະທີ່ປະໃຫ້ປ່າເຫຼົ່າ, ເຊິ່ງເຮັດໃຫ້ຜີ ເກັບກ່ຽວເຂົ້າ ຫຼຸດລົງ ແລະ ເພີ່ມແຮງງາ ໃ ກາ ເສຍຫຍ້າ.
2. ກາ ມອບດີ ມອບປ່າບໍ່ໄດ້ສະໜອງ ະໂຍບາຍທີ່ມີຄວາມເໝາະສົມສຳລັບກາ ເຮັດໄຮ່. ທຳອິດກໍ່ເພາະວ່າບໍ່ໄດ້ມອບ ດີ ກະສິກຳພຽງພໍໃຫ້ຄອບຄົວ ແລະ ປະເດີນທີ່ສອງແມ່ ຍ້ອ ເກີດກາ ຈຳແ ກດີ ກະສິກຳ ແລະ ດີ ປ່າໄມ້. ກາ ເຮັດໄຮ່ແມ່ ລະບົບກະສິກຳປ່າໄມ້ ແລະ ແຍກດີ ກະສິກຳ ແລະ ປ່າປ້ອງກັນ ລະບົບດັ່ງກ່າວກໍ່ຍັງດຳເນີນຕໍ່ໄປ.
3. ະໂຍບາຍຂອງລັດຖະບາ ກ່ຽວກັບກາ ເຮັດໄຮ່ແມ່ ຢູ່ໃ ຮູບແບບດຽວກັນ ທົ່ວປະເທດ ແລະ ບໍ່ໄດ້ໃສ່ໃຈພຽງພໍຕໍ່ແຕ່ ລະພື້ນທີ່ສະເພາະ. ເຊິ່ງມີຄວາມຮຽກຮ້ອງໃຫ້ມີການແຍກຄວາມແຕກຕ່າງທີ່ອີງໃສ່ລັກສະ ະຕ່າງໆ ເຊັ່ນ: ຊະນິດຂອງ ດີ , ຄວາມຄ້ອຍຊ້ , ປະເພດປ່າໄມ້ ແລະ ເສດຖະກິດ-ສັງຄົມ ເຊັ່ນ: ຄວາມໜ້າແໜ້ ຂອງປະຊາກອ , ກາ ທີ່ມີທາງ ເລືອກໃ ກາ ດຳລົງຊີວິດ ແລະ ຊະ ິດຂອງລະບົບກາ ເຮັດໄຮ່.
4. ກາ ເພີ່ມຂຶ້ນຂອງປະຊາກອ ເຮັດໃຫ້ແ ວໄ້ ມຂອງກາ ເຮັດໄຮ່ແບບຍີ ຍົງຫຼຸດລົງ, ແຕ່ວ່າໃ ຫຼາຍກໍ່ລະ ັກາ ເພີ່ມ ຂຶ້ນຂອງປະຊາກອ ດັ່ງກ່າວແມ່ ຍ້ອ ກາ ກະຕູ້ ຈາກ ະໂຍບາຍຂອງລັດຖະບາ ທີ່ເຮັດໃຫ້ປະຊາກອ ເພີ່ມຂຶ້ນໃ ບາງເຂດ.
5. ກາ ເຮັດໄຮ່ບໍ່ຄວ ມີກາ ກຳຈັດຖ້າບໍ່ມີທາງເລືອກອື່ນ ໃນສະຖາ ະກາ ແບບນີ້, ກາ ກຳຈັດກາ ເຮັດໄຮ່ຈະບໍ່ກະຕູ້ ໃຫ້ຊາວບ້າ ສ້າງທາງເລືອກໃໝ່. ທາງເລືອກອື່ນຕ້ອງມີໄວ້ກ່ອ ພ້ອມທັງ ຮັບປະກັນ ຄວາມສຳເລັດໃ ພື້ນທີ່ກ່ອ ໃຫ້ຊາວບ້າ ຳໄປປະຕິບັດ.
6. ພາຍໃຕ້ຄວາມໝາແໜ້ ປະຊາກອ ຕ່ຳ ເມື່ອປ່າເຫຼົ່າປະດີ ພຽງພໍ ປະມາ 15 ປີ ກາ ເຮັດໄຮ່ສາມາດເຮັດໃຫ້ສິ່ງ ແວດລ້ອມມີຄວາມຍີ ຍົງ ແລະ ກາກບອນມີຄວາມສົມດູນຄືເກົ່າ. ສາມາດເຮັດໃຫ້ເສດຖະກິດດີ, ສະໜອງເຂົ້າ ພຽງພໍຕໍ່ກາ ດຳລົງຊີວິດ. ຍິ່ງໄປກວ່ານັ້ນ, ເຄື່ອງປ່າຂອງດົງບາງຊະນິດແມ່ນເກີດໃນພື້ນທີ່ປ່າເຫຼົ່າຈາກການເຮັດໄຮ່ ກວ່າກາ ເກີດຢູ່ໃ ປ່າແກ່.
7. ຊົນເຜົ່າທັງໝົດໃນລາວແມ່ນເຮັດໄຮ່, ເຖິງວ່າຈຳນວນການເຮັດໄຮ່ມີຫຼາຍກວ່າໃນກຸ່ມເຂດພູດອຍ ແລະ ລະບົບທີ່ເຮັດ ໃຫ້ຍືນຍົງແມ່ນຂຶ້ນຢູ່ກັບຊີວະກາຍຍະພາກ ແລະ ທາງເສດຖະກິດ-ສັງຄົມ ແລະ ຂໍ້ບັງຄັບກົດໝາຍຫຼາຍກວ່າກຸ່ມ ຊົນເຜົ່າ.
8. ທາງເລືອກຂອງລະບົບກະສິກຳທີ່ເໝາະສົມກັບເຂດພູດອຍກວ່າການເຮັດໄຮ່ແມ່ນມີໜ້ອຍໂດຍສະເພາະທາງເລືອກທີ່ ເຮັດໃຫ້ຜີ ຜະລິດເພີ່ມຂຶ້ນ. ທັງໝົດທາງເລືອກເຊັ່ນ: ນາຂຶ້ນໄດ, ການປູກຕົ້ນໄມ້ໃຫຍ່, ການປູກພືດເສດຖະກິດ, ການ ເພີ່ມສັດລ້ຽງ. ການຍົກຍ້າຍຖິ່ນຖານເບິ່ງຄືວ່າຈະມີ ຄວາມເປັນໄປໄດ້ແຕ່ມີຄວາມສ່ຽງຫຼາຍ ແລະ ສ່ວ ຫຼາຍ ສາມາດປະຕິບັດພຽງແຕ່ໃ ແບບກາ ຈຳກັດ.
9. ແນວທາງທີ່ອາດນຳໄປສູ່ຜົນສຳເລັດໄດ້ກວ່າໝູ່ສຳລັບລະບົບຢູ່ເຂດພູດອຍແມ່ນລະບົບທີ່ຄຸ້ນກັນກັບການເຮັດໄຮ່ ກວ່າການຂັດກັນກັບລະບົບການເຮັດໄຮ່ແບບໝູນວງນ. ເຖິງແນວໃດກໍ່ຕາມ, ການ ບັບປຸງດັ່ງກ່າວຕ້ອງມີຄວາມ ເໝາະສົມກັບເສດຖະກິດ-ສັງຄົມ ແລະ ວັດທະນະທຳ, ການຍອມຮັບ ການປະຕິບັດດັ່ງກ່າວຈະເຮັດໃຫ້ເຂົາເຈົ້າມີຊີວິດ ການເປັນຢູ່ທີ່ດີຂຶ້ນ.

1. Introduction

1.1 Swidden Cultivation in Laos and Southeast Asia

Slash-and-burn, shifting cultivation, or swidden cultivation has been an important part of agricultural systems and rural livelihoods in mountainous regions of Laos and Southeast Asia for centuries. However, since World War II, they have been rapidly changing throughout the region, experiencing a significant decline due to demographic change, pressures from the state, and economic transformations (Fox *et al.* 2009). Many Southeast Asian governments have sought to rid their countries of what is often seen as a backward form of cultivation. GOL policies have also been concerned with stabilizing and eventually eliminating shifting cultivation.

Since 1975, the Lao government has enacted a broad set of policies that have sought to stabilize and eventually eradicate shifting cultivation practices. Such practices have often been viewed as environmentally unsustainable and unproductive, hindering rural development and the economic development of the country as a whole. However, as these policies have been implemented over the past three decades, resulting in varying levels of both success and criticism, the GOL's approach has changed in subtle and gradual ways. Swidden cultivation, in its rotational, stabilized form, is no longer the central target of government policy as it previously was. Government policies are increasingly focused on food security in upland areas, with the stabilization and eradication of shifting cultivation as a secondary goal. MAF policy includes an important space for upland rice production, but it intends to transform upland production from a shifting to a sedentary system. For a rotational upland cultivation system to fit within the current GOL approach towards shifting cultivation, it would have to be a system that is suitable for the uplands but is also environmentally sustainable.

One example of such a change in perspective can be seen in the dissertation of Dr. Phouang Parisak Pravongviengkham, the current Vice-Minister of MAF. One section stands out in particular: "It is the major assumption of this study that shifting cultivation practices cannot be reduced or even stabilized through drastic interventions. This is an unrealistic intervention approach which has not proven to be successful in the past. Specific development strategies for the uplands of Laos should take into account the fact, that *shifting cultivation is still an integral part of upland agriculture*. However, strategies for upland and shifting cultivation will have to focus on the improvement of agricultural systems which will put an end to uncontrolled and unsustainable slash-and-burn practices in a well-managed framework" (Pravongviengkham 1998: 62, original emphasis).

Opening up the topic of shifting cultivation for discussion in Laos is also important within the current international policy environment focused on preserving forest ecosystems for the purpose of storing carbon and mitigating global climate change. Reducing Emissions from Deforestation and Forest Degradation (REDD+) is a mechanism for achieving such goals, creating a financial value for the carbon stored in forests, thus offering an incentive for developing countries to reduce emissions resulting from deforestation and invest in low-carbon paths of sustainable development. There is still little known about the ways in which REDD+ policies will interact

with swidden land use systems, particularly how such systems affect net carbon exchange (Fujisaki 2012). Research conducted by Fox *et al.* (2012) finds that if shifting cultivation systems are sustainable with long rotational cycles then they tend to be either carbon neutral or even carbon positive. However, as is shown throughout the report, there are many cases throughout Laos where the sustainability of swidden systems is restricted due to a variety of different factors. Even if there is potential for swidden cultivation to positively contribute to REDD+, there would still be many complicated issues to deal with concerning land and forest tenure, biomass and carbon measurements, and equitable payment processes.

Although the GOL's policy approach toward shifting cultivation has largely remained the same over the past few decades, changes within some policy documents and the ways in which some government authorities currently discuss the issue has created confusion among outside observers concerning the exact position that the government currently takes and how the government currently seeks to implement its policies and address the issue of shifting cultivation. Therefore, one of the purposes of this report is to examine GOL policy on shifting cultivation to analyze these ambiguities and gaps in understanding. The impetus for this report came from the Round Table Implementation Meeting in 2011 (see terms of reference in appendix for more information), where the issue of shifting cultivation was brought up. The 'Road Map' for the 2012 meeting consisted of the following task: *#8 Agricultural land management to ensure all Lao people especially those [who] are living in upland areas can have access to agricultural land particularly relevant to the area of slash and burn agriculture.* This task was assigned to MAF and the Co-chairs of the Sector Working Group on Agriculture and Rural Development (SWG-ARD). The purpose of this report is to address this task by conducting a desk study that examines the extensive literature on the topic to distill common lessons.

1.2 Methods

As a desk study, the methods used are mostly a review of secondary literature. There are two types of documents reviewed. The first is government documents, including decrees, laws, strategies, plans, and instructions. The government documents chosen are those that best represent the government's strategy toward shifting cultivation over time. Lao versions of government documents were examined in comparison to the English versions in order to investigate differences in language and meaning. The second is studies on shifting cultivation, which includes development reports, conference papers, and scholarly, peer-reviewed articles. These studies examine a wide range of topics and come from a diverse set of disciplinary backgrounds, ranging from ecology to anthropology. Out of the 26 studies summarized in the annotated bibliography, 21 were pre-chosen in the terms of reference. Included within this set of studies is the doctoral dissertation of the current Dr. Parisak, the results of which are also highlighted throughout the rest of the study. Five additional studies were chosen to round out the selection to make it more representative of the variety of issues related to shifting cultivation.

A number of discussions and interviews were also held in order to cross-check and inform the results of the study. Discussions were held with two international development professionals with extensive expertise on the issue of shifting cultivation. Interviews were also conducted with six government officials in various departments of MAF (NAFRI, DAEC) and MONRE (DLUP,

DCCDM). The clarifications and additional information that resulted from such discussions are inserted into the relevant portions of the text throughout the report.

2. Statistics of Shifting Cultivation in Laos

Despite the large number of studies that have been conducted on the topic of shifting cultivation in Laos over the past three decades, very few have been able to quantify the extent of the phenomenon across the country and how it has changed over time in terms of area under cultivation and the number of farmers practicing. Part of the reason is that it is challenging to collect data on such a spatially extensive phenomenon, especially one that occurs in remote areas of the country. Additionally, farmers conducting shifting cultivation are not likely to admit to the practice due to its restriction by the government or, if they do, they may underrepresent the amount of area on which they conduct shifting cultivation. Due to these collection problems, government data on shifting cultivation should be examined carefully. In addition, the Lao government has a political incentive to underrepresent the area under shifting cultivation in order to demonstrate that it is achieving its goal of reducing and ultimately eliminating the practice. These problems with data are recognized by the studies reviewed in this report and for this reason many of these studies choose not to attempt to estimate the extent of swidden cultivation in Laos. However, a few of the studies as well as legal documents offer statistical figures that can be used as approximations. These figures can be seen in Table 1 below. The numbers roughly correspond with the year of publication, unless otherwise noted.

Estimations made by Fujisaka 1991, Van Gansberghe and Pals 1994, Thomas 2004, GOL 2005, and MAF 2010a are mostly based upon government census data. These studies take the number of households conducting shifting cultivation from census data and then multiply it by the average field size of land under cultivation and the average length of fallow cycles nationally. For example, resulting from the 1994 conference on shifting cultivation (Van Gansberghe and Pals 1994) there were a few different estimates of area under shifting cultivation coming from different presenters. The difference between the first two is that in the second estimation a longer average fallow cycle was assumed. The last figure offered in the table from the MAF 2010a document is extremely low, likely because it is a Ministerial instruction document sent to provincial agencies from the central government and thus is trying to claim that the government has successfully reduced the area of shifting cultivation. It is also not clear from the document whether the statistic for area under cultivation includes fallow fields, although it likely does not.

