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Land Use Planning and Land Allocation in the Upland of Northern Laos: Process Evaluation and Impacts

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LAND USE PLANNING AND LAND ALLOCATION IN THE UPLAND OF NORTHERN LAOS: PROCESS EVALUATION & IMPACTS

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ABSTRACT

Shifting cultivation, a farming practice on which majority of the upland population in the Lao People Democratic Republic (Lao PDR) has been heavily dependent upon, was identified as the main cause of rapid deforestation in the country. To address the problem, a Land Use Planning and Land Allocation (LUP/LA) program has been implemented since the start of the 1990s. This study reviewed the LUP/LA policy and assessed the implementation of the program as well as its livelihood and environmental impacts. Research undertaken in two districts – at Xieng Ngeun district of Luangphabang province and at Namo district of Oudomxay province - showed the need for program improvement. Recommendations are provided to improve program implementation.

1. INTRODUCTION

The Lao PDR is one of the least developing countries in the Southeast Asian region as well as in the world, with 37% of its population living below severe poverty line. More than 80% of the poor are living in mountainous rural areas and their livelihoods depend on shifting cultivation practices. It was estimated in 2001 that 39% of the Lao population lived on shifting cultivation that covered 13% of the total land area (JICA 2001). The practice has left behind some 500,000 ha of fallow land every year. The annual deforestation rate was estimated to be 3%, and this is also mainly attributed to shifting cultivation. Shifting cultivation (with short fallow period) has been considered as an unsustainable farming practice because it creates a number of negative impacts such as soil erosion, loss of biodiversity, and carbon dioxide concentration in natural resources and the environment.

Deforestation was officially identified as a major problem threatening the sustainability and stability of natural resources management in Lao PDR during the First National Forestry Conference in 1989. This recognition shaped the country's national forest policy and strategy, in which shifting cultivation was regarded as a harmful farming practice to forest that must be stopped. Following the conference, measures were identified and national programmes encompassing "shifting cultivation stabilization, land use planning and land allocation (LUP/LA), sustainable forest management" were developed. The Seventh Party Congress set a policy target endorsed by the National Assembly to stabilize shifting cultivation by 2005 with complete eradication by 2010 (MAF 2003). This policy is expected to be implemented through the LUP/LA, which promotes integrated cropping systems. These cropping systems are expected to replace traditional shifting cultivation practices by allocating and titling land areas for agriculture production and by protecting forests through the stabilization of shifting cultivation. Each household is allocated three to five parcels or 3-5 ha of land for agriculture production. This study provided an overview of the LUP/LA policy and its implementation as well as its impact on livelihood and on the environment.

2. RESEARCH METHODS

This study was undertaken at two districts, Xieng Ngeun district of Luang Prabang province and Namo district of Oudomxay province. These two districts have progressed well in terms of land allocation for families and in the practice of both new and traditional farming systems. Six representative villages (three in each district) were selected, and a sample of 156 households were randomly chosen in these villages for interview. Out of these, 56 households (about 35%) have adopted new farming practices (Table 1).

Table 1: The study villages and sampling

Village - District	Village category	No. of households	No. of households selected	No. of household for focused group interview
Silalek - Xieng Ngeun	LUP/LA-LDI	142	40	8
No 11 - Xieng Ngeun	LUP/LA-HDI	106	27	9
Huay kook - Xieng Ngeun	Non-LUP/LA	35	20	8
Namkor - Namo	LUP/LA-LDI	111	30	15
Mai-Natao - Namo	LUP/LA-HDI	33	21	9
Pheng - Namo	Non-LUP/LA	67	18	7
Total		494	156	56

Note: LUP/LA-LDI = LUP/LA village adopting new farming practices and with less deforestation incidence
LUP/LA-HDI = LUP/LA village adopting new farming practices and with high deforestation incidence
Non-LUP/LA = village with out LUP/LA implementation

Primary data was collected by interviewing individual farmers, groups of farmers, and government officials at the district and village levels. Structured and semi-structured interviewing techniques were adopted. Secondary data were gathered from a review of documents from several sources such as the District Agriculture and Forestry Office (DAFO), District Land Management Office, Local Strengthening Body, District Finance Office, and the District Commerce Office.

3. NATIONAL OVERVIEW OF LUP/LA

3.1 Legal framework

Land use planning and land allocation policy was the Lao PDR's top priority in the early 1990s to ensure the sustainability of the country's natural resources, particularly forest resources. The key essence of the policy was to address the problem of shifting cultivation which has damaged Laos' forests for decades. The Government of Laos has continuously developed and improved the legal framework from the national constitution down to the village rules to guide and facilitate the implementation of the LUP/LA policy towards stabilizing shifting cultivation. Key provisions of legislation related to LUP/LA policy implementation are summarized below.

At the national level, the national constitution provides that the national committee owns the land in the whole country; the government is responsible to protect, transfer, and inherit land use rights to individual and community of Laos (Art. 5). The Land Law is a central legal framework for the implementation of the LUP/LA policy. It states that all lands in Lao PDR are under the ownership of the national community, and the state is in charge of allocating land use

rights to individuals and organizations. In addition, it determines limits to land use rights for agriculture and forestry lands based on potential capacity in terms of labor force and capital for land development. The law sets limits on the number and areas of land to be allocated to households for different purposes.

The Forestry Law specifies similar provisions. In particular, it states that the use of forests shall be allowed only with approval from authorized agencies led by the Ministry of Agriculture and Forestry (MAF). Degraded forests can be used by individuals and committees based on labor force and capital. Conversion of forest lands into other uses is strictly prohibited, with the exception of special approval from the government.

The Agriculture Law provides that the state allocates the rights for individuals and the community to use agriculture lands based on labor force and capital. Land allocation is a mechanism/incentive for permanent land uses towards stabilizing shifting cultivation. Land use rights are given on the condition that the farmer cultivates the land for three years; otherwise, the rights are withdrawn.

To guide the implementation of the laws, relevant guidelines and Decrees and Orders have been issued by different government authorities such as the MAF, the Council of Minister, and the Prime Minister. Regulations and implementation instructions were also developed at the provincial level to localize the process.

3.2 LUP/LA Procedure

The LUP-LA scheme was implemented on a trial basis in 1990 to 1991 in Luangprabang and in Sayabouly. The government (forestry sector) tried to develop the methodology for country-wide application. However, the scheme was implemented sporadically in different places during the initial stage (before 1996) while the methodology was being refined. The methodology was further consolidated by the Lao-Swedish Forestry Programme, Phase 4 (1995-2000), resulting in a more concrete procedural instructions for training and wider application of the scheme. LUP/LA activities became more concrete from 1995 to 1996, and also became the main government program around which agriculture and forestry as well as other development programs and projects were streamlined.

The LUP-LA scheme was developed basically to secure permanent land tenure rights for local villagers as means to build up their confidence and to promote among them individual investment for improved productivity. The goal was to support the farmers' practice of a sedentary cultivation system, which can reduce pressure on existing forests, and to enable them to assist in forest rehabilitation. The scheme also hoped that if the land users would become aware of the benefits derived from improved natural resource management, then they can help implement the land use plan in a sustainable way.

