

**Vegetation recovery process in swidden cultivation of a village in
Northern Laos**
—Nam Ha National Biodiversity Conservation Area of Luang Namtha Province—

平成 15 年編入

Destination : Laos

Organization : Nam Ha National Biodiversity Conservation Area

Anoulom VILAYPHONE

Keywords : Vegetation recovery, fallow, swidden cultivation, Khmu, Laos

Summary of dispatch area

A Khmu community of Nam Ha village is located inside Nam Ha National Biodiversity Conservation Area (NBCA) of Luang Namtha Province, where the present study was conducted. Luang Namtha is one of the mountainous provinces in the northwestern part of Laos. Nam Ha NBCA was officially established by the Lao Government in 1993 with the sponsorship of Wildlife Conservation Society (WCS) in order to preserve the valuable natural resources of both flora and fauna. The NBCA covers 222,400 hectares and is divided into three major parts according to core zones. The first part is called Nam Ha East, which has been officially declared to be NBCA since 1995 and cover a total area of about 69,000 hectares. The core zone (or restricted zone) within this part has high quality and dense mature mixed deciduous forest. All human activities are totally prohibited in core zone. The second part is called Nam Ha West covering the area of about 111,000 hectares. A large portion of this section provides habitation for 22 villages of various ethnic minorities such as Akha, Hmong, Lue and others. The third part is called Nam Kong area. It consists of 44,000 hectares and was officially declared at the same time with Nam Ha West in 1999. This area is located in adjacent to the border of Xishuangbanna Protected Area in China and it is known to be the home of many endangered species. The current study is conducted within the eastern part of NBCA in which is only two villages of Khmu (Nam Ha and Khoua Sung villages) are inhabited.

Motivation for internship and pre-departure objectives

My internship at this NBCA was meant to allow me to continue observing and collecting data on vegetation recovery and mapping studies, which had previously been done triennially. Clearly understanding the interrelation between vegetation and soil recovery is a very important tool to

evaluate and manage suitable land use practice. The length of fallow periods had been reduced dramatically from more than 20 years in last two decades to even less than 4 years at the present time. The most important reasons for the reduced fallow period may be a decline in crop production and weed infestation.

Activities

Beginning with a previous study done in 2004, nine plots of vegetation survey had been established in seven different fallow conditions such as current upland field, two years of fallow, four years of fallow, seven years of fallow, production 15 years of fallow, 20 years of fallow and 30 years of fallow respectively. During my time in Nam Ha village, I normally observed daily activities of villagers and went to the forest to conduct vegetation measurements. This study attempts to clarify the vegetation recovery such as changes of species composition, biomass increments in relation to soil fertility status and discuss the fallow term in relation to the site condition.

A tree census was recorded with all trees higher than 1.5 m and Girth Breast Height (GBH) larger than 5 cm of all sampling plots in 2007. In the field, the most common and readily identifiable species were directly named based on tag numbers from previous numeration and then new tags were replaced for subsequent use. A total of 926 samples were collected during the survey. Soil textures and chemical properties were analyzed based on soil samples collected at different fallow years. Soil samples were further analyzed at the Faculty of Forestry, National University of Laos.

General impression of internship

Having a chance to conduct a study in Nam Ha NBCA, especially Nam Ha village, that has helped me to compare the changes of land use both due to impacts of traditional swidden cultivation practice and infrastructure development. The study has given me numerous experiences and has also afforded me a better understanding of overall recovery conditions of different fallow periods. Fallow is not only a place to restore biomass and fertility status to the soil, but it also provides a huge alternative income opportunity to villagers too. All of the villagers in Nam Ha village are Khmu and Khmu who are known to have very good knowledge in hunting and gathering of NTFPs. Moreover, the Khmu of Nam Ha village also demonstrate remarkable community control access into gathering of NTFPs. The control access paved the way toward equal access among their villagers. Therefore, we should not only consider swidden cultivation as a major cause of forest destruction, but we should investigate this complex system from diverse perspectives.

Degree to which objectives were achieved and reflections

The activities and objectives had been achieved as scheduled. Nevertheless, further field observation is needed to verify and validate the data. Subsistence livelihood is gradually replaced by

market oriented systems, which indicates that villagers will seek more chances to earn their income and enlarge more cultivation fields.



Traders came to buy NTFPs in the village.



Traditional upland rice harvesting of Khmu.



Vegetation recovery at first year of fallow.



Vegetation recovery at 4 years of fallow.



Wild sugar palm fruits at Long district ,
Luang Namtha Province.



Rattan shoots are among marketable
NTFPs in Nam Ha village.