There are two exceptions to these census-based estimations. The first is the estimation of area in Van Gansberghe and Pals 1994 of 4,864,000 ha. This number comes from an estimation made based upon remotely sensed satellite imagery. The second is from the Messerli *et al.* 2009 paper which uses satellite imagery with a landscape mosaic methodology. While these two remote sensing approaches are not perfect, they likely provide a much more accurate estimate of the total area within shifting cultivation systems, and potentially also the number of farmers involved.

Source	Area (ha)	Population
Fujisaka 1991	-	1,000,000
Van Gansberghe and Pals 1994	1,400,000	1,800,000
	2,090,000	1,800,000
	4,864,000	-
Hansen 1998	2,000,000-2,500,000	1,800,000
Thomas 2004	-	1,950,000*
GOL 2005 (FS 2020)	500,000	-
Messerli <i>et al.</i> 2009	6,500,000	943,000
MAF 2010a (Ministerial Instruction)	79,559	48,225

Table 1. Statistics of shifting cultivation extent in Laos

*Data from 2001

3. Evolution of the GOL's Shifting Cultivation Policies

The issue of slash-and-burn, shifting cultivation, or swidden cultivation has remained an important theme of the GOL's policy approach toward rural and upland areas since the *Pathet Lao* took control of the country in 1975. Since then, the stabilization and eventual eradication of shifting cultivation has been a high priority of the Lao government, as part of a broader strategy to modernize agricultural production and conserve forests in mountainous areas (Srikham 2010). Shifting cultivation has not been popular with the government because it has been perceived to be primitive, a waste of land and human resources, and a major cause of environmental problems, particularly deforestation (Pravongviengkham 1998). From 1975 until the mid-1980s, the government mostly sought to eliminate shifting cultivation by resettling upland groups to the lowlands where they could partake in permanent agricultural production, particularly through cooperatives. At the landmark 1989 National Forestry Conference, the concept of forestland allocation to villagers was proposed as a policy that could improve management of national forest resources while introducing livelihood alternatives to shifting cultivation for upland villagers, such as perennial tree planting (Thomas 2004). A number of government policies throughout the 1990s and beyond have been developed that directly or indirectly seek to stabilize and eradicate shifting cultivation. The most direct of such policies was the Land and Forest Allocation Program, which began to be implemented throughout the whole country starting in 1994. More indirect policies include those of resettlement, such as village consolidation, development village clusters, and focal sites.

Since 1975, the GOL's approach toward shifting cultivation remains focused on the stabilization and eventual eradication of the practice. However, the GOL's policies, approaches, and perspectives of the process by which this should be accomplished and how fast it should occur have changed in certain policy documents, changes which were confirmed by government authorities interviewed for this report. The purpose of this section is to provide a summary of the government's policy approach towards shifting cultivation and how the approach has changed

over time. The findings are that some GOL policies and the perspectives of some government authorities related to shifting cultivation have changed gradually over time to accept some forms of rotational upland cultivation within defined boundaries of agricultural production. However, it is important to note that these changes in policy perspective are not uniform throughout the government and that the most important policy documents still aim to eradicate the practice. Despite this lack of consensus, however, it is possible to extract four important areas of agreement within the government regarding the implementation of policy related to upland rotational cultivation:

1. **Food security and economic growth first:** Negative experiences with key programs that have sought to eliminate shifting cultivation without readily available alternatives, such as resettlement and LFAP, have led the government to reflect that the reduction or elimination of shifting cultivation does not necessarily push farmers to immediately adopt new forms of livelihoods, especially when such options are not available. Therefore, policy towards upland development has been reoriented to focus on food security and economic growth as the two most important development goals, considering the reduction of shifting cultivation to be secondary.
2. **Tolerance of rotational upland cultivation practices:** As reflected in certain policy documents and confirmed by interviews with government officials, rotational upland cultivation is acceptable under the conditions that it is practiced within the boundaries of land classified for agricultural use, in areas with low population density thus allowing for long enough rotations, the ecological conditions are appropriate and thus minimize environmental degradation, and there are no viable livelihood alternatives for the involved farmers. Dr. Parisak has also written that “Given the large variations in local production conditions, field rotations longer than four years should be permitted, especially where short fallow periods are unable to secure a reasonable level of productivity and stability” (Pravongviengkham 1998: 309). If possible, such forms of rotational upland cultivation should be less spatially extensive and mixed with other types of permanent perennials or other forms of agroforestry, especially cash crops. In other words, the productivity of rotational cultivation systems should be improved. Still, this is often seen as a temporary solution or a transition phase toward more permanent cultivation practices. Additionally, government officials expressed concern that medium and long term cash crops could not be mixed with swidden rice systems because during the process of burning the biomass the fire would engulf the perennial crops.
3. **Emphasis on stabilization first:** Recognizing the difficulty of transitioning out of shifting cultivation into viable alternatives, GOL policy has become focused on first stabilizing shifting cultivation, prior to eventually eradicating the practice. Although the meaning of the term ‘stabilization’ is not clear (discussed in further detail below), it is at the very least a reduced version of shifting cultivation, prior to its complete elimination. Nonetheless, eradication of shifting cultivation remains the ultimate end goal, the question is when this goal might be achieved. Stabilization is likely viewed as an intermediary stage until alternative livelihoods become viable.

4. **Pluralistic policy approaches:** Government policy towards shifting cultivation must reflect the wide diversity of local situations within which shifting cultivation occurs. Such diversity includes differences in population density, ecological environmental conditions, cultural practices, and potential alternative livelihoods. Some forms of upland rotational cultivation are only suitable in specific locations. One way in which the government seeks to incorporate this diversity into policy is through a more decentralized approach, as well as designing and implementing participatory policy. Dr. Parisak has described this context-specific approach as an ‘area-based livelihood systems approach’ “in which the existing livelihood systems of rural communities are studied as a basis for sustainable improvements in the system and, as a result, specific recommendation domains for different areas are proposed for development” (Pravongviengkham 1998: iii).

The rest of this section will: 1) summarize the most important policy documents since 1975 onward in order to provide a deeper understanding of the key elements of GOL policy and thought related to shifting cultivation, how this has changed over time, and its current status; 2) provide a summary analysis of the meanings of policy change over time as well as some of the ambiguities and misinterpretations related to such documents. While there are more government documents that address the issue of shifting cultivation than are presented in this report, it was not within the scope of this study to include all and therefore only the most critical documents are reviewed. These include the results of the 1989 National Forestry Conference, the 1999 Ministry of Agriculture and Forestry (MAF) Strategic Vision for the Agricultural Sector, the 2004 National Growth and Poverty Eradication Strategy (NGPES), the 2005 MAF Forest Strategy to the Year 2020, the 2007 Forest Law, MAF’s 2010 Ministerial Instruction to Prepare for the Complete Eradication of Slash and Burn Cultivation, MAF’s 2010 Strategy for Agricultural Development from 2011 to 2020, the 2010 Participatory Land Use Planning and Land Allocation (PLUPLA) manual, the Political Report of the 9th Party Central Committee, and the Seventh Five-Year National Socio-Economic Development Plan (2011-2015).

3.1 The 1989 National Forestry Conference and the Shifting Cultivation Stabilization and Permanent Occupations Program

The summary provided here of the 1989 National Forestry Conference and the Shifting Cultivation Stabilization and Permanent Occupations Program is based upon summaries of the conference in the 2005 Forest Strategy to the Year 2020. Prior to 1989, the first comprehensive forestry legislation was the 1979 Council of Ministers Instruction No. 74 on Forest Protection, which prohibited shifting cultivation in watershed areas. After the New Economic Mechanism (NEM) was adopted at the fourth party congress in 1986, the second socio-economic development plan was approved, which showcased the government’s intention of curbing and eventually stabilizing shifting cultivation after increasing food production. At the 1989 National Forestry Conference, the rapid pace and large extent of deforestation throughout the country was recognized and that significant policy reform was necessary to deal with this important issue, as evidenced by the former president Mr. Kaysone Phomvihane’s statement that ‘forest destruction in the country has reached an alarming rate. It is the time to change from uncontrolled logging

and destruction of the forests to focus mainly on tree planting and forest protection'. The conference agenda highlighted the stabilization of shifting cultivation as an important strategy for reducing deforestation. The policy tool adopted for achieving this goal was the allocation of forest and forestland to villages and villagers, which would facilitate rational forest use as well as introduce alternatives to shifting cultivation.

The Shifting Cultivation Stabilization and Permanent Occupations Program, which was came out during the same year as the National Forestry Conference, had as its goal the elimination of shifting cultivation practices. The approach comprised focusing on the development of permanent agriculture and livestock breeding to reduce poverty in focal zones. The policy also sought to eliminate shifting cultivation through forest and land allocation and the promotion of 'permanent' occupations.

3.2 The 1999 MAF Strategic Vision for the Agricultural Sector

Published a decade after the 1989 National Forestry Conference, this strategy document outlines the broad approaches that the GOL, particularly MAF, will take toward agricultural development throughout the country. Much of the document is focused on the ways in which the government will help to commercialize agriculture in Laos and increase its productivity to modernize the agricultural sector. A significant portion of the document also deals with the development of the uplands and the government's approach toward shifting cultivation. The approach toward shifting cultivation is that of stabilization, intended for goals of environmental management and upland rural poverty alleviation. The report claims that "Shifting cultivation is seen as an unsustainable land use practice by the Government, who have declared their intention to stabilize it by the year 2000 and beyond in favor of more stable and productive agricultural methods, including the more sustainable rotational land use system" (p. 26). The report continues by noting that there are two types of shifting cultivation, which differ in their degree of sustainability. The first is pioneering shifting cultivation (PSC) systems, which is claimed to be unsustainable and mostly practiced by Lao Sung ethnic groups near or at mountaintops and over a wide area. The document says that due to land scarcity and a more rigorous regulatory system, PSC is practiced widespread throughout the country. The second is rotational shifting cultivation (RSC), which is viewed as more sustainable and practiced by the Lao Loum and Lao Theung. RSC is viewed as more sustainable because the same plots of land are returned to throughout the cycle and all of the land is secondary forest, while PSC moves into primary or old growth secondary forest and thus leads to greater deforestation.

The strategy outlined in the document for stabilization shifting cultivation is multi-dimensional and includes the following five components: 1) sedentarization of agriculture in upland areas through farming systems diversification and agro-forestry development, 2) opening market access through feeder road development and market information delivery, 3) land use zoning based on slope and land capability, 4) rural savings mobilization and credit extension, 5) land allocation and land use entitlement. Agroforestry is explained in the document as a system that combines annual and perennial crops simultaneously in the same location. It is understood to be only practiced minimally in Laos at the time of this document's publication, and therefore does not appear to include shifting cultivation systems. One of the outputs of these policies and

strategies is to reduce the mean fallow period of swidden systems throughout the country to 10 years.

3.3 The 2004 National Growth and Poverty Eradication Strategy

The 2004 NGPES deals with strategies for developing all sectors of the country. This includes the agriculture and forestry sectors and deals explicitly with the issue of shifting cultivation. There is an emphasis within the agriculture and forestry sections of the report upon food security as the most important dimension of the government's development strategy. It is advocated that alternatives to shifting cultivation ought to be implemented, but the challenges of doing so are recognized. It is argued that "Poor households in rural areas must first and foremost secure their food supply; hence planning must start with this basic reality" (9). As a result, pluralistic policy approaches are called for. There should be different policies for the lowlands and uplands as well as for pioneering and rotational shifting cultivation. Here, pioneering cultivation is characterized as a form of shifting cultivation that uses the land until it is exhausted, which results from shortened fallow periods. Rotational cultivation is characterized as more sustainable because it involves rotation of cleared plots in cycles of 7 to 15 years. It is noted, however, that land allocation procedures have shortened such fallow lengths in certain situations and therefore it is recommended that the LFAP is reassessed, particularly in upland areas.

Some of the main approaches recommended for the uplands are to 1) plan land-use zoning based on biophysical (slope and land capability) and socio-economic parameters, 2) diversify farming systems and agro-forestry through adaptive research, trials, and demonstrations of farmers' fields, 3) promote community management of natural resources, and 4) sustainable land use management with soil erosion control, afforestation, plantation forestry, and conservation management. An important part of these recommendations is an area-focused development approach, which pays significant attention to the agro-ecological and socio-economic dimensions of each area prior to implementing development strategies. This pluralistic policy approach depending upon local conditions resonates with recommendations made in a number of the sources in the annotated bibliography below.

3.4 The 2005 Forest Strategy to the Year 2020

Produced by the MAF, the Forest Strategy to the Year 2020 (FS 2020) is an important document dealing with the government's previous and future approaches toward shifting cultivation. The document notes that the government has been concerned with the issues of shifting cultivation and permanent occupation since liberation and that the Shifting Cultivation Stabilization and Permanent Occupation Program has been active since 1989. The purpose of this program has been to stabilize shifting cultivation, stop indiscriminate logging and regenerate forests, and to improve the living standards of upland people through the adoption of permanent land use systems. The document also notes that one of the major advances of the GOL's policy has been a

differentiation between ‘shifting cultivation’ (*hay kheuan nhai*), which involves farmers’ clearing and farming activities advancing further into the forest, and ‘rotational cultivation’ (*hay moun vien*), which involves returning to previously cropped areas after appropriate fallow periods without encroaching upon new forest tracts. It is important to pay attention to the language used in English here—‘shifting cultivation’ is used in this document to refer to what is usually termed ‘pioneering shifting cultivation’ and thus may signify that sometimes when the word shifting cultivation is used in English in government documents, it may be referring to pioneering cultivation. The document goes on to note that within the GOL’s policy approach, ‘rotational upland cultivation on allocated plots or within agreed areas, without encroachment upon new forest areas, is an accepted alternative, although sedentary cultivation on upland or sloping areas using improved, conservation-oriented farming methods is preferred’ (p. 39).