Various projects (e.g., GTZ, IFAD, and the Lao-ADB Shifting Cultivation Stabilization Pilot Project (SCSPP) in Houaphanh province, LSUAFRP, and NGOs project like GAA) have made several improvements and adjustments to the LUP/LA at implementation level. While these changes were aimed to make the procedures simple, easy, practical, and participatory, this led to diverse procedures and methods.

The planning approach advocated substitution of swidden agriculture fields; improving soil fertility; and the protection of the forest. Land availability, productivity, availability of family

labour, and projected increased in family size were also important considerations in the methodologies for allocating land to families. Also integrated into the LUP/LA process at provision of agricultural extension and monitoring.

3.3 LUP/LA Coverage

The extent of LUP/LA coverage up to date is unclear. Different figures have been reported by different sources on the number of villages or number of families allocated with land. Further, it is not clear how many villages have completed certain phases of LUP/LA. According to the Department of Forestry (DoF), figures reported at the National Land Management Authority Review Workshop showed that the LUP/LA has covered about 32% of the total number of villages in the country (DoF 2006) (Table 2). The Southern region had the highest percentage of covered villages, but lowest in terms of number of families covered.

Table 2: LUP/LA coverage by 2006

	No. of villages country wide	No. of families country wide	No. of villages with completed LA	No. of families allocated with land	Allocated agriculture lands (ha)	Allocated forest lands (ha)	Provinces completed LUP/LA
Northern Region	4,323	307,174	1,245	43,863	253,000	1,646,100	2 - Bokeo & Xayabouly
Central Region	4,355	411,667	1,557	76,043	1,343,550	185,100	2 - Special regions and Vientiane
Southern Region	2,130	187,390	969	19,427	24,500	909,400	0
Total	10,808	906,231	3,771	139,333	1,621,050	2,740,600	4

Source: Vongmany T. (2006).

As reported in other sources the LUP/LA covered approximately 5,400 villages between 1995 and 2003 where 330,000 households nationwide received 'Temporary Land Use Certificates' for the allocated land. The scheme has been implemented in all provinces covering almost all rural districts. Regardless of statistics reported, less than 50% of the total target villages have been covered.

4. THE IMPLEMENTATION OF LUP/LA AT THE STUDY SITES

4.1 Procedure and progress

Different projects operating in the two study districts adopted different LUP/LA methodologies/procedures. The LUP/LA process varied within and between the two districts in many aspects depending on many factors such as the approach and priority of the implementing organization; the purpose of the supporting project; staff capacity; team composition; availability of budget; social characteristics of the villagers, priority local issues; as well as varying physical condition of the sites.

Budget availability to implement the scheme greatly varied depending on the allowance paid, people involved, and time spent. In Xieng Ngeun, the time spent for LUP/LA field work differed between the two villages (Silalek – 26 days with six persons; and Ban No. 11 with only seven days and a team of five persons), whereas in Namo, the time spent was much more (45 days with a team of more than 10 people for each village).

While the budget spent in LUP/LA field operations by most projects varied from US\$300 to more than US\$1000 per village, the government generally allocated around US\$100-150 per village, which was far from adequate. This resulted to delay in project completion and led to adjustment of field operations. The DAFO in both districts had complained that time was insufficient to complete the entire process in most villages of the district. Hence, in most cases, except in villages with project support, not all the procedures of the LUP/LA were actually implemented continuously. Instead, the procedures were broken down into phases according to the availability of an operational budget and to the priority of the district. Further, not all the steps of LUP/LA were actually implemented causing varying degrees of completion of the village land use management plan.

Only one-third of the studied villages (all in Namo District), where there was a donor project support, had a village land use plan with full information on production activities in different types; land use with estimated cost and projected income; list of participating families; and details of support. In Louang Prabang, no village had village land use plan. Each family had its own production plan for different parcels plus income generation activity up to 2010 following the approach of the national poverty eradication programme. The aforementioned family plan was purely based on family interest without proper facilitation by program staff. In most cases, weak extension support was reported. Except for villages with an on-going project with donor support, other villages were left unattended in cultivating the lands allocated to them as well as in implementing the LUP/LA. Hence, inconsistency in the quality of LUP/LA was observed between and within villages implementing different stages of LUP/LA.

Table 3: Status of LUP/LA Implementation in Study Villages

District	Village	Completed phase 1	Completed phase 2	Completed phase 3	Completed phase 4
Louangphabang	Silalek	Yes	Yes	Yes	No
	No. 11	Yes	Yes	No	No
	Houaykook	Yes	No	No	No
Namo	Namkor	Yes	Yes	Yes	Yes
	Mai-Natao	Y	Y	Y	Y
	Pheng	Y	N	N	N

Note: Phase 1: Village boundary agreement; Phase 2: Land use zoning and land use management agreements; Phase 3: Land use allocation to families and registration; Phase 4: Land use management planning, implementation and monitoring; (Preceding phase is inclusive in successive phase) Y stands for “completed” and N for “Not completed”

Source: Manivong K. and Sophatbilath P. (2007), field survey for this study

4.2 Participation of Stakeholders

At the provincial level, the implementation of the LUP/LA falls under the Provincial Agriculture and Forestry Office (PAFO). This office was responsible for forest surveys for potential forest zoning; granting of license for the exploitation of timber and other forestry products; and finding potential areas for conservation. In the actual implementation of the LUP/LA implementation, the PAFO provided hands-on practical training and practical fieldwork to the District Agriculture and Forestry Office (DAFO) staff who were assigned to

assist the local villagers. The on-the-job training was given in combination with field practice in four to five villages. If deemed capable, the work was then continued by the DAFO team on its own.

At the district level, the DAFO was responsible for the implementation of the various LUP/LA tasks. Officially the DAFO was assigned three main duties, including the allocation of forested and degraded forest lands to villages and households for management and rehabilitation; the monitoring and inspection of adherence to regulations on forest uses; and the identification of potential forests for conservation.

As the LUP/LA activities involve a wider range of disciplines and subject matters beyond what the DAFO staff could handle, big gaps were reported in their competence to efficiently implement LUP/LA. In both districts, serious constraints to carry out the tasks were reported. Participation of other sectors was, thus, recommended and towards the end of the LUP/LA processes, the field LUP/LA team composition became more multi-sectoral in both districts. The sectors that got involved in carrying out field operations varied across the districts. In Namo District, the organizations commonly involved included the DAFO project staff, governor's office, police, military, District LUP/LA Committee, and project staff (at Silalek). In Xieng Ngeun District, these comprised the DAFO, District Commerce Office, District Finance Office, mass organizations (Youth Organization and Women's Union), and occasionally, the District Education Office. The village heads and some villagers were asked to assist when the LUP/LA was operating in their village. Several village meetings were organized at different stages of the LUP/LA requiring the villagers' decisions such as during the introduction, land use zoning, and land use agreement.