This document also deals with the meaning of ‘stabilizing’ shifting cultivation, noting that it means the establishment of permanent occupations and sedentary agriculture. It is acknowledged, however, that biophysical and socio-economic conditions vary between villages and as a result, so should the government’s policies toward shifting cultivation. Sedentary agriculture following land allocation is most suitable for villages close to roads or with access to markets. Land allocation in remote, mountainous areas, however, will not be successful due to lack of market access and resettlement from such areas can be problematic if not involving full participatory consultation of people from the relocated and host villages.

3.5 The 2007 Forestry Law

The 2007 version of the Forestry Law is amended from the first version in 1996. What is most informative about the law for the purposes of this study is the types of forest categories it sets out and how they relate to shifting cultivation. Two forest categories set out in Article 3, Explanation of Terms, are particularly relevant: regeneration forest and degraded forestland. Regeneration forest is defined as forest that has previously been used for shifting cultivation but now lies in fallow, either because it has been abandoned or because its use has been restricted by the LFAP. It is understood as forest that can “become old fallow forest and further transformed into rich natural forest” (p. 2). Degraded forestland, however, comprises areas that have been heavily and continually damaged in such a way that they are incapable of natural regeneration to become rich forest. These classifications point to a broader issue that the Forestry Law is part of, which has been pointed out by a number of papers in the annotated bibliography section, that government policy has led to a division between areas classified as either agricultural or forestry land, thus effectively eliminating any place for shifting cultivation, which is an agroforestry system.

3.6 MAF’s 2010 Ministerial Instruction to Prepare for the Complete Eradication of Slash and Burn Cultivation

This ministerial instruction was issued in 2010 to all of the provincial governments for the purpose of informing what constitutes villages free of slash-and-burn cultivation and what should be done to celebrate villages that have achieved this status. It reflects a more orthodox perspective on shifting cultivation, quite different from the perspectives taken in the 1999 MAF

Strategic Vision paper and the Forest Strategy to the Year 2020. It begins by defining shifting cultivation in a similar way to the Forest Strategy, as a form of cultivation that involves ‘frequently moving from one place to another every year without regard to the type of land (forest preserve, protected areas, productive forests)’ (p. 1). It goes on to claim that farmers making a living from slash-and-burn agriculture do not have a secure livelihood and nor an escape from poverty. The document notes that due to these problems, the 8th Party Congress set the goal that slash and burn cultivation must be completely halted by the year 2010. Nonetheless, it is recognized that this goal has not been met in all localities. For villages to be recognized as free of slash-and-burn cultivation, they cannot have any households practicing slash-and-burn cultivation, land and forest allocation must have been completed, the village must have a stable location, and 75 percent of the households must have a secure occupation. What is most notable about this document, which is aimed for lower levels of government rather than the donor and development community in Vientiane and abroad, is that it provides no policy space for any form of shifting cultivation, even upland rotational cultivation noted as acceptable in other documents.

3.7 MAF’s 2010 Strategy for Agricultural Development from 2011 to 2020

This MAF strategy outlines different approaches that the government will take for lowlands and uplands. In the uplands, the focus of development goals by 2020 are upon the conservation of upland ecosystems, ensuring food security, and improving the livelihoods of rural communities. The strategy identifies the need to manage upland environments while also ensuring a gradual transition from subsistence to smallholder commercial production. However, prior to such a transition it is important to ensure that local food security needs are met. One of such transitions should be away from shifting cultivation. One of the goals formulated in the strategy is to stop slash-and-burn cultivation leading to a total end of shifting cultivation. It is argued that shifting cultivation is one of many practices that when conducted inappropriately can lead to land degradation, particularly soil erosion. However, it is also noted that the pioneering form of shifting cultivation into protected or primary forests was an important factor of forest degradation only in the past. A combination of government policies has discouraged this form of cultivation. In opposition to shifting cultivation, upland and highland farmers should be encouraged to engage in ecosystem-friendly agroforestry farming systems.

3.8 The 2010 Participatory Land Use Planning and Land Allocation (PLUPLA) Manual

The PLUPLA manual, which was published in 2010, is concerned with setting out the approach that line ministries should take when implementing land and forest allocation procedures to account for past deficiencies. A significant part of this approach is dealing with the issue of shifting cultivation. The manual notes that one of the most important issues to address when practicing village land use planning is how PLUPLA should approach villages engaged in shifting cultivation. An important emphasis is made that PLUPLA should be used less as a mechanism for reducing shifting cultivation and more as a means of increasing land tenure security. Thus, shifting cultivation takes a secondary rather than primary position. When introducing the improved PLUP approach, the document uses the Shifting Cultivation

Stabilization Project (SCSPP) implemented in Houaphanh Province between 2001 and 2006 as an example of how to develop alternative procedures and methods regarding shifting cultivation. First, the project was based upon the understanding that only the pioneering form of shifting cultivation, where undisturbed forest is cleared for cultivation, is prohibited and that the cultivation using forest fallow rotations in agreed agricultural zones is acceptable. Such an approach, with certain modifications, is appropriate for the physical and socio-economic conditions found in mountainous upland and other areas and can be implemented by district and provincial agencies with limited staff and financial resources. The focus of the project was to contain shifting cultivation within agreed agricultural land use zones and also provide villagers with agricultural and forest land-use entitlements and benefits. This approach views shifting cultivation stabilization as the elimination of pioneering cultivation and the containment of rotational cultivation in pre-defined and agreed upon areas. Interviewed government officials expressed that PLUPLA solves some of the problems that LUPLA encountered in relation to shifting cultivation. They found that it does a better job of clarifying land boundaries, but also that it re-defines such boundaries, providing more agricultural land to villagers than had previously been allocated, thus providing more security for their livelihoods.

3.9 The Political Report of the 9th Party Central Committee (2011)

The Political Report of the 9th Party Central Committee was an important political document released by the Secretary General of the LPRP, Mr. Choummaly Sayasone prior to the convening of the 9th Congress of the LPRP from March 17-21, 2011. There is only one mention of shifting cultivation, which is reviewed here because of the importance of the document in terms of understanding the LPRP's perspective. It states "Our Party and State should clearly define poor areas and focal development areas at central, provincial and district levels in association with formulating development projects, then identify measures for the implementation process by focusing on [...] allocation of land for people's settlement and livelihood in association with the creation of permanent jobs to bring an end to slash and burn cultivation". This document shows that the ultimate goal of the Party remains the elimination of shifting cultivation.

3.10 The Seventh Five-Year National Socio-Economic Development Plan (2011-2015)

The 7th NSEDP details the government's development plans across a wide array of sectors. Part of the focus on agriculture and forestry includes targets related to shifting cultivation. The approach toward shifting cultivation is clearly laid out in one of the targets for 2015, which is to "Resettle displaced people by developing new agricultural lands and living facilities for them on a permanent basis, completely halt (and reverse) deforestation and stop shifting cultivation" (111). Similar points are made throughout the text and additionally it is mentioned that the land and forest allocation policy is one mechanism for halting slash and burn cultivation. As one of the primary development documents of the Lao government, the policy objective of the NSEDP reflects the overarching desire by the Lao government to eventually eliminate shifting cultivation.

3.11 Interpreting the Policies: Ambiguity and Confusion

While party documents, such as the Political Report of the 9th Party Central Committee, reflect a consistent goal of the GOL to reduce and eliminate shifting cultivation, other GOL policy documents concerning how policy should be implemented have gradually changed over the past three decades. Policy implementation originated from a strict approach that viewed slash-and-burn cultivation as the cause of environmental degradation and poverty, as can be seen in the 1989 Shifting Cultivation Stabilization and Permanent Occupations Program. From this perspective, the policy approach sought to eradicate the practice by resettling upland farmers, preserve forest by restricting the extent of shifting cultivation practices, and allocate agricultural land to encourage permanent, intensified agricultural production. Later policy implementation documents, such as the 1999 MAF Strategic Vision for the Agricultural Sector, the FS 2020, and the PLUPLA manual, are more moderate, pluralistic, and tolerant of certain upland rotational practices in appropriate areas. The policies have transitioned to focus on stabilization as a first priority and eradication as a later goal. They provide space for local differentiation due to varying biophysical and socio-economic contexts, and allow some forms of rotational upland cultivation in areas with large amounts of bounded agricultural land. These changes have been gradual, however, often creeping up slowly in successive policy documents rather than resulting from a coordinated policy implementation reform at the central level. As a result, the changes are not completely uniform and thus some ambiguity and confusion remains.

One cause of confusion concerning GOL policy on shifting cultivation is the difference between content oriented toward the international donor community, oftentimes written by international consultants with donor funding, and content concentrated internally within the Lao government, written internally. The former tends to reflect the transition towards a more moderate, pluralistic, and tolerant policy approach, emphasizing food security, livelihood improvement, and social-ecological balance. The latter continues to discuss shifting cultivation from a stricter perspective, seeking to eliminate the practice as soon as possible without regard for appropriate process. An example of this distinction is can be seen between the FS 2020 and the PLUPLA manual on one side and the 2010 Ministerial instruction sent to provincial officials on other. The former documents discuss the complexities of poverty and environmental degradation in a nuanced fashion while the latter identify slash-and-burn as the main cause. The former provide space for rotational upland cultivation under appropriate circumstances while the latter calls for its complete elimination.

Another source of confusion between English and Lao versions of the same text regards the terms ‘shifting cultivation’ and ‘rotational cultivation’. In English terminology, the term ‘shifting cultivation’ encompasses both pioneering (*hai leuan loi*) and rotational shifting cultivation (*hai moun vien*). In many of the documents reviewed above, however, a close investigation of the English versions shows that ‘shifting cultivation’ refers to a pioneering form of cultivation while rotational cultivation is a more cyclical form. When discussing the issue in English with Lao government officials, when the term ‘shifting cultivation’ was mentioned, they consistently were referring to pioneering shifting cultivation and whenever they sought to discuss rotational shifting cultivation they would simply say ‘rotational cultivation’ For Lao government officials, the term ‘shifting’ indicates that swidden cultivators are moving randomly, without regarding the ecological conditions of the area, and likely into primary forest. It is less of a matter of

translation between languages and more of an issue of how the English terms are used. This causes considerable confusion when government documents call for the eradication of shifting cultivation—it is not clear whether this refers to all forms of shifting cultivation or only in its pioneering form. It is also a major source of confusion between Lao government officials, on the one hand, and international donors, on the other. When the issue was brought up during interviews, the officials were surprised to learn that international donors considered the term ‘shifting cultivation’ to also include rotational forms.

There are also differences in understanding between policy documents concerning the degree to which these different types of shifting cultivation—pioneering compared to rotational—degrade the environment. More recent documents accept rotational cultivation under appropriate circumstances because it can supposedly be more sustainable than pioneering cultivation. In some documents, however, environmental degradation is attributed to pioneering cultivation and sustainability of use is attributed to rotational cultivation in ways that do not accurately capture the dynamics of these two different systems. For example, in the 2004 NGPES, pioneering cultivation is said to degrade the land due to shortened fallow periods while rotational cultivation is more sustainable because of longer fallow cycles, unless restricted by the LFAP. However, the length of the fallow period is not what differentiates these two systems. The difference between them depends upon their patterns of movement—pioneering cultivation moves into new areas that could potentially be primary or old-growth secondary forest while rotational cultivation returns to areas previously cultivated. The environmental impact of pioneering cultivation is that it can lead to deforestation of older, denser forested areas but it is less likely to exhaust the soil because the land that is cleared has fertile soil with a high amount of biomass to burn. These conceptual differences can lead to confusion concerning what type of shifting cultivation is acceptable and where. Interviewed government officials reflected upon how degrading rotational cultivation can be for the soil when restricted to a rotational cycle of three to four years, even that intensive shifting cultivation is worse than extensive cultivation. However, they also felt that in many situations it is difficult to provide enough land for longer rotational cycles because of high population densities and the concurrent government policy to conserve forest policy and increase national forest cover to 70% by 2020.

The emphasis of GOL policy on rotational cultivation as the only accepted form of shifting cultivation reflects the concurrent focus on the ‘stabilization’ of shifting cultivation. At the very least, the term means a form of swidden cultivation that lies between unrestricted practice and permanent, intensified agricultural production. Thus, the term parallels the desired government transition from pioneering to rotational shifting cultivation. However, exactly what state is being referred to in between these two extremes remains unclear. None of the policy documents spell out the exact meaning of the term. This may be because it is a euphemistic way of saying ‘eradication’. An analysis of English and Lao versions of the same government policy documents reveals that this may be the case. While documents in English often use the term ‘stabilization’ when talking about shifting cultivation, the Lao versions often continue to use the word ‘eradication’ (*kan yut ti kan tang pa het hai*). One example is from section 3.9.3.2 of the FS 2020 where each time the word ‘stabilization’ is used in English, the Lao version uses the word ‘eradication’. However, despite the absence of the use of the term ‘stabilization’ in Lao versions of policy documents, it is still important to deconstruct the meaning of the term as it is used frequently by the Lao government in English-language communication. A close examination of

the English-language versions of the policies indicates that there is a great deal of meaning behind the use of the term. These are discussed below.

There are three possible meanings of the term, and it is likely that the way it is used indicates all three at the same time, depending upon the particular situation in which it is employed. The first is that stabilized shifting cultivation is the elimination of all forms of pioneering cultivation and the use of rotational cultivation in accepted cycle lengths in agreed upon areas where farmers have land use certificates or pay taxes. The second, related to the first, is that stabilized shifting cultivation means an increased sedentarization of agricultural production. In other words, the way in which shifting cultivation works is more stable and involves more regular movement in a pre-defined space. The third meaning is that the length of the fallow periods and the spatial extent of the cultivation is reduced, potentially as a strategy for pushing farmers away from shifting cultivation as an agricultural practice. The results of the annotated bibliography below show that in practice, it is often the third meaning that is followed as a result of land and forest allocation, which has restricted households to three plots of land for their shifting cultivation cycles. Ambiguity regarding the term ‘stabilization’ is important because it is a more easily accepted policy approach than the eradication of shifting cultivation. This confusion is not only limited to international observers—different interviewed government officials had different interpretations of its meaning. Some saw it as a term only employed to appeal to international donors, some saw that it meant to reduce the extent of shifting cultivation (*lop lang kan het hai*), and others considered it as making shifting cultivation more permanent (*het asip khong thii*) or regulating the practice within pre-defined areas on land officially classified as agricultural.