Skills of the team members in the LUP/LA operations were reported to be often limited in both districts. In actual practice, the DAFO had to provide the most number of staff in the team to lead the process. Representatives from other line agencies helped mainly in conflict resolution, assisted in some field operations, and provided information about their line of responsibilities. Skills of staff in participatory planning varied between teams. Villagers mentioned that they attended the village meetings organized, but they often only received information more than being able to actively participate in decision making.

4.3 LUP/LA Process at Study Village

The process of the LUP/LA implementation includes a number of steps: preparation, village demarcation, zoning, and developing land use agreement.

Preparation Step

At this step, activities performed were distinguished into several sub-steps. First, the DAFO staff visited the village to explain to the village authorities and organizations the detailed steps and activities to be undertaken in the LUP/LA process. These included methods for collecting general village information; various activities to be performed in the LUP/LA process; regulations and instructions for the operation of the LUP/LA; and formulation of the village LUP/LA committee, etc. Then the village authority called the villagers for a meeting. At the meeting, the villagers were informed about the LUP/LA process, policy and regulations of the government, and benefits from the LUP/LA. Land use options for agriculture production that could replace shifting cultivation were also explained to them. Finally, a village LUP/LA committee was elected in a participatory manner. The committee was chaired by the village

headmen with members coming from different organizations such as the elders, women, youth, village security, and others. At this meeting, the villagers could ask any question relevant to the LUP/LA until they understood the program. The meeting ended with the formation of the Village LUP/LA Committee (VLLC).

Village Demarcation

Village demarcation was undertaken by the DAFO staff and VLLC, with the involvement of key villagers. The work was divided into four sub-steps: identification of village boundary; preparation of village base map; identification of reference point for boundary; and identification of forest and agriculture lands. This working step was regarded by villagers as the most difficult step because often, there was disagreement on village boundary with adjoining villages, even if all the village representatives have been invited for discussion with the DAFO staff acting as facilitator. In many cases, disputes could not be solved internally; issues were then raised to District office for further deliberation.

Once an agreement was made, the team can proceed with the drawing of a village base map based on a topo-map scaled 1:100,000. Villagers were asked to provide information about land use types, their locations, natural landmarks such as stream, road, etc. A base map was then prepared in the form of a sketch map. Based on the map, the team surveyed the landmarks following the sketch map. The map was then improved based on field verification results.

The next sub-step was the identification of forest land and agriculture land use zones in the field. Results were then discussed with the villagers for decision on the zoning based on sketched maps with the location of type of land uses. Once the villagers reached an agreement, a meeting note was prepared and approved by the LUP/LA committee to be reviewed by the DAFO staff. A land use map was then prepared and displayed for everyone to see.

Forest and Agriculture Land Zoning and Use Agreement

Forest and agriculture lands were zoned once the village boundaries between all adjacent villages were settled. This was done by members of the District/project LUP/LA team and other people who knew the land use situation in the village very well. In actual zoning, existing forest areas including degraded parts of forest land are identified and allocated for forestry purposes to prevent further clearance of existing forest areas and to reduce shifting cultivation. The team also designated potential water sources (headwaters) in forest areas needing forest vegetation. Slope data were used as main consideration in assigning areas for forestry and agriculture land uses. During the zoning exercise, forest lands were immediately classified for different types of uses (e.g., conservation forest, protection forest, and village use forests etc.) without regard for their actual status, potential, and suitability.

Agriculture land zoning was mainly based on areas held by villagers. Boundaries of different types of forests and agriculture land were delineated on topographic map for discussion in village meetings. Decisions on which boundary to use and for what purpose were discussed during village meetings. Deliberations were guided by district facilitators, especially in areas where critical forest areas need to be protected for preservation of their environmental uses. Actual area of the proposed agriculture land was calculated and the list of the number of agriculture plots and areas held by each family along with number of families was prepared. Negotiation then started with concerned families on plots found in areas designated as forest land. Families with more plots than the limit (e.g. three to four) were asked to have these plots

given up. The number of family members was also considered; the family with more plots than the allowed had to decide which plot to keep. Similar discussions were done with families who did not have enough plots or in cases when there were available range land and reserved land. Once the agreement was reached, boundaries of the different zones were transferred to the map and a hand drawn sketch map was produced.

Interviews conducted at the DAFO offices and in all the studied LUP/LA villages in the districts revealed that forest protection was prioritized over agriculture and other purposes by the villagers. Balancing future household needs for agricultural land to secure their livelihood was not considered adequately. Considerations on forest contribution to livelihood were mainly based on local uses such as the collection of NTFP, firewood, and timber for local construction.

Recognizing the customary user rights of villagers within the village boundary, the forest land was considered as a common village land and left to be managed by all villagers. Village authorities have the right and duty to enact local rules that are tailored to specific traditions and customary use and to regulate land use within the village boundary. In all the studied LUP/LA villages had a written forest management plans for their forests. Rules and sanctions tailored to specific traditions and customary use of forest resources, things that villagers and outsiders can do and cannot do, and details of the penalty system for breaking the agreed rules were prepared in lieu of a specific forest management plan.

The forest management plans had different levels of details. These rules were found in more detail in the overall village land use agreement that was decided upon and written by the district and village authorities. The agreements were usually supported by land use maps drawn on sign boards that were posted at the village to keep villagers informed. In one of the non-LUP/LA villages (Pheng), only simple non-written rules on the use of water resources agreed by villagers were followed, since there are no longer any forests left in this village. In another non-LUP/LA village (Houay Kook), no agreement was made with the district.

Details of the contents and aspects of the village land use agreements differed from village to village, and these were largely guided by the district team facilitating the LUP/LA process in the village. In Silalek, the agreements covered not only the use and management of forests but also of wild animals, fishes, and other important aquatic lives and water resources. A key role of the villagers in the agreements was the proper use and protection of the forest and other natural resources from over-exploitation by outsiders and by the villagers themselves. A set of fines for different offenses and negligence leading to forest damage (e.g., fire) were decided on and agreed upon by the villagers. These fines also varied among villages.

The opinions of villagers regarding the implementation of the LUP/LA were likewise obtained. Majority of the villagers in all categories of LUP/LA villages seemed to agree with the way the forest zoning was being conducted and with the agreements made. However, most of them did not actively participate in the actual implementation of the LUP/LA (Table 4).

Table 4: Villagers' Assessment of LUP/LA Implementation

	LUP/LA village			LUP village		
	Good	Medium	Poor	Good	Medium	Poor
Agreement with allocated village forests	92.5	6.0	1.5	97.9	2.1	0.0
Knowledge about forest regulation	59.7	38.8	1.5	59.6	40.4	0.0
Appropriateness of forest regulation	95.5	0.0	4.5	93.6	0.0	6.4
Regulation enforcement	88.1	9.0	3.0	83.0	4.3	12.8
Participation in forest conservation	22.4	73.1	4.5	23.4	70.2	6.4
Conservation status	85.1	9.0	6.0	83.0	6.4	10.6
Introduction to LUP/LA	61.2	23.9	14.9	48.9	44.7	6.4
Understanding of LUP/LA	32.8	61.2	6.0	46.8	51.1	2.1
Participation in decision	29.9	55.2	14.9	23.4	68.1	8.5
Participation in planning	26.9	53.7	19.4	36.2	48.9	14.9
Appropriate village LU plan	37.3	44.8	17.9	61.7	19.1	19.1
Agreement with introduction of LUP/LA	77.6	20.9	1.5	89.4	8.5	2.1
Suitability of allocated land	26.9	68.7	4.5	23.4	68.1	8.5

Source: Manivong K. and Sopthabilath P. (2007) and field survey data

4.4 Land Allocation

The land law of 1997 sets the following ceilings on the land allocation of individuals or families:

- Up to 1 ha per full-time family labor unit for rice and fish farming
- Up to 3 ha per full-time family labor unit for commercial crops
- Up to 3 ha per full-time family labor unit for orchards
- Up to 15 ha of deforested land or grass lands per full-time family labor unit for pasture
- Up to 3 ha per individual or family for forestry purpose

It is extremely difficult to find any mountainous areas in the northern region of Lao PDR having sufficient land to meet the above allocation ceiling. Hence, in practice, this guideline was not followed in all LUP/LA villages in both districts. At the village, the number and location of plots agreed upon during the land use zoning exercise were followed. In some villages, the plots of each family were not measured in the field and were based largely on the figures reported by the villagers. Before LUP/LA was conducted, flat arable land for paddy cultivation was limited and shifting cultivation of 6 to 8 years cycle was the most prominent farming system practiced by people. Despite this, land was allocated often based on land availability in the village, existing land holding, status of the families, number of household members, judgment of the LUP/LA team, and some other reasons.

Interviews at the village and household levels revealed that different villages applied different thresholds in the number of parcel and parcel area (Table 5).

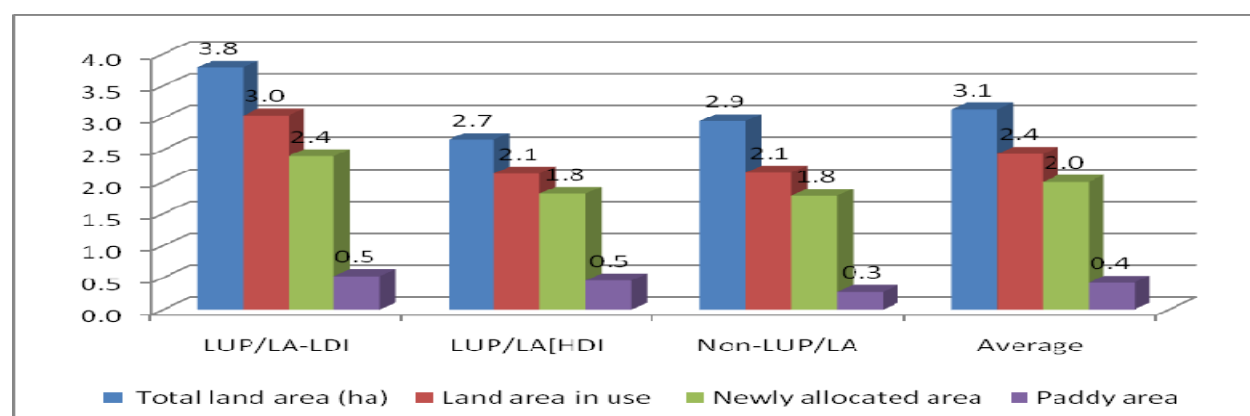
Table 5: Land Area Allocated to Households in Study Villages

District/Village	Area Allocated to Family
Xieng Ngeun District	Instructed four plots by DAFO
Silalek No. 11	Three plots of 1 ha Only one plot to those who already owns 1 ha paddy field; two plots for those with around 0.5 ha paddy field; three plots of 1 ha per (big and small) family without paddy field
Houaykook*(Non-LUP/LA)	Three to five plots of 1.5 ha (based on agreement among villagers)
Namo District	
Namkor Mai-Natao Pheng*	Not fixed (as land was still sufficiently available) Each family has two to three plots, not to exceed 3 ha Two to six plots excluding plots left to fallow

Source: Manivong K. and Sophatbilath P. (2007), field survey for this study

The average number of land parcel possessed by a household across the study areas was 3.3 (1 to 7 parcels) with an average area of 3.1 ha (0.5-10.7 ha per parcel). Out of these areas, about 64% was newly allocated after the implementation of the LUP/LA.

There was a slight difference between the landholdings in the two study districts. On the average, Xieng Ngeun had larger household landholdings (three parcels of lands with an area of 3.25 ha) compared to Namo (three parcels with an area of 2.60 ha). Comparing land holding in different types of villages, the survey revealed that household villagers in the LUP/LA-LDI villages held the largest average land areas (3.8 ha/family in average), followed by non-LUP/LA villages (2.9 ha), and LUP/LA-HDI (2.7 ha) (Figure 1).



Source: Manivong K. and Sophatbilath P. (2007), field survey for this study

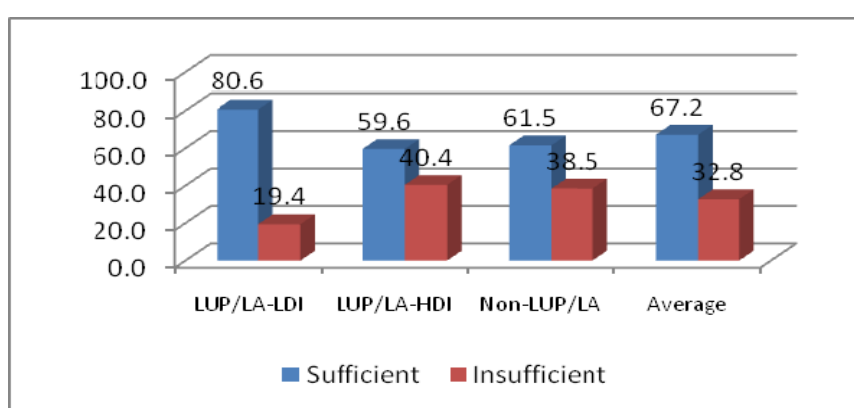
Figure 1: Household Land Use across Village Type (ha)

It should be noted that all land areas owned were reported in LUP/LA villages, but only the land area actually used for cultivation were reported in non-LUP/LA villages. Thus, land plots left as fallow lands were not included in the calculation. In reality, villagers in non-LUP/LA villages were likely to hold more land plots than what were reported.

Household interviews showed that majority had sufficient land for their use, although there are still those wanting to increase their landholdings (Figure 2). The highest percentage of households that lacked land in the village was observed in LUP/LA villages such as Silalek

(51%), followed by Mai Natao, Nam kor, No. 11, and Huay Kook, consecutively. In Pheng, the information recorded from households contradicted the report of the Village Management Committee wherein more than a half of the households claimed that they had insufficient lands. In fact, every household owned an average of 3.1 parcels with an average area of 2.3 ha. Areas of fallow lands, which are regarded as common lands, were not reported during the survey.