4. Annotated Bibliography

This section provides an annotated bibliography of 26 studies focused on the issue of shifting cultivation, which makes up a major portion of the report. These studies come in the form of conference papers, peer-reviewed published articles, and development reports. They originate from a wide range of sources and represent a diversity of methods and approaches. Studies were chosen to provide a diversity of perspectives, focus, and chronology. Although there are large differences in conclusions, findings, and opinions of the 26 pieces, there are a number of areas of agreement among the pieces, which are summarized below prior to the annotations of each article.

4.1 Synthesis

1. Since the late 1980s and early 1990s the GOL has sought to achieve goals of upland biodiversity and forest conservation. The government has viewed shifting cultivation as an impediment to achieving such goals and thus these are two of the reasons behind the government’s policies to reduce and eventually eliminate shifting cultivation. Interviews with government officials conducted during this research showed the continuing importance of such objectives over time, particularly as interviewees emphasized that the government seeks to increase national forest cover to 65% by 2015 and 70% by 2020.

Interviews also revealed that reducing shifting cultivation in the uplands is also intended to protect watersheds in order to ensure the viability of hydropower development.¹

2. Multiple government policies, such as the LFAP and those related to resettlement, have placed significant pressures on swidden cultivators, which has in many documented cases increased household poverty levels when viable and successful alternatives are not available. This conclusion is mirrored by the findings of studies comparing impacts of similar policies across Southeast Asia. The LFAP has reduced the amount of agricultural land available for farmers and thus has led to a reduction in the length of shifting cultivation cycles and therefore the amount of time allowed for vegetation growth in fallow fields. The reduction of the fallow period length is devastating for the environment, particularly soil fertility, and farmers' livelihoods. Reduced fallow periods increase the amount of weeds, which increases the amount of labor time that farmers need to put into production. It also decreases the fertility of the soil, therefore reducing rice yield. The intensification of shifting cultivation systems is not a desirable response to this situation, often leading to similar problems of weed infestation and decreased yields. One of the major problems with government policies may be that they are decentralized. Provincial and district level offices often do not have the capacity and resources to carry out the tasks properly. Additionally, these offices may still be operating under previous, stricter conceptions of how to deal with shifting cultivation. This would mean that their implementation is aimed at eradicating rather than stabilizing shifting cultivation without properly thinking through the feasibility of alternative livelihoods and also that they do not differentiate between pioneering and rotational types of shifting cultivation.
3. One of the reasons why the LFAP has been detrimental to farmers' livelihoods is that it establishes a policy space within which it is challenging to conduct shifting cultivation. The first way it does this is by not allocating enough agricultural land to households. The amount of allocated agricultural land is based upon the assumption that farmers will transition toward more intensified, permanent forms of agricultural production that require less land than shifting cultivation. In reality, many farmers continue to conduct shifting cultivation on these smaller tracts of land, often only being able to conduct a three-year fallow cycle. Interviewed government officials expressed the same concern, noting that the three-year cycle is not sustainable and is even worse than unrestricted swidden cultivation in terms of soil fertility and land degradation due to the more intensive land use. However, they also felt that such short rotational cycles are not strictly due to government policy but also because the land is not available in some areas, especially if the goal of forest preservation is to be met. As mentioned above, government officials felt that PLUPLA addressed this problem by re-allocating more agricultural land to farmers. The second way in which LFAP impeded shifting cultivation systems was by creating a separate distinction between agriculture and forest land. This makes it very challenging for a system such as shifting cultivation to operate because it is an agroforestry system that cannot be classified as either agriculture or forest. Within such a classification approach, fallow fields easily become classified as regeneration forest and

¹ Interviewees additionally expressed the belief that upland farmers would not have to conduct upland agriculture if hydropower revenue was used to provide a decent salary for them to manage, conserve, and protect upland forests.

can no longer be cut in the future for the next cycle of cultivation. These studies argue that shifting cultivation ought to be recognized as an agroforestry or landscape management system and there needs to be policy space for such types of agroforestry.

4. Many of the studies found that government policies related to shifting cultivation were implemented in a uniform fashion across the country without paying attention to the particularities of each location. In principle, when central government policy is implemented by provincial and district lines agencies, they should account for local differentiation based upon biophysical attributes (soil type, slope, forest type) and socio-economic variables (population density, availability of alternative livelihood options, type of shifting cultivation system employed). However, the studies have found that in most cases this has not occurred. They further point out that upland development is a complex issue and thus general solutions cannot be applied to each case. Thus, development approaches toward the uplands must be multi-dimensional. An additionally important part of this consensus is that such approaches must be participatory—if farmers are not directly involved then the solutions are not likely to be successful.
5. In addition to government policies that have restricted the ability for farmers to continue the practice of swidden agriculture, often referred to as ‘push’ factors, some of the literature reviewed emphasizes that there are a number of forces that are luring farmers away from shifting cultivation, known as ‘pull’ factors. One important ‘pull’ factor is the incentive of increased income resulting from cash crop production. The earliest examples include coffee production in Champasak and fodder maize in Xayabouli, while more recently rubber production has replaced swidden fields throughout northern Laos, particularly Luang Namtha, Bokeo, Oudomxay, and Luang Prabang provinces. Interviewed government officials commented that if farmers believe they will be able to sell their crop and increase their income then they will happily adopt commercialized production. However, they were also concerned that connecting farmers to the market is a significant challenge, especially in remote areas. Additionally, interviewees identified that another important ‘pull’ factor is the changing mindsets of rural youth that are influenced by regional mass media as well as their educational and work experiences in urban areas. As a result, the interviewees contended that in situations when the youth return to their villages they are more likely to convince their families to move toward sedentarized, commercial agriculture and preservation of forest areas—they believed that the older generation was more resistant to transitioning out of shifting cultivation and were less concerned about protecting the forest.
6. There is agreement among the studies that increased population growth decreases the potential for sustainable shifting cultivation. However, they also agree that in many cases such population growth results from government policies that have increased population in certain areas such as resettlement, village consolidation, and focal area development. This finding reflects the need to discuss issues such as population growth and density in place-specific terms rather than nationally. Although population growth is occurring, the degree to which it has occurred depends upon the location and thus policies should respond to these differences accordingly.

7. Many of the studies advocate that swidden cultivation should not be eliminated if there is no alternative available. In such situations, the removal of shifting cultivation as a livelihood will not prompt villagers to find an alternative livelihood. If alternatives do not exist then villagers will likely either have food shortages, will engage in shifting cultivation illegally, or migrate to other districts or provinces with less strict regulations (World Bank 2008). Additionally, the studies argued that it is important to only replace shifting cultivation with alternatives when such alternatives are already proven to be successful. They must be experimented with first and be shown to be effective, especially for that specific location. To complement this point, Dr. Parisak has argued that shifting cultivation should only be replaced by other systems when it is not appropriate: “*Where it is clear* that shifting cultivation is not productive and sustainable for both local people and the nation, then the selection of alternatives may be appropriate” (Pravongviengkham 1998: 62, original emphasis).
8. Under low population densities when fallow lengths are long enough (approximately 15 years), rotational shifting cultivation can be environmentally sustainable (including that it is likely to be carbon neutral) and economically productive, providing enough rice for a subsistence livelihood. Whether or not there remain areas where such long rotational cycles are possible is the major question concerning the sustainability of swidden systems. The studies also noted that shifting cultivation requires less capital and labor than other forms of upland production. Further, because it does not involve tillage, it does not lead to significant soil erosion. The studies have also found that many NTFPs are more prevalent in medium growth fallow areas than older growth secondary and primary forests. Therefore, swidden cultivation provides the conditions under which products useful for village livelihoods (both consumption and sale) are grown. This dimension also shows how much biodiversity exists within fallow fields, potentially much more than in mature forests.
9. All ethnic groups in Laos practice shifting cultivation, although it is more predominant among upland groups. Furthermore, the sustainability of the shifting cultivation system depends less upon the ethnic group and more upon socio-economic factors, location, and policy constraints.
10. There are few alternatives that are more appropriate to the socio-economic and biophysical characteristics of upland areas than shifting cultivation, especially alternatives that are more productivity-intensive. Paddy land is limited and terracing is capital and labor intensive, taking as many as 10 years to prepare. Perennial tree crops, when grown in mono-culture fashion, can reduce biodiversity, require large amounts of water, and significant use of fertilizer. Additionally, there can be many problems related tree cash cropping, particularly that many farmers do not have the required capital. An increase in livestock production has potential, but downsides include limited space for livestock grazing and susceptibility to disease. In general, many studies concluded that technical solutions, alone, will not provide viable alternatives to shifting cultivation. Technical solutions must incorporate an understanding of the social, economic, and political context within which they operate and must be integrated with other resource components of upland systems. Dr. Parisak has found that improvements in livestock

production can be beneficial for farmers when approached as one of many parts of dynamic upland resource systems. “Thus systems such as agroforestry, particularly where livestock production can be incorporated, present possible alternatives or complements to shifting cultivation that would serve the national interest whilst meeting subsistence needs” (Pravongviengkham 1998: 53).

11. The studies found that the most promising approaches for upland development are those that work with rather than against rotational upland cultivation systems. Fallow improvement is one such system—planting of certain crops such as legumes can increase the rate of fallow growth and improve soil nutrition. Mixing of perennial tree crops in shifting cultivation fields also has potential². However, farmers have often been reluctant to adopt such new approaches, potentially because it is not economically appropriate for them without subsidies. Furthermore, for such techniques to be successful, farmers must want to adopt them. Thus, the studies find that it is important to explore potentials for introducing new forms of agroforestry into already existing swidden systems. According to Dr. Parisak, “It is a general understanding that, farmers are more likely to adopt complementary practices that can be used in conjunction with shifting cultivation, rather than abandoning shifting cultivation in favour of an entirely new practice” (Pravongviengkham 1998: 47).

4.2 Sources:

1. Fujisaka, S. 1991. A diagnostic survey of shifting cultivation in northern Laos: targeting research to improve sustainability and productivity. *Agroforestry Systems*, 13(2): 95-109.

Based upon surveys in 1988 and 1990 of shifting cultivators in Luang Prabang and Oudomxay provinces, this article identifies some of the central ecological sustainability and livelihood productivity problems associated with shifting cultivation in northern Laos as well as the areas requiring further research and development donor assistance. The author recognizes previous work from the mid-1950s to early 80s by ecological anthropologists around the world showing that shifting cultivation can be economically sensible and ecologically sustainable under conditions of low human population densities, poly-cultural and integrated cultivation, and maintenance of forest species and fallow periods long enough to allow forest regeneration. However, not all of these conditions exist in Laos—in particular, shifting cultivation in the two observed provinces was found to be mono-cropped rice rather than an integral system. Furthermore, most commercial timber had previously been logged from the areas thus reducing the potential for full forest regeneration, even from long fallow periods. These results confirm more recent research by anthropologists and biophysical scientists showing that in shifting cultivation systems, natural vegetative succession back to forest is unlikely, even with long fallows, and that soil nutrient declines are associated with shifting cultivation. However, such research also recognizes that intercropping or perennial crop mixtures in later stages of rotation can improve soil erosion control, pest control, and soil fertility maintenance. The major causes of reduced rice yield identified by farmers in this paper were uncontrolled weeds, rats, wild pigs,

² Government officials expressed concern that when swidden farmers burn biomass to prepare their fields the fire would also consume the perennial trees

birds, insects, and drought. Average rice self-sufficiency was nine months in Luang Prabang and 10 months in Oudomxay.

The author finds that forest rehabilitation in northern Laos will be difficult, in part due to extensive commercial logging. The author concludes that there are few realistic alternatives to shifting cultivation in northern Laos—although improving current systems with intercropping is promising, it will be difficult to implement in Laos where intercropping is not currently practiced. Nonetheless, the author argues that it is much more promising to improve existing systems than to introduce new systems altogether. Such possibilities should be examined prior to encouraging permanent cultivation. As the shifting cultivation system is improved, more research can be conducted on agroforestry-based, permanent, farmer-adoptable soil and land management methods. The author recommends that research first focuses on existing features of shifting cultivation, such as weeds, weed succession, farmers' weed management practices, losses due to pests and soil erosion, farmers' traditional rice cultivars, and relationships between increased cropping intensity, system productivity, and sustainability

2. Van Gansberghe, D. and Pals, R. (eds.) 1994. Shifting Cultivation Systems and Rural Development in the Lao PDR. Report of the Nabong technical meeting. Nabong Agriculture College, Lao PDR. July 14-16, 1993.

This report provides summaries, conclusions, and recommendations that came out of papers presented at the 1993 Nabong Technical Meeting on Shifting Cultivation. Some of the general conclusions are as follows: there is a wide range of shifting cultivation systems and practices in Laos; in districts with low population density shifting cultivation does not necessarily degrade the environment if fallow periods are approximately 15 years and allow for forest regeneration; in districts with high population density the fallow periods are too short for forest regeneration and thus are leading to degradation; shifting cultivation is practiced in all parts of the country, at all latitudes, and by all ethnic groups; the total area of shifting cultivation nationwide has increased over the past 10 years, likely due to population increase; there are no easy paths for converting shifting cultivation systems into more stabilized and productive systems, requiring five to 15 years to create effective change; such conversion of shifting cultivation systems requires a wide range of rural development activities aimed at improving livelihoods such as irrigation construction, road construction, improved health services, improved education, family planning, more productive cropping systems, more productive animal husbandry systems, sustainable agro-forestry systems, and improved wildlife management; a grassroots participatory approach involving swiddeners is necessary for programs aimed at converting production systems; very few technical solutions have successfully reduced shifting cultivation systems.

Further conclusions came out of individual papers and include the following. 1) There is evidence that intensification of shifting cultivation systems is often not successful, resulting in a loss of nutrients and organic matter from the system. Selecting perennial crops that can be grown under shade is one potential alternative system. Another option is including a leguminous cover crop or an economic leguminous pasture phase with return of animal manure. 2) The area under shifting cultivation in Laos is increasing and that there is a great diversity of shifting cultivation systems and practices throughout the country. There are a wide variety of advantages of shifting

cultivation systems: particular flavors of products harvested in upland fields, low requirements in equipment and capital, low financial costs per hectare, nutritional quality of life in the forest, lack of diseases and parasites in the uplands in comparison to the plains, maximum exploitation of the territory and the maintenance of a community spirit. The drawbacks of shifting cultivation systems are also noted: environmental degradation, low human labor productivity, higher dependence on climatic factors such as rainfall, higher likelihood of pests on crops, and economic loss caused by forest burning. Farmers will react in different ways to new techniques or production systems depending upon its benefits in economic, social, or kinship terms in the context of the local environment. 3) Farming systems appropriate for the uplands require the following characteristics: address immediate and short term needs, based on existing practices and traditional knowledge, promote diversification, minimize capital and resource requirements and the use of external inputs, provide acceptable economic returns, and minimize and discourage burning of crop residues. 4) Lao Sung farmers were better farmers in many ways by producing highest yields, lowest rice deficit, highest number of fruit trees, highest number of livestock, and highest crop diversification. Additionally, weed competition has been the biggest constraint for upland agriculture and is also the most labor intensive task. Dependence on rice is an obstacle when moving towards other production systems.

3. Souvanthong, P. 1995. Shifting cultivation in Lao PDR: An overview of land use and policy initiatives. Vientiane and London: MAF and IIED.

This relatively early report on shifting cultivation provides an overview of existing data on the extent and types of shifting cultivation throughout the country, the evolution of and discrepancies within government legislation and policies on shifting cultivation, and recommendations for policy changes. Regarding land use practices, the report uses a standard classification of Lao ethnic groups and their different land use practices in to the lowland *Lao Loum*, the mid altitude *Lao Theung*, and the high altitude *Lao Soung*. *Lao Loum* are characterized as conducting permanent, fixed agriculture, mostly consisting of paddy rice production, although it is claimed that more recently they have begun to additionally practice shifting cultivation due to increased government policies of rice self-sufficiency coupled with the inability to adopt modern production technology to increase paddy rice productivity. *Lao Loum* encroachment upon the forest is seen as environmentally destructive because they continue to grow on the same plot each year without rotation and thus exhaust the fertility of the soil. In contradistinction, the upland cultivation practiced by the *Lao Theung* is characterized as traditional, rotational systems that are relatively stable and sustainable when fallow periods are between 5 and 15 years, soil is in good condition, and land is available. Although it is admitted that little is known about the farming practices of the *Lao Soung*, the author claims that the farmers aim for high productivity in the short-term and do not focus on long-term conservation and stability, and thus they practice pioneering forms of shifting cultivation that deplete the soil of nutrients and leave the land susceptible to erosion. Regarding policy, the report notes that in the late 1970s and early 80s the government had a strict policy of eradicating shifting cultivation, mostly by resettling shifting cultivators to areas of permanent agriculture, but that this resettlement plan was overly ambitious and difficult to fully implement. Since then, the forestry sector has been governed by decrees and plans to pass a forestry law in 1995 had not materialized prior to writing the report. The most significant of these is decree 169, approved in 1993, on the 'Management and use of the forests

and forest land' states that when permanent cultivation is not feasible, households may practice rotational shifting cultivation on an unlimited amount of land—however, it also states that forestland may not be converted to other uses and that only degraded forestland or non-forest land can be used for shifting cultivation, and that shifting cultivation of rice can only be used to meet the subsistence needs of the households and not for commercial production. Nonetheless, local administrative authorities are encouraged to assist households to convert to sedentary agricultural production.

The report notes contradictions within policies—for example, decree 169 encourages households to both regenerate degraded forest and non-forest land while simultaneously converting such land for agricultural production. The author claims that these contradictions could potentially encourage village degradation of forest areas and then the subsequent conversion of such areas for agricultural production. The decree also assumes all forms of shifting cultivation to be environmentally destructive while also permitting rotational cultivation—the author contends that there is a need to distinguish between different upland land use practices with differing degrees of environmental sustainability when formulating policy, strategy, and legislation. Also, the clause in the land law of 1991 that agricultural land must be in 'constant use' could encourage upland agricultural practices that lead to further forest destruction. The report's recommendations focus on a number of alternatives to shifting cultivation, such as various forms of agro-forestry, terracing, intercropping, and mixing of shifting and permanent cultivation—the conclusion is that such forms of production are only feasible if there is sufficient agricultural extension provided to the farmers to help them make the transition.

4. Pravongviengkham, P.P. 1997. Local regulatory systems in support of the Lao swidden-based farm economy. Field Report. Vientiane, Laos: MAF.

This field report, based upon initial results from the dissertation research of Dr. Phouang Parisak Pravongviengkham, the current Vice-Minister of MAF, focuses on the socio-institutional norms and arrangements that have shaped the different forms of swiddening practices over the last 30 years in Laos. Research findings are based upon fieldwork conducted in Luang Prabang, Houaphanh, and Xieng Khouang provinces, covering four districts of different agro-ecological settings, and a sample of 200 households in 20 villages of Lao Loum, Lao Theung, and Lao Soung communities. The first major finding is that there are two key determinants of the different types of swidden systems in Laos: 1) exogenous factors (resource endowments, land capability, climate, population pressure, past political events, the contribution of other resource systems in the area, access to markets and inputs, and access to alternative sources of income) and 2) the local indigenous regulatory system (traditional social norms, customary rights, and local decision-making processes affecting the use of resources). The second major finding is that local indigenous regulatory systems, particularly those that promote collective livelihood cooperation within and between villages, have played a pivotal role in ensuring 1) the prevalence of egalitarian livelihood and social systems and 2) the sustainability of swidden systems—meaning the stability of rice productivity—in the face of declining fallow periods over the past 20-30 years. The report recommends an increased understanding of the dynamics of the Lao swidden systems and their evolution in order to classify and describe different systems and sub-systems so that development policies, strategies and action programs can be developed that are

appropriate for strengthening sustainable systems and improving unsustainable systems, if possible.

5. Hansen, P.K. 1998. *Shifting Cultivation Development in Northern Laos*. Canberra, Australia: Australian Centre for International Agricultural Research.

This conference paper analyzes the GOL's different approaches toward reducing shifting cultivation and improving livelihoods in the uplands, most prominently through land allocation, the promotion of permanent types of land use, and socio-economic development. Land allocation has been designed uniformly for the whole country and as a result does not recognize local differences in soil fertility, slope conditions, rates of forest regeneration, crops produced, market access, and the possibilities of mechanization and soil tillage. Due to variation in these conditions, a flexible approach should be taken that allows for different policies depending upon location, such as longer field rotations should be permitted in areas with lower population density. Permanent upland cropping has some potential for improving livelihoods and reducing the extent of upland cultivation. However, it is also severely constrained by high erosion risks, low soil fertility, low productivity, and weed problems as well as inability of farmer adoption due to lack of capital and labor and unwillingness to engage in long-term investment risks. Increased paddy farming has also been promoted in uplands, but this option is mostly limited by the lack of suitable land and the labor and capital intensiveness of constructing paddy fields and irrigation systems. Animal husbandry is an incredibly important part of upland livelihood systems. However, increase in livestock production is constrained by high mortality rates from disease, low productivity from low fodder quality, and high initial investment for purchasing large animals. Infrastructure development in the uplands has the potential to increase access to markets and thus opening up alternative livelihood systems, but road construction can also lead to increased logging and acquisition of plots of land by lowland investors. Social development strategies focus on the adoption of new production systems, non-agricultural employment, and family planning measures. These efforts are constrained by lack of extension, but have a high importance for shifting cultivation systems. In conclusion, the author finds that in most of northern Laos a rapid transformation of shifting cultivation systems is unrealistic due to the mountainous topography, the poverty of most swiddeners, the current institutional capacity, and the undeveloped market and infrastructure. Most importantly, development strategies need to be flexible and diversified to suit variable environments and socio-economic conditions of different locations.

6. Pravongviengkham, P.P. 1998. *The Role of Animal Husbandry and Aquaculture in Improvements of Swidden-Based Livelihood Systems in the Lao PDR*. PhD Dissertation. Bangkok, Thailand: Asia Institute of Technology.

This dissertation, written by Dr. Phouang Parisak Pravongviengkham, is an examination of swidden cultivation systems in four districts throughout Luang Prabang, Xieng Khouang, and Houaphanh provinces and the potentials for increasing the productivity of such systems and alleviating poverty through improvements in animal husbandry and aquaculture. A preliminary finding of the research is that swidden systems are complex and include a number of different

sub-components beyond agricultural production. Such a diversified portfolio of activities is a key adaptation strategy of farmers to maintain a secure livelihood in the difficult environment of the uplands. The main conclusion of the research is that in most locations of the study area there is significant potential to develop livestock and fisheries as a sustainable integrated strategy for alleviating poverty in uplands. Nonetheless, in order to improve upland livelihoods in an environmentally sustainable approach, it is important to maintain a holistic examination of the swidden system and all of its integrated resource components and also to pay close attention to the local specificities of each area. The author advocates a context-specific approach that is termed '*area-based livelihood systems approach*', whereby the existing livelihood systems are examined as a basis for sustainable improvements. Such an approach would allow for the capitalization of the opportunities provided by specific ecological niches, particularly those that are suitable for livestock and fisheries development. More specifically, the author argues that in locations where swidden cultivation is relatively productive and sustainable, and is stabilized in a rotational system, the best approach is "not to try to develop new systems to replace entirely the swidden practice but rather to graft possible solutions and new values to already existing systems which are proven to be viable" (301). Thus the author advocates for an evolutionary, rather than revolutionary, approach to the swidden livelihood system, with an emphasis on incremental modification of the various components within an extremely complex survival system. Improving livestock and fishery components of the system in appropriate locations is one way in which such a strategy can be pursued.

7. Aubertin, C. 2000. The struggle against slash-and-burn in Laos. Hanoi: EC Workshop on sustainable rural development in the Southeast Asian mountainous region, 28-30 November.

This conference paper uses previous research and literature on shifting cultivation in Laos to interpret the meanings of government policies and development sector approaches toward slash-and-burn agriculture. The first major conclusion of the paper is that the GOL's policies and strategies toward shifting cultivation, especially through the land and forest allocation approach, resettlement policies, and village consolidations has created a dichotomy between modernized lowlands and conserved uplands. The lowlands are subject to market forces and intensified production while the uplands are 'protected' from ethnic minority groups' shifting cultivation practices through conservation measures. In addition, this type of intensification, mechanization, and industrialization is moving into parts of the uplands that are not targeted for conservation, but it is ill-suited for such a mountainous topography and ecosystem. This dichotomy is problematic for upland groups, not only because it restricts their agricultural practices, but also because it does not recognize that such practices are a form of agro-forestry, a type of land management for which there is no space in GOL policy. The author claims that the uplands have become a space of problems, an area of the country that needs intensive development intervention. The second major conclusion of the paper is that the increasing focus on NTFP collection and marketization within development projects ignores the connection between NTFPs and slash-and-burn agriculture. First, NTFPs are often a result of shifting cultivation systems, many of which only appear during the medium to late stages of fallow growth. Second, the increasing rate of NTFP collection, especially for sale, is a direct result of government policies that have restricted shifting cultivation. Decreased lengths of rotations and fallow growth to three years due to government policies has decreased rice yields, increased weeding requirements, and

thus resulted in villagers' collection of NTFPs for consumption and income as compensation. The author's final conclusion critiques the idea of 'intermediate systems', the idea that shifting cultivation is a transition point between wilderness and cultivation. Swidden practices should be seen, rather, as a practice suitable to the topography and population density of the Lao uplands.

8. Roder, W. 2001. *Slash-and-Burn Rice Systems in the Hills of Northern Lao PDR: Description, Challenges and Opportunities*. Los Baños, Philippines: International Rice Research Institute.

This report is a compilation of the author's many publications on shifting cultivation. The report also includes short summaries of a wide variety of themes from his work. The studies employ a wide variety of research methodologies from the social and natural sciences, ranging from semi-structured interviews to soil samples. The first themes that come out of his work are general overviews of shifting cultivation as an agro-ecological system, the uplands of Laos, and the existing slash-and-burn practices and problems and diversity in rice varieties. The author recognizes that slash-and-burn agriculture is one of the oldest land-use systems that it can be sustainable with long fallows when population densities are low, and that traditional systems have low productivity per unit area but give high returns to labor with low energy requirements. However, increasing population pressure, increasing degradation of the resource base, acknowledgement of off-site impacts, and an increasing interdependence between lowlands and uplands have changed this situation and require a new approach to swidden. The only way that this issue can be solved is by way of a 'holistic approach that takes into consideration the entire economy and social fabric of the country and its neighbors' (1).

The second theme examines the relationship between ethnic groups and land use. The author concludes that although select ethnic minorities are blamed for causing environmental damage and forest destruction, quantitative and qualitative data from the literature and surveys do not support this claim and show larger variation within groups rather than between them. Furthermore, a number of 'lowland' ethnic groups are found to be fully or partially dependent on upland agriculture. Socio-economic indicators are more predictive of land use than ethnic identity. The third theme focuses on the relationship between shifting cultivation and ecological factors of soil fertility, weed management, and fallow vegetation. Soil fertility becomes a significant problem as a result of short fallow lengths, which reduces the amount of nitrogen in the soil and affects rice yields. Weed and fallow management are the main components manipulated by swiddeners. Weeds increase largely due to decreases in fallow length and the current practice of burning crop residues or biomass of the fallow vegetation provides best weed control.

The fourth theme is fallow improvement and management and alternative land uses. Since permanent cultivation is limited by soil fertility, topography, and high precipitation in the uplands, one option for addressing shorter fallow periods is increasing the speed of fallow growth by introducing fast-growing species such as legumes that can also help maintain soil fertility. Improved fallow systems can offer faster, but similar, ecological benefits as natural fallows, which can help upland farmers adapt to shorter fallow and longer cropping cycles while optimizing nutrient and water conservation. The benefit of legumes has long been recognized,

but they have not been adopted by upland farmers likely because the technologies introduced were not appropriate or economical. Alternative land use has been the major focus of upland policies, ranging from soil conservation to constructing terraces. Alternatives must involve technologies that farmers want to adopt and are economical for them to do so without subsidies. If rice production for consumption remains the objective, traditional swidden practices are most suitable for the uplands as opportunities to improve rice production or reduce labor are limited. The most promising options are planting perennial tree crops and improved fallow systems with components of food and livestock production. Perennials can be problematic, though, because poor farmers cannot risk such long-term investments.

9. 2004. Workshop Summary. Poverty Reduction and Shifting Cultivation Stabilization in the Uplands of Lao PDR: Technologies, Approaches and Methods for Improving Upland Livelihoods. Luang Prabang, Laos.