In general, those who claimed having insufficient lands also reported experiencing rice insufficiency for about 2 months/year; given an average landholding of 2.7 ha/household; and average income per capita of about 1.3 million kip or about US\$140. Majority (74%) obtained their income from cash crops (maize); from NTFP (59%), from sales of animals (25%), and from labor sale (21%). A village authority reported (though without confirmation) that some villagers sold their land for some reasons to wealthier persons who used these lands for long-term business purposes (e.g., rubber plantation). The research showed that five out of the 152 surveyed households or 3% had no land.



Source: Manivong K. and Sophatbilath P. (2007), field survey for this study

Figure 1: Land Sufficiency (%)

One of the possible causes of land insufficiency is the fact that villagers did not use the available land effectively. Household surveys indicated that, on the average, only 80% of the land was used annually, with highest percentage in the LUP/LA-HDI (85%), LUP/LA-LDI (81%), and non-LUP/LA (74%). In addition, the inefficiency was associated by majority of the villagers to the decline in rice yield and the non-allocation of village land in the distant part of the settlement. Teak and rubber plantations as well as NTFP were reported to grow in plots allocated for agriculture cropping in all LUP/LA villages. This poses another serious problem of land availability for agriculture activities for some families. Request by villagers for new plots and for reallocation were usual.

In all the study villages, land designated for livestock raising remained common land. Any family could raise their livestock, usually cattle, in the area. All the villages had this type of land use but varied in extent. Families had open access to all types of village forests (even those designated for conservation) to collect NTFP. They could gather timber and firewood from the village use forest and they could catch fish and other aquaculture products from rivers and streams. All these lands were important sources of household cash income, food, medicine, and other benefits.

4.5 Land Registration

Lands were registered to create land use rights for families. Land registration has to be, in principle, based on the result of land allocation wherein parcels allocated to families have been actually measured in the field. Both the districts under study, applied the same procedures and formats for registering allocated land to the families. Two papers including (1) a Land Use Agreement, and (2) a Temporary Land Use Certificate (TLUC) were prepared. The Land Use Agreement was signed by the concerned landholder, village head, and DAFO. This contained details on the formal authorization of use rights to the concerned family over allocated parcels; the confirmation of the family to apply environment-friendly and sustainable production system and practices in the allocated parcels; the prohibition to sale of land; and the amount of fines to be paid by users if agreements were not followed. In the agreement, the 1:2000 scale sketch map of each parcel was given and the annual inspection to be made by the DAFO at the parcel level was specified. In addition, options in land use in different classes of slopes were given to guide the land user. Based on the Land Use Agreement between DAFO and family, the District Governor issued the TLUC with details on parcel location, area, boundaries, and production option to be adopted for all parcels together in one certificate. The certificate also specified the period of validity, which differed in both districts e.g. three years in Xieng Ngeun for all types of options whereas it was fixed at three years for the lowland and five years for the upland in the Namong District. Non-allocated land was not registered and left for communal use.

4.6 Extension Support

Extension service is considered to be the most important factor in the LUP/LA process. It can help farmers transform the allocated lands into more productive plots for various crops, and it can sustainably manage village resources to improve their livelihoods. Similar to majority of places in the country, government extension support was weak. Interviews with DAFO heads of both districts showed that the capacity of the DAFO staff to advice farmers on land use and farming systems was still limited. The lack of budget posed another serious constraint. The office had to heavily rely on external support, for instance on project staff working on the sites as well as on other means (from traders and from companies providing contract farming arrangements).

Extension capacity tends to be correlated with the extent of funding support. Fairly good extension services were commonly found in areas covered by donor-funded projects. This was true in two villages (Mai Natao and Namkor) of Namong District where the German Agro Action (GAA) is currently active in agriculture and forestry development. In these two villages, GAA has been involved in the LUP/LA process from the beginning, and it provided both technical and financial support for associated extension activities. Extension supports included community organizing and the introduction of diverse new land-based farming technologies and livelihood alternatives to replace shifting cultivation practices, NTFP domestication, pig and poultry production, etc. Some support mechanisms such as healthcare and nutrition activities, agri-product processing, micro-credit and economic and market-related awareness were also provided. Additional extension supports came also from the private sector in the form of contract farming, but this was very much influenced by Chinese markets and led to more intensive mono cropping of certain cash crops such as water melon, paprika (sweet chilli), hot chilli, tobacco and maize. An increased cultivation of rubber and Eucalyptus plantation was also reported in the areas. The use of chemical pesticides was evidently high for all cash crops, and it was reported to cause problems to human health, livestock, and water sources in the areas. Contract growers' providers have sent their technicians to the villages to instruct farmers on various technical practices, including the recommendation and use of pesticides and fertilizers.

No action was so far taken by the DAFO, except witnessing some agreements between contractor and farmer who came to them.

Difference was observed in Silalek and Village No. 11 in Xieng Ngeun district. Both the LUP/LA operation and its associated extension practices were initiated in these two villages with support from the Lao-Swedish Forestry Programme, known as ‘the Shifting Cultivation Stabilization Project’¹ in late 1990s. At that time, some new land-based technologies combined with soil conservation techniques were introduced to the area resulting in various technology trials and on-farm demonstration participated in by local households. Unfortunately, without continued extension support and appropriate supportive mechanisms, those activities tended to end upon the termination of the project. A visit to the sites revealed sporadic existence of poorly maintained hedgerows, fruit trees, and teak plantations. In these villages, extension activities lagged behind and were often constrained by limited resources and staff capacity of the DAFO. Unlike in the Namou District, villagers had relatively limited access to other sources of information. Learning mainly came from other farmers and traders and, to limited extent, from district extension staff, project staff, and exposure to television and radio. To retain the land parcels allocated to households, farmers were encouraged to prepare an annual production plan for each allocated land parcel indicating what crops are to be grown each year until 2010. They were also encouraged to use all land parcels allocated to them and to implement the agreed options for each of land parcel. However, these have been left unattended without proper extension support.

In some areas, extension in agriculture production was mainly provided by traders at minimal scale. Hence, some varieties of cash crops such as maize and jobs tear are being produced. Rubber plantations, which were initially introduced in Silalek by the Hmong people who shared information from their relatives in Ban Hat Nhao, Luang Namtha province, increased. These plantations were established mainly through own farmers’ initiatives. World Vision also provided limited and not so systematic extension support in the area. No difference in level of extension services were observed between villages with different statuses of LUP/LA completion.

4. 7 Monitoring and Evaluation

Monitoring and evaluation (M&E) is divided into two parts: monitoring and inspection. Both are conducted jointly by the District staff, the Village LUP/LA committee, and the villagers. The main purpose of monitoring is to follow up the progress of the LUP/LA practices; the quality of work in line with LUP/LA procedures and methods; functioning and capacity of LUP/LA committee for the management of forest land resources; the implementation of village forest land use agreement; and the resolution of land use disputes. The villagers’ adoption of appropriate land uses and conservation farming practices were also included in monitoring practices. The inspection part, on the other hand, includes investigation into problems of infringements related to boundary, land use zoning, land parcel use, as well as village land use agreement. In addition, a good inspection can help solve inter-village land use disputes or conflicts.