The 2004 landmark workshop on Poverty Reduction and Shifting Cultivation Stabilization in the Uplands of Lao PDR furthered many of the discussions and recommendations from the 1994 conference on shifting cultivation in Nabong. A number of important conclusions came out of this workshop that are presented in the workshop summary and further summarized here. There were two general conclusions that came out of the workshop. The first is that uplands development is a complex issue for which there is no single solution and therefore it requires collaboration to generate a diversity of solutions. Second, technical solutions must always take into consideration social, economic, and policy dimensions. Multiple presentations during the conference concluded that government schemes and implementation of government policies have put significant pressure on rural communities that practice shifting cultivation, often impoverishing shifting cultivators. One presentation showed evidence that in contexts of low population density, isolated forest villages can earn more income than villages near the road. One conclusion that came out of a number of presentations is that even in such contexts when population density is low, many restrictions are still placed upon shifting cultivators preventing them from fully utilizing natural resources to support their livelihoods

One point of uncertainty was whether the impoverishment of rural communities as a result of such policies would only be a short-term phenomenon or would persist in the long term. Examples of past successful transitions from shifting cultivation to permanent agriculture were not presented in the workshop, even though there are such cases in Laos. Some points of government policy that lacked clarity were brought up during the workshop. One was the meaning of stabilizing shifting cultivation, whether related to the area of upland rice or area of allocated land. The second was the difference between pioneering and rotational cultivation. While the GOL's policies allow for rotational cultivation, experience showed that local authorities did not often distinguish between the two.

Another major finding from the workshop was that although shifting cultivation stabilization policies intend to conserve biodiversity, they may actually be achieving the opposite because it has been found that biodiversity is a result of upland farming systems. One presentation showed that the highest diversity of NTFPs was found in secondary forests that are part of long duration fallows. Another presentation showed that a rotational system can interrupt pest and disease

cycles. Concerning poverty alleviation, an important message that came out of the workshop was that poverty alleviation goals of the NGPES could not be achieved under the current approach toward shifting cultivation. A major recommendation, then, is that shifting cultivation policy and its implementation needs to better match the goals of the NGPES.

Potential paths forward for improving upland livelihoods were considered. One prominent alternative promoted by the government is cash crop plantations. The workshop attendees concluded that such plantations could be effective if the crop had a higher labor productivity than shifting cultivation systems, offered higher security than shifting cultivation products, and was easy to transport. The development of livestock and fishery systems also has potential, but once again socio-economic issues need to be taken into account as well as other factors such as disease and appropriate amounts of grazing land for livestock. Policies of land management, such as LFAP, were considered. Problems that needed to be addressed were that LFAP overly focused on quantitative targets without properly considering sustainable livelihoods, relocation to lowlands is causing land use and socio-economic problems, LFAP decreases access to agricultural land and forest resources, fallow lengths are decreasing and wealthier farmers have benefited from the process. However, new process-oriented approaches are emerging that focus on bringing upland populations and their livelihood needs into balance with sustainable resource management and access to roads and markets. Such efforts emphasize working with communities in a participatory fashion so that they can express their own needs regarding land use alternatives. The role of NTFPs were considered, renamed to ‘non-timber fallow products’ during the conference to reflect that shifting cultivation creates niches where NTFPs flourish. While NTFPs play an important role in livelihoods, market demand is depleting supplies, conflicts are emerging between and within villages over collection rights, and the restriction of shifting cultivation also reduces growth of NTFPs.

10. Romagny, L. 2004. Resettlement: an alternative for upland development? Paper presented at the 2004 NAFRI Workshop on Shifting Cultivation and Poverty Eradication in the Uplands of the Lao PDR. Luang Prabang, Laos.

Conducted by the organization Action Contre la Faim (ACF), this study seeks to investigate the effect of village resettlement on mortality rates of relocated populations. Resettlement has been a primary policy response of the Lao government to development challenges in the uplands, particularly the issue of stabilizing and/or eliminating shifting cultivation. The study focuses on Long district of Luang Namtha province between 1998 and 2003. Villages were classified into three categories: lowland villages (settled in the lowlands for more than 10 years), upland villages, and resettled villages (settled for less than 10 years). Mortality data was surveyed at 37 villages, comprising five lowland villages, 17 upland villages, and 15 resettled villages. The results of the study showed that average mortality rates were highest in resettled villages, second highest in upland villages, and lowest in lowland villages. Deaths occurred most commonly among newborns and elderly people. In resettled areas, a majority of deaths were due to malaria and dysentery while in uplands the main causes were dysentery, cholera, typhoid and measles. For certain villages in the study, the mortality rate reached up to 20% mortality during the first year of relocation. While the study did not detail exactly how resettlement increases death, the

author suspects that the deaths were a result of poor sanitary conditions. Although sanitary conditions in resettled areas tend to improve over time, this may only be the case if villagers are able to eventually adapt to their new way of life.

11. Thomas, D. 2004. Review of Policies and Practices in Upland Areas of the Lao PDR. Paper presented at the 2004 NAFRI Workshop on Shifting Cultivation and Poverty Eradication in the Uplands of the Lao PDR. Luang Prabang, Laos.

This conference paper provides a wealth of information about a wide range of policies of the Lao government that pertain to shifting cultivation. It also includes a lengthy discussion of the implications of such policies for upland development and recommendations for upland development with the challenges of shifting cultivation kept in mind. The author finds that the National Poverty Eradication Program (NPEP) of 2003, which approaches agriculture, integrated watershed management, and forestry by seeking to holistically transform upland livelihoods to reduce poverty and conserve natural resources, mainly attempts to achieve these goals by stabilizing shifting cultivation, eliminating opium production, and combining land use allocation, land use planning, and focal site development with village relocation and consolidation. One of the significant problems with the implementation of policies related to shifting cultivation is related to decentralization. Implementing decisions are delegated to provinces and districts, which often do not have the capacity or resources to carry out their tasks. The author finds that these policies tend to segregate lowland agriculture from upland forests. This approach focused on intensification and commercialization in the lowlands and zoning, conservation, and natural resource management in the uplands. Such a dichotomy has increased the socio-economic gap between the two areas. The stabilization of shifting cultivation has eliminated the fallow option from upland field management and since fallows abandoned for more than three years are classified as regeneration forest, there is pressure not to allow forests to regenerate for more than three years. In the uplands, these policies places significant constraints on land use while only providing vague opportunities for new livelihoods, such as agroforestry, livestock production, and NTFP cultivation. These changes have disrupted diverse livelihood systems and brought uncertainty to upland communities. The author expresses hope for improvements to shifting cultivation systems, such as through agroforestry approaches that improve fallow systems, conservation farming, and tree gardens.

12. Ducourtieux, O., Laffort, J.-R., and Sacklokham, S. 2005. Land Policy and Farming Practices in Laos. *Development and Change*, 36(3): 499-526.

This research article examines the relationship between the GOL's land and forest allocation program and farming practices in Laos. Land reform policy has intended to increase land tenure security to increase intensive farming and to eliminate slash-and-burn agriculture to achieve environmental conservation goals. This has mostly been achieved by creating a distinction between mountainous forested areas, from which farmers are excluded, and low-lying, flat farmland, which is distributed to individual households for production. As a result, much of the land previously incorporated in the shifting cultivation systems as fallows was transformed into forestland. This occurred in part by specifying in policy that land left abandoned for longer than

three years would either become redistributed to other farmers who could use it or would become protected forestland. An increase in productivity in the lowlands was intended to raise revenues through land taxation. The impacts of the policy are based upon evidence from three case studies conducted by the authors in Sayabury, Vientiane, and Phongsaly provinces using methodology of zoning transects and interviews with key informants and farming households. The methodology was applied over four years with more than 800 farmers in 105 villages. The authors found that because the policy does not take into consideration the variable geography and local specificities of the country, the form goes against its goals of forest protection and agricultural modernization. This is also partly because it has not paid attention to traditional land tenure systems and that it excludes upland farmers from agricultural land. Ultimately the approach has led to negative social impacts by marginalizing the poorest farmers.

13. Ducourtieux, O. and Castella, J.-C. 2006. Land reforms and impact on land use in the uplands of Vietnam and Laos: Environmental protection or poverty alleviation? Paper presented at the international colloquium "At the Frontier of Land Issues". Montpellier, France.

This paper compares the impacts of land reform systems on land use between the uplands of Vietnam and Laos, with a particular focus on the trade-off between environmental protection and poverty alleviation. The study found that that the land reforms have had mixed impacts upon both preservation of natural resources and poverty alleviation. Case studies of Bac Kan province in northern Vietnam and Phongsaly province of northern Laos were used. Both countries initiated similar land reforms as a result of a convergence of divergent goals: similarities in the socialist model of control of agricultural production and upland minorities, the promotion of the free-market model for land titling by international development banks, the model of scientific forestry management from industrialized countries, and the influence of the conservationist lobby of environmental organizations. Despite the similarity of the land reforms, the impacts on land tenure and use have been varied. In Bac Kan, remote sensing data shows slight regeneration of forest cover. In terms of livelihood changes, land allocation secured ownership rights for farmers that already accessed land via customary land tenure and used such land for settled agriculture. Swiddeners, however, lost access to land as land classified as forest increased and as a result increasingly found themselves in a spiral of poverty. In Phongsaly, the land reform dramatically changed customary land tenure by converting more than half of the territory from fallow into forestry reserves, restricting agricultural use as well as foraging. As a result, fallow periods dropped dramatically, from 21 to seven hectares per family. Reduction in fallow lengths has led to an increase in weeds and weeding labor time as well as a decrease in soil fertility. Wealthier farmers were able to invest in permanent cropping zones thus increasing their income and leading to inequalities within villages. Forestry expansion in the areas since occurred, but may be more due to population decreases. In both cases, farmers experienced the reforms as less of a land grant and more of an exclusion from previous customary lands. The goal of forest protection has taken lead over poverty alleviation. The authors recommend community-based resource management as well as capacity building and empowerment of local communities as tools for resolving the competing goals of forest preservation and poverty alleviation. Furthermore, more flexibility is required to incorporate customary land-use rights into the legal framework.

14. Sprenger, G. 2006. Out of the ashes: swidden cultivation in highland Laos. *Anthropology Today*, 22(4): 9-13.

In this piece, the author provides anthropological insights into the cultural-ecological dimensions of swiddening. Based upon previous and the author's own fieldwork with the ethnic Rmeet people (pronounced Lamet by the Lao) of northern Laos, the author highlights the ways in which shifting cultivation is an integral part of this group's social and cultural life. The engagement between villagers and their swidden rice production is full of spiritual meaning. Furthermore, the swidden cycle can be seen as representative of many of the socio-cultural dynamics of the community. The author also notes that although swiddening practices are changing and the future of this form of cultivation is unknown, the Rmeet are adapting to these changing circumstances and incorporating changes in their livelihoods into their cultural practices. The author concludes that swidden cultivation practices vary across the country, some being more ecologically suitable than others. Therefore, it is impractical for the government and development agencies to construct singular policies towards swidden cultivation. More pluralistic policies should be implemented that allow swidden in places where it is ecologically viable. Furthermore, this approach should still allow swiddeners to choose other forms of livelihood such as cash cropping and animal husbandry if they would like.

15. Yokoyama, S., Tanaka, K., and Phalakhone, K. 2006. Forest Policy and Swidden Agriculture in Laos. Presentation at SEAGA Singapore Conference. 30 November.

This conference presentation provides an overview of the evolution of shifting cultivation policies in Laos and also shows results from examinations of land use change related to shifting cultivation in two villages, one in Oudomxay and the other in Luang Prabang province. The presenters first note that forest has decreased in Laos from 70 percent in the 1950s to 42 percent in 2002 as a result of many factors including swidden agriculture, rapid population increases, illegal logging, widespread poverty, and weak law enforcement. To address the last cause, the LFAP was implemented to conserve forest, eradicate poverty, and clarify property rights. Policies related to swidden agriculture began with the 1989 National Forestry Conference, which sought to stabilize swidden agriculture and allocate land to swidden farmers. In 1993, the Prime Minister's Decree No. 169 was the first effort to classify the forests into five categories, whereby all swidden fallows were reclassified as regeneration forest. The 1996 Forest Law and 1997 Land Law effectively eliminated the category of swidden agriculture by dividing it into swidden fields, considered as agriculture, and swidden fallows, considered as forest. LFAP began to be legally implemented in 1996, but in many cases monitoring and evaluation has not been completed and thus there is little knowledge concerning how farmers have transformed their agricultural land and what effect this has had on farmers. Results from the two case studies showed both positive and negative results. On the positive side, farmers' incomes increased due to a switch from upland rice production to the cultivation of Job's tear, their swidden agriculture was stabilized, and half of the total area of swidden was reduced. On the negative side, the presenters found that fluctuations in the price of Job's tear created uncertainty in the villages, the new rotational cultivation systems of three years led to low yields, a lack of market information made selling

commercial crops difficult, and some residents were resettled through the LFAP process. In conclusion, the study found that accessibility to markets and availability of intermediate traders may improve the ability of the LFAP to improve livelihoods. The presenters recommend that the LFAP become more flexible rather than standardized and location-specific rather than uniform.

16. Douangsavanh, L. and Phouyyavong, K. 2007. Food Security and Biodiversity in the upland Lao PDR: A Review on Recent situation of Causes and Effect.

The purpose of this study is to investigate food security dynamics within shifting cultivation systems. Phonsay and Namou districts of Luang Prabang and Oudomxay provinces, two of the ten poorest district of the country, are the case studies that inform the research. Semi-structured interviews with village households were conducted and compared with GOL policy and strategy. The study found that villages in Namou district experience an average of three to four months of rice insufficiency per year while the figure was 6.4 months for Phonsay district. In Namou, the authors also found that upland rice yields are highest for wealthier farmers than others, potentially because they can hire wage laborers for weeding and they can use their economic power to acquire higher quality land. Additionally, increases in population density, whether from relocation or spontaneous migration, had a negative impact on food security by decreasing available land and increasing pressure on NTFP resources. In the end, they claim three major causes for rice insufficiency: declining productivity in swidden-based upland farming systems, declining productivity of non-timber forest resources, and failure of alternative income sources to transform the rural economy. Localized population pressure is the most important variable behind all of these causes, which has been accelerated “artificially” by the government’s relocation and land allocation programs. Land shortages lead to reduced fallow cycles, declining soil fertility, and an increase in weed and pest problems.

17. Lestrelin, G. and Giordano, M. 2007. Upland development policy, livelihood change and land degradation: interactions from a Laotian village. *Land Degradation & Development*, 18: 55-76.

This article uses evidence from a village in Luang Prabang province, northern Laos to examine the social, political, and biophysical relationships between the GOL’s upland development policy, local livelihoods, and the concept of land degradation. The research is based upon biophysical records, survey questionnaires, semi-structured interviews, group discussions, and participatory mapping. These data were used to understand the impacts of upland policy upon soil erosion, soil fertility and agricultural yields, livelihoods, and environmental degradation in the village. The study first found that there was a significant amount of land degradation in the village as a result of intensification of labor and land use. However, it also found that this land degradation was not the result of ‘naturalistic’ processes, but had its origins in the artificial reduction in land availability and increases in population density that were results of the government’s resettlement and land policy. Although these policies had led to conservation of forests in the village area, they both limited the amount of land that could be cultivated and also increased the number of people seeking to use such land and therefore created an immense strain upon the limited land, leading to land degradation. As a result, the GOL’s discourse of an

association between shifting cultivation and land degradation in the uplands became a self-fulfilling prophecy as a result of policies that induced agricultural practices degrading the land and surrounding environment. Farmers were well aware of the impacts of their intensified activities and have sought to adapt their livelihoods to control and avoid such degradation, in part by experimenting with alternative livelihoods such as tree plantations and non-farm labor. The study recommends reconsideration of the land use planning program as well as the continuation of an already occurring trend of shifting toward nonfarm activities, livestock farming, or intensive agriculture such as vegetable cropping. Additionally, preliminary experimentation of new policies should occur prior to large-scale implementation as should substantial consultation with those whom policy will impact.

18. Wada, Y., Ranjan, K.S., Shibasaki, R. 2007. Modelling the spatial distribution of shifting cultivation in Luangprabang, Lao PDR. *Environment and Planning B: Planning and Design*, 34: 261-278.

The purpose of this paper is to develop a mathematical model that helps to explain and predict spatial patterns of shifting cultivation, using villages in Luang Prabang, Laos as a case study. The model that is used is called an agent-based land-use model, meaning that the changes in land use which are observed result from decisions made by individuals. For the purposes of this study, however, the authors focused on village clusters as the agents of change. Villages are viewed as being the decision-makers in the Lao context rather than individual households or farmers. The model hypothesizes that the spatial distribution of crop cultivation is determined by the relationship between demand and supply of crops. The model is evaluated by comparing it with existing statistical data and remote sensing images from the 1990s. At the provincial level, the model is fairly accurate in predicting the area and volume of each crop type. However, the model has less explanatory power at higher spatial resolutions 0.5 and 2.5 km grid cells. It is more accurate at higher resolutions of 5 to 10 km.

19. Cramb, R.A., Colfer, C.J.P., Dressler, W., Luangaramsri, P., Quang, T.L., Mulyoutami, E., Peluso, N.L., and Wadley, R.L. 2009. Swidden Transformations and Rural Livelihoods in Southeast Asia. *Human Ecology*, 37: 323-346.

The focus of this article is the ways in which swidden systems and rural livelihoods throughout Southeast Asia are changing. The paper draws from literature on the region, workshop reflections, and six case studies to describe the processes that are leading to change of swidden systems and how these changes are impacting rural livelihoods. Major trends that have impacted swidden systems include demographic changes (population growth, decline, and movement at local levels), the expansion of commercial agricultural markets (both smallholder and estate models), and a combination of broader and complex political, social, and cultural trends that have impacted the regulatory environment, education, religion, identity, and values within upland areas. These transformations have impacted rural livelihoods by affecting livelihood security and development of human and social capital. The authors found that a decline in swidden leads to a decline in food security when alternatives are not available, largely due to a reduced yield resulting from shorter fallow periods and the demise of fallow foods and products.

Transformations of swidden practices affect human and social capital by redistributing the time and labor of villagers in such a way that individual skills and communal institutions are also transformed. Changes from swidden to paddy or perennial crop production can lead to production increases and increased income, but often these transitions are blocked by a number of obstacles. In conclusion, swidden farmers are responding to the drivers of change in the region and their responses are in turn becoming a further “driver” of change. The transformations that are occurring affect each community and household in different ways depending upon the availability and feasibility of alternatives. Nonetheless, swidden still remains an important part of many rural peoples’ livelihoods. Planning in relation to swidden should actively involve the participation of those affected.

20. Fox, J., Fujita, Y., Ngidang, D., Peluso, N., Potter, L., Sakuntaladewi, N., Sturgeon, J., and Thomas, D. 2009. Policies, Political-Economy, and Swidden in Southeast Asia. *Human Ecology*, 37: 305-322.

In this piece, the authors examine the policies and political economic factors that have led to a drastic decline in swidden cultivation throughout the Southeast Asian region. They conclude that seven trends have affected the practice of swidden throughout Southeast Asia. They support these arguments with examples from China (Xishuangbanna), Laos, Thailand, Malaysia, and Indonesia. 1) The classification of swiddeners as ethnic minorities within nation-states. This trend is associated with the demonization of swidden agriculture as something only associated with the ethnic minorities who practice it, and as a result rendering it as a primitive practice of primitive peoples. 2) The division of the landscape into forest and permanent agriculture. Doing so effectively eliminates the potential for swiddening because it is an agroforestry practice, a comprehensive landscape system that operates on a timescale that cannot be captured by a snapshot of a forest or field. What, then, to do with fallows becomes problematic—they are either classified as degraded forests or abandoned land, but not usually understood as part of the agricultural landscape. 3) The expansion of forest departments and the rise of conservation. Swiddeners are often blamed for forest degradation and deforestation, although the authors contend that more is likely caused by logging and plantation industries. Therefore, conservation of forested areas is seen as the only way to protect the environments of the uplands. 4) Resettlement takes many different forms. In some cases, swiddeners are moved out of the uplands and in others, lowland populations are moved upland. Population increases create density difficulties for the continuation of swidden while population decreases remove swidden as an agricultural activity in the uplands altogether. 5) The privatization and commoditization of land and land-based production. Commercialized agriculture has reduced the potential land available for swidden and the privatization of land creates private property systems that cannot accommodate communal and plural systems of tenure. 6) The expansion of market infrastructure and the promotion of industrial agriculture has facilitated the incentives for farmers to convert swidden land to permanent production of cash crops geared toward the market. 7) Shifting rural/urban relations and expanding urban labor markets. For many rural people, agricultural livelihoods are no longer viable and thus they have sought out wage labor in urban areas or non-farm work in rural areas.

21. Thongmanivong, S., Fujita, Y., Phanvilay, K. and Vongvisouk, T. 2009. Agrarian Land Use Transformation in Northern Laos: from Swidden to Rubber. *Southeast Asian Studies*, 47(3): 330-347.

This study examines rubber, and cash cropping more broadly, as one of the most significant drivers of agrarian land use change away from swidden production in northern Laos. The study focuses on Sing and Viengphoukha districts of Luang Namtha province and uses spatial analysis of satellite images to classify land cover and determine land use change, particularly deforestation. Interviews were also conducted with DAFO staff and villagers in the district to understand causes of land use change and resource management practices. The spatial analysis showed a loss of dense forest in Sing district between 1991 and 2004, from 60 to 42 percent; in Viengphoukha between 1997 to 2004 the loss was from 74 to 69 percent. The spatial analysis also showed the transition of a landscape previously dominated by forest and long fallow cycle swidden landscapes to one dominated by intensive monoculture. These results question the degree to which government policies during the 1990s were able to curb deforestation, especially attempts to regulate the expansion of shifting cultivation in the uplands. In both districts, the authors found from interviews that farmers were converting the swidden and fallow forests into cash crops, especially rubber. The authors also examined district population statistics and demographic change in the two districts, finding that between 1995 and 2005 the average annual population growth rate in Sing and Viengphoukha districts, was 3.6 and 5.3 percent, respectively. They also found that population became highly concentrated along the road over time. In conclusion, these cases have shown an increasing expansion of upland agricultural land at the expense of forest loss and degradation. The conversion of swidden and fallow forest into commercial agricultural land has been prominent, especially along roads where populations are concentrated.

22. Robichaud, W.G., Sinclair, A.R.E., Odarkor-Lanquaye, N., and Klinkenberg, B. 2009. Stable Forest Cover under Increasing Populations of Swidden Cultivators in Central Laos: the Roles of Intrinsic Culture and Extrinsic Wildlife Trade. *Ecology and Society*, 14(1).

The focus of this article is the causes underlying stability of forest cover in the Nakai-Nam Theun National Protected Area (NNT NPA). The authors note that most research on the relationship between swidden cultivation and forest cover, especially in protected areas, has been conducted in northern Laos where deforestation is most severe. The purpose of this study is to focus on a place where substantial deforestation has not occurred, despite the prevalence of shifting cultivation and population growth. Forest cover in the park remained stable at approximately 95% during the 1960s through 70s, decreased slightly until the 80s and then has slightly increased since then. The first period is accounted for by the Second Indochina War which pushed residents into the forest for safety and prevented them from clearing forest for agricultural production. The second period of increased deforestation is due to the end of the war and a resurgence intense agricultural production. The authors argue that two factors account for the stability of forest cover in the third period. The first, which they term intrinsic, is that the ethnic groups residing in the NNT NPA have cultural propensities for sedentariness, which when combined with their rotational swidden cultivation systems means that their impact upon deforestation is minimal. The second, extrinsic factor is a massive boom in wildlife trade between villagers in the park and external traders sending products to Vietnam. Income from the illegal sale of high-value wildlife has allowed villagers to purchase and import food without

clearing additional land. The authors argue that controlling wildlife trade should be the focus of international efforts because it is a greater threat to the biodiversity of the NNT NPA than swidden cultivation. Forest conservation could benefit more from alleviation of population growth in the park than reduction of traditional agriculture. Reduction of access to swidden land should only come after the current swidden system is understood and alternatives have been put in place.

23. Srikham, W. 2010. The Effects of Commercial Agriculture and Swidden-field Privatization in Southern Laos. Paper presented at the RCSD International Conference, May 2010, Chiang Mai, Thailand.

This conference paper examines the ways in which large-scale agricultural plantations in southern Laos are affecting the livelihoods of rural villagers, particularly by reducing their access to previously used swidden lands. The research is based upon interviews conducted with villagers that had lost their land are currently working on Vietnamese rubber plantations. The author has found that villagers often work for the companies because they have lost their access to land and thus have little other option. The author claims that is because the land conceded to the companies has been overwhelmingly villagers' swidden and crop fields. The author notes not only that they the villagers have new jobs and changed livelihoods, but that the structure of their daily lives has changed drastically, such as by purchasing items that they would have made on their own. Another impact is that many villagers have out-migrated to other provinces to search out more land. Within the villages, social relationships are changing to become more monetized and exchange-based. The author concludes by suggesting that villagers should have access to the profit-making that results from commercial agriculture.

24. Cunnington, P. 2011. Resettlement in Laos. Brussels: European Commission.

This report summarizes and analyzes previous gray and academic literature on resettlement policy and impacts of resettlement in Laos. The consultant classifies resettlement into three categories in order to better understand the dynamics of different types of resettlement. The first is resettlement linked to government rural development and poverty reduction policies. While the GOL does not maintain a formal resettlement policy, it has a number of other policies that utilize resettlement as a strategy such as village consolidation and the establishment of village development clusters and focal sites. Importantly for this study, shifting cultivation stabilization and elimination policies often utilize resettlement. All of these policies are best captured under the idea of *chatsan asip khong thi*, or “the establishment of permanent occupations” and are aimed at “unsettled” families. While this does not necessarily mean that populations cannot become settled in situ, in practice it does often occur through the form of resettlement. Much of the resettlement that has occurred lies along a spectrum between the extremes of being purely voluntary and absolutely compulsory. The second type of resettlement is that which is linked to public and private sector development projects that displace people from their previous residencies. This is often the case for hydropower and mining projects, while agricultural and forestry concessions may lead to resettlement by reducing villagers' access to land and natural resources and thus inducing them to move. There appears to be a relationship between

government resettlement strategies and private sector development projects, the latter which provide a form of permanent labor. The consultant also examines the literature on the extent and impacts of resettlement as well as future trends. There is a lack of conclusive data showing how many people have been resettled throughout the country, though the consultant finds that the estimation by Baird and Shoemaker (2007) of ‘tens of thousands’ is as accurate of an estimate that is possible. Some studies have found positive impacts from resettlement such as through improve access to education and health services, wage labor and markets. However, most research indicates that negative impacts significantly outweigh positive ones, especially in the first few years after resettlement. Most problematic is the lack of access to traditional coping mechanisms and safety nets such as non-timber forest products (NTFPs). Other impacts include nutritional status, reduced social cohesion, increased vulnerability to human trafficking and new forms of drug addiction. The author concludes that resettlement will continue to be an important part of the government’s rural development strategy. Additionally, it appears that what the government calls ‘unregulated internal migration’, the independent migration of households, has become another important driver of resettlement in recent years.

25. Evans, T., Phanvilay, K., Fox, J., and Vogler, J. 2011. An agent-based model of agricultural innovation, land-cover change and household inequality: the transition from swidden cultivation to rubber plantations in Laos PDR. *Journal of Land Use Science*, 6(2/3): 151-173.

This research project models the factors that have led to adoption of rubber cultivation by smallholder farmers in northern Laos, how this adoption has changed land cover and land use, and what impacts the change has had upon inequalities among households. The study focuses on Lomue village of Sing district, Luang Namtha province and combines demographic survey data with remote sensing images and commodity price data to construct an agent-based model of land-cover change. The purpose is to understand what factors might influence farmers to convert their swidden fields to smallholder rubber plantations. The authors found that early adoption depended upon historical events in neighboring China, from which knowledge of rubber and technical production processes was learned in 1994. Early adopters were those with the capital, labor, land, and knowledge to do so who were also not risk averse. Within the village, though, other households began to quickly adopt to follow other households. Those that did not adopt mostly did not have the resources to do so. The rapid expansion of mono-cropped rubber in the villages has ramifications for income inequality since only relatively wealthier farmers are able to adopt the new crop while the poorest are left out and also have lost access to swidden lands in the process. Patterns of inequality are also a result of variability of rubber adoption over time—early adopters were much more successful than others. The widespread adoption of rubber throughout the village creates vulnerabilities to commodity price changes. It is also noted that such rapid land-cover change from swidden to rubber is likely to have large and potentially damaging impacts upon the ecology of the surrounding environment, including impacts on biodiversity, carbon uptake, and soil erosion.

26. Fox, J., Castella, J.-C., and Ziegler, A.D. 2012. Swidden, Rubber and Carbon: Can REDD+ work for people and the environment in Montane Mainland Southeast. CCAFS Working Paper no. 9. Copenhagen, Denmark: CGIAR.