At the District level, the responsibility for M&E was given to the District LUP/LA Committee that worked in close consultation with the Village LUP/LA Committee. DAFO was

¹ The project activities started in 1997 and ended in Year 2001

not only directly responsible for extension services, but it was also involved in inspection activities. With the dissolution of this committee, the tasks were shared between DAFO, DLO, District State Assets Management Office (DSAMO), and other line agencies. DAFO played a secretarial role to the District LUP/LA committee, responsible to bookkeeping and coordination roles. All relevant documents including Temporary Land Use Certificate and land use maps are compiled and stored at the DAFO office.

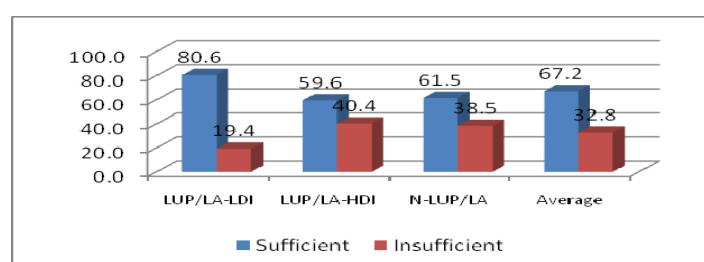
Actual implementation, however, differed between districts. Monitoring and inspection tasks were done in connection to project activities in Namo by the DAFO and the District Project Steering Committee and then reported to the PAFO. Inspection tasks in other villages not covered by project support were reported to be occasionally carried out mainly by DAFO because of lack of funds. This was often done in combination with land tax collection visits at village level. In Xieng Ngeun, the DAFO was directly responsible for monitoring. For inspection, the district authority established a committee comprising of members from different relevant district offices involved in LUP/LA operations plus the District Inspection office. Two or more teams were sent down to spend one to two days in each village once a year for monitoring. Inspection was only done in the village through a brief checking of parcels in case of a serious problem that was beyond the village's authority to solve. Often, the problem was passed on to local authority. Serious cases could be taken up by the village authority for immediate action or solution. A monthly meeting among village heads, organized at cluster village level, was also used as a mechanism for monitoring the LUP/LA implementation in both districts. In Namo District, land inspection, monitoring, registration were the tasks of the District LUP/LA Unit within the Governor's Office.

M&E has not really been well performed in all the study villages either in frequency or in quality. There was no consistent M&E format developed and applied. The fact that many LUP/LA villages did not have any action plan had made monitoring, evaluation and inspection superficial.

5. IMPACT OF LUP/LA

5.1 Food Sufficiency

Majority of the inhabitants were relatively poor with an average annual household income of about 9.2 million kip (about USD1000) or less than USD200 per capita. Rice shortage remained the main concern of the population in the areas. Comparing across villages, the percentage of households with rice sufficiency was largest in the LUP/LA village with abundant forest (80.6%), while the smallest percentage was in the LUP/LA villages having the least forests (59.6%) (Figure 3).



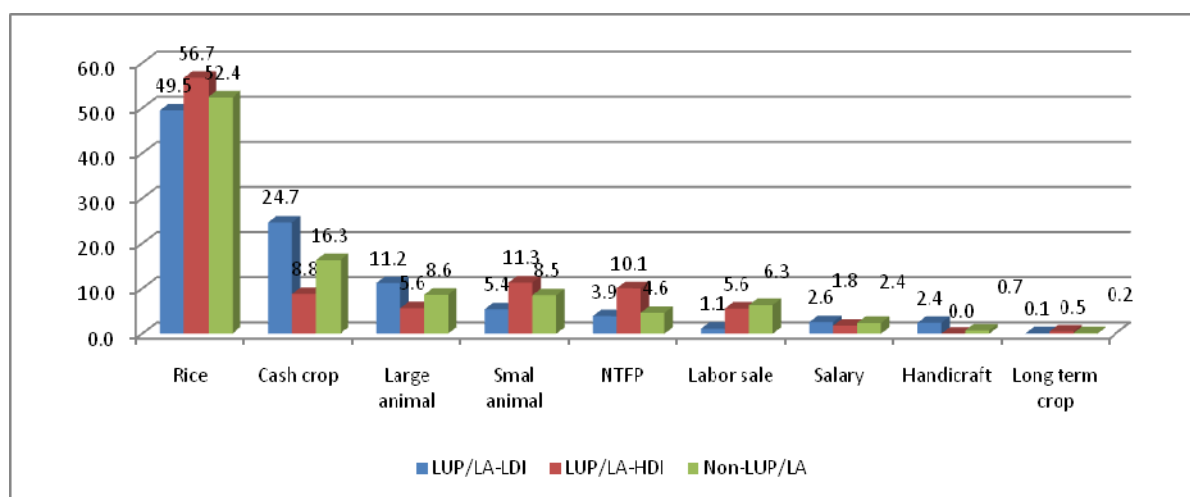
Source: Manivong K. and Sophatbilath P. (2007), field survey for this study

Figure 3: Household Rice Sufficiency

5.2 Income

Livelihoods of the population living in the areas were heavily dependent on upland agriculture production and forest resources. Rice production remains as the most important source of income (51% in income share) in areas, followed by other cash crops (19%), livestock (16%) and Non-Timber Forest Products (6%).

Cash crop has increasingly contributed to household income, and it tended to further increase, particularly in areas close to the Chinese border. NTFP also plays an important role in local livelihood for both household consumption and income generation. However, this source of income has declined, and this are now be replaced by other cash or industrial crops. Income from perennial crops has not changed, but these crops have just started to yield recently for farmers in all categories of villages (Figure 4). Income from perennial crops is expected to increase in the near future as a large portion of land area has been increasingly covered with rubber plantation. This may also happen with teak in Luang Prabang. Off-farm household income was still far below that of on-farm activities.



Source: Manivong K. and Sophatbilath P. (2007), field survey for this study

Figure 4: Income Sources by Village Category

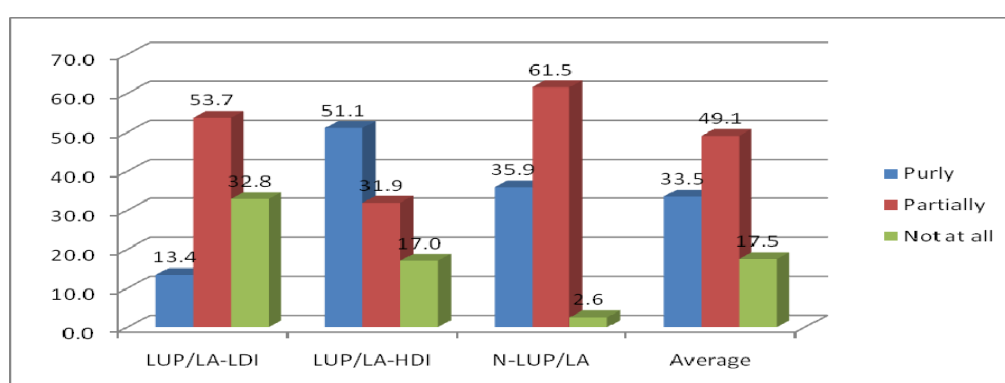
5.3 Diversification of Farming System

Farmers have adopted a wide range of farming practices, mainly transitioning to commercial agriculture. A mixture of traditional and newly introduced systems and practices were observed. The changes were more oriented to market demand, hence changing the priority of choice of crops to produce. In areas near the Chinese border (Namo District), production was determined by the Chinese market. The latter demanded rubber, maize, sugar cane, watermelon, paprika, hot chilli, tobacco, NTFPs (wild galangar, cardamom, bitter bamboo, sapan), and others. In Xieng Ngeun, maize was also extensively planted as in Namo. Rubber planting had just been introduced but it is expanding rapidly and covering quite a sizable areas. Species of agriculture crops cultivated were clearly varied, including soya bean, banana, peanut, teak, sesame, sweet corn, vegetables; while NTFPs included paper mulberry for animal fodder bark and broom (grass). Fish and livestock were also important commodities for both the districts.

There was little difference observed in the farming system across study villages. Common farming systems in the study site included fish ponds, domesticated wild NTFP species, cash crop (maize, job's tear, sesame), fruit trees in agro-forestry plots and home garden, tree species (teak, rubber), and livestock. The choice of crops to grow depended on source of information they received, their labor limitations, capacity to purchase the inputs, access to planting materials, among others.

5.4 Reduced Swidden Cultivation

Despite the LUP/LA scheme implementation and rapid change in farming system and practices, traditional swidden cultivation was still reported in all study villages (Figure 5). Majority (82.5%) of the respondents mentioned practicing swidden cultivation. Figure 10 shows that the highest percentage of farmers involved in swidden cultivation were in the non-LUP/LA villages. Few people engaged in paddy cultivation (2.6% with average padding landholding of 0.3 ha/family) and least in the F-LUP/LA villages where people have more paddy field (32.8% with about 0.5 ha/family). As rice is staple food and flat land for paddy cultivation was limited, swidden cultivation has continued and would probably continue for quite sometime to provide rice for the family needs. The decline in yield was a major reason for farmers to seek improved production technologies from the government.



Source: Manivong K. and Sophatbilath P. (2007), field survey for this study

Figure 5: Swidden Cultivation Practiced Across Village Category (%)

5.5 Poverty impact

No one exactly knew the different sources of income of the villagers before the implementation of the LUP/LA in the village. They just indicated that their main source of income was from swidden cultivation in which almost all households practiced. Similarly, for question about the number of households in different categories of wealth status, more than 80% of the households were reported to be classified as 'poor' in each village, and the remaining were mainly of the 'medium' class with very few better-off. The situation seemed to be better in 2006 based on perception of the respondents with only a few households remaining in the 'poor' group. The biggest number of households were found in the 'medium' group and many could make their way up to the better-off class (see table 9). This could be reasonable as most household are moving more towards cash-oriented and market-demand driven production systems. A clear indication of farming system diversification and introduction of more improved practices across the study areas could be one of the main reasons for the improved socioeconomic condition, even though several problems e.g., land insufficiency, and weak extension support system persists.

Table 6: Wealth Raking of Households in the Study Villages in 2006

	Silalek	No. 11	HuayKouck	Namkor	Mai Natao	Pheng
Population	928	660	212	491	200	508
No. of HH	142	106	35	111	33	67
Better off (%)	35	0	4	24	3	0
Medium (%)	94	100	23	75	18	19
Poor (%)	13	6	8	12	12	48

Source: Manivong K. and Sophatbilath P. (2007), field survey for this study

5.6 Improved Land Tenure Security

In both study districts, farmers who received the allocated plots were already issued with temporary land use certificates (TLUC). The TLUC can be inherited but is not for sale and could not be used as collateral. By law, this certificate shall be replaced with a Permanent Land Use Certificate (PLUC) after three years of cultivation of the land. This was in conformity with the Land Use Agreement by DAFO. DAFO is mandated to monitor and confirm appropriate use of the allocated parcels and submit their findings before the PLUC' can be issued.

In both LUP/LA-LDI, all the TLUC issued have already exceeded three years, but PLUC have been issued yet. In all the villages, illegal transfers of land rights were also reported during the household interviews despite the denial of the village authority on this matter. The buyers of the land consisted of new entrants of the village as well as wealthy people from outside the village who want to have more lands for the booming rubber plantation in the area. The recording system to track the land rights transfer was almost non-existent in all villages.

Land inspection was reported to be done only once a year by the district at the village level. Because of the lack of budget and staff, nothing was known on land use zone and parcel level. Household interviews showed that majority (67%) of the respondents was satisfied with the TLUC they received, and they felt sufficiently secured about their rights even without any formal registration. A few (4%) villagers disagreed and 29% did not know about the existence of this document at all. It would appear that the people are already secured on their rights to the land with the TLUC and are not much concerned whether the PLUC will be issued or not. However, prompt action to solve illegal sale of land must be taken so as not to aggravate problems in land insufficiency; that could result in increased forest conversion in the future.

5.7 Prevented Forest Encroachment

The management of village forests was the task of all villagers under the leadership of Village Authority. This task consisted mainly of adhering to the agreed upon village rules and other agreements. Every villager was asked to be the 'ears and eyes' in the implementation. Often at the village level, a special unit/committee, which was named differently in a different place, was organized to oversee the implementation, monitoring, and coordination. At Namkor, Namo District, the LUP/LA Committee and Village Natural Resources Management Committee were established to implement the agreements of the whole village on land use. At Ban Mai-Natao, in addition to the same committees, a Village Forest Volunteer was also nominated to assist in field operations. In Xieng Ngeun District, the Village Vice-Head and Village LUP/LA Committee implemented the land use agreements.

In all villages, NTFPs were an important source of cash income as well as safety net during hard times. All households were involved in NTFP collection. Several forest products were found to be collected for sale to traders from the district and for home consumption. The quantity of collection varied among households. From the total interviewed households, 55% collected NTFPs for sale with an average income of LAK 50,000. In non-LUP/LA villages, NTFP collection, hunting and timber cutting was operated on an open-access basis. Anyone can collect something in any place within their village territories.

In LUP/LA villages, non-destructive NTFPs collection was specified in the village rules, but how to actually do this was not clear. Similar to the non-LUP/LA villages, collection of NTFPs from the forest was open access. Interview with the village authority showed there is a high respect for imposed rules among villagers. However, cases of illegal collection of NTFPs by villagers from other villages as well as a rapid decline of many commercial NTFPs and wildlife in LUP/LA villages' forests were revealed in the interviews.