This research paper compares the appropriateness of swidden versus landscapes for REDD+ financing, particularly examining whether a transition from the former to the latter will produce carbon gains. Swidden systems are often assumed to be degraded and inefficient in relation to carbon sequestration. However, this assumption is unfounded and in some cases swidden cultivation may be carbon-neutral or even carbon positive in comparison to other land-use systems. It is important to remember that swiddening is a complex system of agroforestry that acts as a comprehensive landscape management system operating on an extensive timescale. In swidden systems, biomass and carbon stocks significantly change over time between planting and mature fallow phases. The burning phase releases carbon while it can be offset through sequestration during fallow phases. However, swidden systems vary in their length of fallow and types of successive fallow regrowth. They therefore also vary in their ability to sequester carbon, but unfortunately are often categorized as a single system that is a driver of forest degradation, deforestation, and carbon emissions. Research has shown that mature rubber stands potentially sequester less carbon than various types of mature swidden fallows. Unless fallow remain in a degraded, arrested grassland state, the biomass resembles secondary forests, although biomass accumulation may decrease with each swidden cycle. The study finds that comparisons of carbon biomass estimates between swidden and rubber landscapes prevent the conclusion that rubber plantations sequester more above-ground carbon than swidden fallows. Given these uncertainties, it is impossible to predict whether REDD+ policies will increase carbon sequestration as a result of swidden to rubber transitions. Only in cases of converting short-fallow systems with low carbon stocks to rubber could there be a carbon positive result. When developing REDD+ policies, both carbon and non-carbon benefits of transitions as well as economic considerations for local land users must be taken into account.

Complete Reference List

2004. Workshop Summary. Poverty Reduction and Shifting Cultivation Stabilization in the Uplands of Lao PDR: Technologies, Approaches and Methods for Improving Upland Livelihoods. Luang Prabang, Laos.
- Aubertin, C. 2000. The struggle against slash-and-burn in Laos. Hanoi: EC Workshop on sustainable rural development in the Southeast Asian mountainous region, 28-30 November.
- CPI. 2004. *National Growth and Poverty Eradication Strategy*. Vientiane, Laos: MPI.
- Cramb, R.A., Colfer, C.J.P., Dressler, W., Luangaramsri, P., Quang, T.L., Mulyoutami, E., Peluso, N.L., and Wadley, R.L. 2009. Swidden Transformations and Rural Livelihoods in Southeast Asia. *Human Ecology*, 37: 323-346.
- Cunnington, P. 2011. Resettlement in Laos. Brussels: European Commission.
- Douangsavanh, L. and Phouyyavong, K. 2007. Food Security and Biodiversity in the upland Lao PDR: A Review on Recent situation of Causes and Effect.
- Ducourtieux, O., Laffort, J.-R., and Sacklokham, S. 2005. Land Policy and Farming Practices in Laos. *Development and Change*, 36(3): 499-526.

- Ducourtieux, O. and Castella, J.-C. 2006. Land reforms and impact on land use in the uplands of Vietnam and Laos: Environmental protection or poverty alleviation? Paper presented at the international colloquium “At the Frontier of Land Issues”. Montpellier, France.
- Evans, T., Phanvilay, K., Fox, J., and Vogler, J. 2011. An agent-based model of agricultural innovation, land-cover change and household inequality: the transition from swidden cultivation to rubber plantations in Laos PDR. *Journal of Land Use Science*, 6(2/3): 151-173.
- Fox, J., Castella, J.-C., and Ziegler, A.D. 2012. Swidden, Rubber and Carbon: Can REDD+ work for people and the environment in Montane Mainland Southeast. CCAFS Working Paper no. 9. Copenhagen, Denmark: CGIAR.
- Fox, J., Fujita, Y., Ngidang, D., Peluso, N., Potter, L., Sakuntaladewi, N., Sturgeon, J., and Thomas, D. 2009. Policies, Political-Economy, and Swidden in Southeast Asia. *Human Ecology*, 37: 305-322.
- Fujisaka, S. 1991. A diagnostic survey of shifting cultivation in northern Laos: targeting research to improve sustainability and productivity. *Agroforestry Systems*, 13(2): 95-109.
- Fujisaki, T. 2012. Lao PDR REDD+ Readiness – State of Play. Kanagawa, Japan: Institute for Global Environmental Strategies (IGES).
- GOL. 2003. *Land Law*. No. 04/NA. Vientiane, Laos: National Assembly.
- GOL. 2005. *Forest Strategy to the Year 2020 of the Lao PDR*. No. 229/PM. Vientiane, Laos: Prime Minister’s Office.
- GOL. 2007. *Forestry Law*. No. 06/NA. Vientiane, Laos: National Assembly.
- Hansen, P.K. 1998. Shifting Cultivation Development in Northern Laos. Canberra, Australia: Australian Centre for International Agricultural Research.
- Lestrelin, G. and Giordano, M. 2007. Upland development policy, livelihood change and land degradation: interactions from a Laotian village. *Land Degradation & Development*, 18: 55-76.
- MAF. 1999. *The Government’s Strategic Vision for the Agricultural Sector*. Lao PDR: Ministry of Agriculture and Forestry.
- MAF. 2010a. *Ministerial Instruction to Prepare for the Complete Stopping of Slash and Burn and Shifting Cultivation in 2010*. No. 0022/MAF. Vientiane, Laos.
- MAF. 2010b. *Strategy for Agricultural Development: 2000 to 2010*. Vientiane, Laos.
- MAF and NLMA. 2010. *Manual: Participatory Agriculture and Forest Land Use Planning at Village and Village Cluster Level*. Vientiane, Laos.
- Messerli, P., Heinimann, A., and Epprecht, M. 2009. Finding Homogeneity in Heterogeneity—A New Approach to Quantifying Landscape Mosaics Developed for the Lao PDR. *Human Ecology*, 37: 291-304.
- Pravongviengkham, P.P. 1997. Local regulatory systems in support of the Lao swidden-based farm economy. Field Report. Vientiane, Laos: MAF.
- Robichaud et al (2009) Stable Forest Cover under Increasing Populations of Swidden Cultivators in Central Laos: the Roles of Intrinsic Culture and Extrinsic Wildlife Trade
- Roder, W. 2001. Slash-and-Burn Rice Systems in the Hills of Northern Lao PDR: Description, Challenges and Opportunities. Los Baños, Philippines: International Rice Research Institute.
- Romagny, L. 2004. Resettlement: an alternative for upland development? Paper presented at the 2004 NAFRI Workshop on Shifting Cultivation and Poverty Eradication in the Uplands of the Lao PDR. Luang Prabang, Laos.

- Souvanthong, P. 1995. Shifting cultivation in Lao PDR: An overview of land use and policy initiatives. Vientiane and London: MAF and IIED.
- Sprenger, G. 2006. Out of the ashes: swidden cultivation in highland Laos. *Anthropology Today*, 22(4): 9-13.
- Srikham, W. 2010. The Effects of Commercial Agriculture and Swidden-field Privatization in Southern Laos. Paper presented at the RCSD International Conference, May 2010, Chiang Mai, Thailand.
- Thomas, D. 2004. Review of Policies and Practices in Upland Areas of the Lao PDR. Paper presented at the 2004 NAFRI Workshop on Shifting Cultivation and Poverty Eradication in the Uplands of the Lao PDR. Luang Prabang, Laos.
- Thongmanivong, S., Fujita, Y., Phanvilay, K. and Vongvisouk, T. 2009. Agrarian Land Use Transformation in Northern Laos: from Swidden to Rubber. *Southeast Asian Studies*, 47(3): 330-347.
- Van Gansberghe, D. and Pals, R. (eds.) 1994. Shifting Cultivation Systems and Rural Development in the Lao PDR. Report of the Nabong technical meeting. Nabong Agriculture College, Lao PDR. July 14-16, 1993.
- Wada, Y., Ranjan, K.S., Shibasaki, R. 2007. Modelling the spatial distribution of shifting cultivation in Luangprabang, Lao PDR. *Environment and Planning B: Planning and Design*, 34: 261-278.
- World Bank. 2008. Lao People's Democratic Republic: Policy, Market and Agriculture Transition in the Northern Uplands. Washington, D.C.
- Yokoyama, S., Tanaka, K., and Phalakhone, K. 2006. Forest Policy and Swidden Agriculture in Laos. Presentation at SEAGA Singapore Conference. 30 November.

APPENDIX 1

Terms of Reference: Desk Study on Shifting Cultivation

Commissioned by the Secretariat of the Sector Working Group for
Agriculture and Rural Development (SWG-ARD)

Background

The Government of Laos has been concerned about the negative impacts of shifting cultivation since 1975, and a policy of eradicating or stabilizing these practices has been in place for more than 20 years (see Annex 1).

In 1999, the Ministry of Agriculture and Forestry (MAF) prepared the Government's Strategic Vision for the Agricultural Sector to 2010. This was designed to execute the resolution of the 8th Party Congress and to achieve the targets of the 6th NSEDP. Goal 3 of the strategic vision 'Stop Slash-and-Burn Cultivation', requiring a total end of shifting cultivation practices by the end of

2010.

MAF's action to implement this goal has focused on land use planning and the promotion of commercial crops. Efforts to develop new participatory procedures for land use planning have been led by a Division within at the National Agriculture and Forestry Extension Service (NAFES).

On 5th February 2010, MAF issued Decree 0022 "Instruction to stop Shifting Cultivation". On 28th December the same year, the Vientiane Times reported that Government attempts to end shifting slash and burn had fallen short of the target (see Annex 2).

At the end of 2010, MAF also published the draft of the Agricultural Development Strategy for 2020 this includes *Goal 3: Sustainable production patterns, including the stabilization of shifting cultivation and climate change adaptation measures, are adapted to the specific socio-economic and agro-ecological conditions in each region.*

Ambiguities and interpretations

The GOL policy related to shifting cultivation has been a subject of considerable uncertainty. The rationale has sometimes been misunderstood by outside observers, and local authorities have not always correctly applied the operational aspects.

It is *not* the goal of the MAF to eradicate upland rice production; rather the aim is to bring about a transition from a shifting to a sedentary system of production. At the same time, MAF wishes to promote sustainable improvements in productivity that will contribute to both food security and economic growth.

For some years, the leadership of MAF has made a distinction between 'shifting cultivation' and 'rotational cultivation' (see Annex 3). The priority for eradication has always been the former. Rotational practices are not prohibited if farmers remain in settled communities, and if conservation and protection forest is not being cut or burned. In the field, however, this distinction has not always been respected.

The policy on shifting cultivation has been further complicated by an association with resettlement. The eradication of shifting cultivation is *not* the primary goal of the Government's strategy for village consolidation, but references to 'slash and burn' often form part of public pronouncements and media coverage regarding resettlement programmes (see Annex 4).

The Government's intention to stabilize shifting cultivation has also been connected to other policies, such as opium eradication, biodiversity conservation, commercialization and land concessions. Most recently, a complicated connection has emerged between shifting cultivation and climate change; while some companies wish to claim carbon credits for replacing shifting cultivation with plantation crops such as rubber, there is evidence that this could reduce rather than increase carbon sequestration in Laos.

Research has been carried out on this subject for more than 20 years. The LaoFAB repository currently includes 37 reports in the folder on shifting cultivation, the oldest of which is a

presentation on *Local regulatory systems in support of the Lao swidden-based farm economy made at an international seminar in 1997 by Dr Parisak*. Many papers on shifting cultivation were presented at meetings held in Luang Prabang in 2004³ and 2006⁴. Since then, Lao, French and Japanese researchers, has carried out further studies but there has been no opportunity to synthesise the results and examine the policy implications.

The Round Table meetings 2011 and 2012

The issue of shifting cultivation was raised at the Round Table Implementation Meeting in 2011 (see Annex 5). As a consequence, the 'Road Map' for the 2012 meeting includes the following item in the list of tasks: *#8 Agricultural land management to ensure all Lao people especially those [who] are living in upland areas can have access to agricultural land particularly relevant to the area of slash and burn agriculture.*

Responsibility for this task was assigned to MAF and the Co-chairs of the Sector Working Group on Agriculture and Rural Development (SWG-ARD). Recognising the complexity of this issue, and in light of the extensive literature that is available, the SWG-ARD will commission a desk study. The report, which will be available in advance of the 2012 Round Table Meeting, is expected to be an important reference for future dialogue regarding shifting cultivation in Laos.

Tasks to be performed

1. Consult with relevant experts, including:
 - a) Government officials involved in policy making and implementation with regarding to shifting cultivation, including MAF, NLBRDPA, LFNC (meetings to be arranged by Secretariat of the SWG-ARD).
 - b) Lao and foreign researchers and development workers who have conducted studies related to shifting cultivation and associated policies.
2. Prepare a reference report, including:
 - a) a summary of GOL policies related to shifting cultivation
 - b) a compilation of available statistics regarding the extent and trends of shifting and rotational farming systems in Laos
 - c) an annotated bibliography of research studies related to shifting cultivation in Laos
 - d) a delineation of the different narratives and issues that are associated with the policy on shifting cultivation
3. Act as resource people for a meeting to present the findings, including:
 - a) Distribute copies of the reference report
 - b) Make a presentation and facilitate discussion
 - c) Produce a short report of the meeting

Deliverables and time frame

The *Reference Report* should be at least 40 pages in English. The report will include an executive summary of no more than 3 pages in both English and Lao. The annotated bibliography that forms a major part of the report should summarise the conclusions of at least

³ NAFRI Workshop on Poverty Reduction and Shifting Cultivation Stabilization in Lao PDR, Luang Prabang, January 27 - 30, 2004.

⁴ International Conference on Sustainable Sloping Lands and Watershed Management, December 12-16, 2006

25 scientific papers and research reports, including those listed in Annex 6.

The meeting to present findings will be organised in the last quarter of 2012. Actual dates, venue and list of participants to be agreed by the Secretariat of the SWG-ARD. The contracted party will produce 50 hard copies of the Reference Report to be distributed at the meeting. A digital version will be shared through LaoFAB. The *Meeting Report* should not exceed 10 pages.

Qualifications

The organisation or company that carries out this work should have the following qualifications:

1. At least 5 years experience of conducting studies on agriculture and land management issues in Lao PDR.
2. Contacts with a wide network a government officials, researchers and donor representatives
3. Proven ability to produce stimulating reports and presentations