Use of timber from village forests in the LUP/LA villages was also permitted for all families in the village for local use (e.g., house construction) at limited quantity. In principle, use had to be requested from the DAFO through the village authority. In practice, the village authority decides if the requested amount was within the limit set in forest law. The decision was based on the economic status of the requesting family with higher priority given to poorer and newly established families. Resource fee had to be paid according to what was specified in the forestry law. For big public construction works at the village requiring more timber, the village head had to request from the DAFO and District Governor.

According to the rules in all villages, forest resources had to be protected from all kinds of destructive uses; most importantly, from encroachment. However, many villagers (in Silalek, Village No. 11 and Mai-Natao) were reported to have cleared the plots for shifting cultivation in adjacent villages. It was not clear though if they cleared the forest or fallowed lands, but this, to a certain extent, suggests the need for strict implementation of rules in these LUP/LA villages and the need for rapid coverage of LUP/LA activity in non-LUP/LA villages. Household interviews also revealed other incidences of "gradual encroachment," especially by those who have agriculture plots adjacent to forests. Forests were cleared and occupied eventually.

It was not possible to estimate the extent of degradation of the existing forests either by encroachment or by non-regulative collection of NTFPs. However, indirect verification by villagers clearly confirmed that this situation is taking place, albeit at a lower rate.

About 2% of the respondents did not realize what exactly was on the village rules and about 40% simply had no comment when asked if they were aware of the important provisions of the village forests rules.

The above situations implied that forest degradation has continued after the LUP/LA, but at a much lower rate. This was confirmed through interviews in all LUP/LA villages that village forests have been better protected, although awareness raising, monitoring, recording and record system as well as support system needed improvement.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The LUP/LA has expanded in scope since it started in 1991. It has now become more comprehensive containing a multitude of objectives. It is hard to have a clear cut assessment of how effective was LUP/LA. Achievement in every aspect is associated with certain problems. Assessment from different perspectives gives different results. This study revealed a considerable number of problems in its implementation. However, there were significant achievements as follows:

- It initiated the process that enables families to secure land tenure rights to land they develop;
- It built up villagers' confidence to develop the land allocated to them and encourages them to invest in economic activities. Crop and livestock production; tree plantation; and NTFPs domestication have increased, which ultimately contributes to improving the livelihood of local villagers.
- It helped slow down the speed of deforestation by reducing encroachment into the village forest areas and thereby keeps the remaining existing forests better protected
- It helped clear demarcation of village boundaries.

While the survey showed that in all categories of LUP/LA villages, forest degradation still continues, this was deemed to be happening at a much lower rate. Although it is not possible to quantitatively assess the area, encroachment was evidently much less than it was before. Shifting cultivation has decreased in size within the LUP/LA villages as a result of the introduction of new farming systems. The LUP/LA protects the forests better.

There were differences in the effectiveness of the government policy on LUP/LA across villages as a result of the differences in the local context, LUP/LA procedures, and the local capacity. By design, the LUP/LA procedures are meant to be suited to the local conditions as this was found necessary in the process of implementing the program but the methodologies should be consistent. The inconsistency noted in the application of LUP/LA methodologies had caused significant differences in the quality of outputs. The difference stemmed mainly from the differences in the capacity for operational planning of land uses at the village level as a whole. Hence, there were differences in the details in these plans to guide implementing bodies at the district and village levels. Unclear technical instructions have also caused misinterpretations by the field staff resulting in inappropriate actions. Furthermore, the links between LUP/LA and other rural development programs in the areas was inadequate.

Staff capacity either in the number or skills required to implement the various tasks under LUP/LA was lacking. Participation of villagers was generally low in many steps of the LUP/LA operation. Field work was very much constrained by the limited budget, staff capacities and capabilities, and time insufficiency. These limitations caused inconsistencies in the LUP/LA results in different places and even within the same district. Regulations developed for individual villages contained no descriptions of things that were allowed or how and under which conditions these were allowed. Instead, these regulations were mainly about rules of how and how much the violators would be punished.

Extension services support and M&E activities, which are vital to the LUP/LA process, were inadequate and inconsistent in contents, frequency, and quality. Poor record keeping was observed at both villages and district levels especially the record of land use rights transfer and system of tracking. Actions to resolve conflicts taken by the districts were deemed not adequate. Many conflicts existed as village authority was not provided with strong back up during conflict resolution processes.

Improved infrastructure (road, telephone) considerably increased the villagers' access to market, information, and other public services, and thereby contributed substantially to the achievement of the LUP/LA. Livelihoods of the population living in the areas are heavily dependent on upland agriculture production and forest resources. Rice, the most important income source in the areas, is declining in productivity with rapid soil depletion. More new market-oriented farming systems including domestication of commercial NTFP species have been adopted but mainly in the transition to commercialized agriculture leading to increasing demand for more lands for agriculture. Off-farm household income was still lower than that derived from on-farm activities. Diversified production was prominent. Compared to the situation before the implementation of LUP/LA, livelihood was observed to have improved in all study villages although the areas remain relatively poor and pressures from land insufficiency as well as from rapid depletion of natural resources have been increasing.

As in other rural areas, the weak monitoring and inspection system and insufficient capacity at the district level to carry out land titling has led to the delay in issuing Permanent Land Certificate in the areas. No permanent land certificate was issued in any of the LUP/LA villages, although TLUCs were already expired in many villages. Illegal land use rights transfer was reported in some villages thus aggravating the insufficiency of land allocated to family.

From its initial aim to confine shifting cultivation, LUP/LA has become integrated into village development during the course of its implementation but there was a call for higher consideration to be given to livelihood enhancement in the study villages. Without further livelihood support, there could be continued clearing of forests for swidden cultivation and encroachment through slow expanding agriculture field in existing LUP/LA villages. Furthermore, there is a need to regulate hunting and collection of NTFPs as rapid depletion of many commercially valuable NTFP species and the rapid decrease of wild animals were noted.

6.2 Recommendations

- LUP/LA methodologies need further review and these should be consolidated into a single methodology for adoption countrywide to ensure consistency. Further elaboration of instructions at each step is necessary. Specific management or action plan for each land use zone should be included as a step in the methodology. Time and funds provided for field LUP/LA operations should be realistic.
- Special teams should be formed for LUP/LA tasks at district level and adequately trained in the various skills requirements of the tasks.
- LUP/LA should be part of the overall integrated village development programs.
- It is necessary strengthen government and village extension systems to focus on supporting implementation of village and regional development plans.

- It is important to strengthen the M&E system by making efficient use of village networks and delegation of M&E tasks to village authority. Monitoring and evaluation by the district offices should focus more at land use zone level. Serious action by the district to solve conflict and strong back-up to the village authority plus appropriate incentive system are necessary.
- It is advisable to speed up LUP/LA activity in the remaining villages to avoid land use conflicts between LUP/LA and non-LUP/LA villages and to prevent the rapid degradation of existing natural resources in non-LUP/LA villages. Degradation will likely happen through encroachment and land grabbing pushed on by the increasing demand for many emerging crops of regional markets. Sensitive areas should be given priority for protection.
- Communal land registration is needed as this will not only increase responsibilities of local authorities but should be a requirement for future certification of sustainable management of village forests

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