

**“THE FOREST RESTORATION RESEARCH IN LAO PDR”  
3 – 7 JULY 2006,  
FRC (NAFRI), VIENTIANE, LAO PDR**



**BY FOREST RESEARCH CENTRE (FRC), NAFRI  
SPONSORED BY DARWIN INITIATIVE, U.K.**

**SUMMARY OF NOTES TAKEN DURING THE WORKSHOP**

- Title** “Forest Restoration Research in Lao PDR”
- Date:** 3 – 7 July 2006
- Venue:** Forest Research Centre (NAFRI) and Faculty of Forestry (NUoL)  
Sangthong district
- Language:** English, Lao, and Thai
- Sponsored by:** Darwin Initiatives
- Organised by:** The Forest Research Centre (NAFRI), Lao PDR
- Joint Organisation:** The Forest Restoration Research Unit (FORRU-CMU)

**Introduction**

In August 2005, the “Principles and Practice of Forest Restoration Workshop for the Laotian partners was the second of three workshops hosted in Chiang Mai, Thailand by FORRU-CMU. The workshop hosted 15 participants from various organizations involved in forest restoration. The workshop contents covered the principles and practices of the framework species method to accelerate biodiversity recovery in planted forests. In addition, a review of FORRU’s protocols and results, particularly nursery techniques and logistic planning were presented. Furthermore, the project outputs particularly i) organization of the workshop in Lao PDR, ii) input into Forest Restoration and Research Project Establishment Manual and iii) adaptation and translation of the Field Guide “How to Plant a Forest” were discussed. After that, the in country workshop in Lao PDR was held in July 2006 to fulfill the aims of project outputs listed above. The Forest Research Centre (FRC), under the National Agriculture and Forestry Research Institution (NAFRI) comprised the main organizing committee. Twenty seven took part in the workshop, including 3 staff from FORRU-CMU.



*The participants from Lao PDR who joined the principle and Practical for Forest Restoration Workshop in Chiang Mai, 23<sup>rd</sup> Aug. – 2 Sept. 2005.*

## **Objectives**

1. To formulate a comprehensive integrated FORRU plan for Lao PDR.
2. To write up a proposal to establish a Forest Restoration and Research Project (FORRU) in Lao PDR.
3. Publications review and discussion:
  - Field guide – **“How to Plant a Forest”** – drafted in Laotian for comments.
  - Manual on “Establishing a Forest Restoration Research and Training Unit”

## **Major Content:**

Issues to be addressed by the workshop:

1. Overview of forestry situation in Laos.
2. Forest rehabilitation in the past.
3. Research work of FRC.
4. Role of FORRU in forest restoration
5. The need to have FORRU in Laos
6. FORRU project design in Laos

**Participant List of Forest Restoration Research in Lao PDR Workshop – See Appendix I**

## Program

Day	Date	Time	Subject	Who, Location
Mon	3/07/06	Morning	<ul style="list-style-type: none"> <li>Opening session.</li> <li>Objectives of the workshop.</li> <li>Roles of FRC</li> <li>Experiences of FORRU in other countries</li> <li>Overview of forestry situation in Laos (SF 2020)</li> <li>Research work of FRC.</li> <li>Forest Plantation in Korea</li> </ul>	<ul style="list-style-type: none"> <li>Mr. Siriwangthong Kingkaew D.G. NAFRI, - NAFRI meeting room.</li> <li>Mr. Sounthone and Dr. Steve Elliott</li> <li>Mr. Bounphom Mounda</li> <li>Dr. Steve Elliott, FORRU</li> <li>Mr. Sousath Sayakoummane</li> <li>Mr. Sounthone Ketphanh</li> <li>Dr. Don Lee, IUFRO</li> </ul>
		Afternoon	<ul style="list-style-type: none"> <li>summarize of tree seed organization</li> <li>Project with Darwin (Lao PDR)</li> <li>Present lesson of forest rehabilitation (AK Project)</li> <li>Role of FORRU in forest restoration</li> </ul>	<ul style="list-style-type: none"> <li>Mr. Outhong Vongsay</li> <li>Mr. Khamphone Sengdala</li> <li>Mr. Phonsavanh Manivong</li> <li>MS. Sudarat Sangkum (FORRU-Thailand)</li> </ul>
Tue	4/07/06	Morning	<ul style="list-style-type: none"> <li>The need to have FORRU in Laos</li> <li>FORRU project design in Laos</li> </ul>	<ul style="list-style-type: none"> <li>Mr. Sounthone and FRC team - NAFRI meeting room.</li> </ul>
		Afternoon	<ul style="list-style-type: none"> <li>Comments on Field guide (Lao version)</li> <li>Field plan</li> </ul>	<ul style="list-style-type: none"> <li>Team</li> <li>Team</li> </ul>
Wed	5/07/06	Morning	<ul style="list-style-type: none"> <li>Visit to Herbarium at NUoL</li> <li>Visit to FRC at Namxuang</li> </ul>	<ul style="list-style-type: none"> <li>FRC Team – National University of Lao</li> <li>Namxuang District, FRC</li> </ul>
		Afternoon	<ul style="list-style-type: none"> <li>Sangthong District, visit villages committee and forest plots (70 km from Vientiane)</li> </ul>	<ul style="list-style-type: none"> <li>FRC Team - Sangthong District - (Overnight in Sangthong)</li> </ul>
Thu	6/07/06	Morning	<ul style="list-style-type: none"> <li>Back to VTE</li> <li>FORRU project design</li> </ul>	<ul style="list-style-type: none"> <li>Team - NAFRI meeting room.</li> </ul>
		Afternoon	<ul style="list-style-type: none"> <li>FORRU project design and plan</li> </ul>	<ul style="list-style-type: none"> <li>Team</li> </ul>
Fri	7/07/06	All Day	<ul style="list-style-type: none"> <li>Finalize the design</li> <li>Presentation of the Workshop outputs</li> <li>Wrap up and closed</li> </ul>	<ul style="list-style-type: none"> <li>All with other organizations – NAFRI meeting room</li> </ul>

## **REPORT ON EVENTS**

### **Welcome Remarks and Introduction on Monday 3<sup>rd</sup> July 2006**

Mr. Siritwangtong Kingkaew, Deputy Director of NAFRI welcomed all participants to the **Forest Restoration Research Workshop** in Vientiane, Lao PDR. Later, he presented the current situation of forest cover in Lao PDR, which has been reduced from 70% in 1940 to 41.5% in 2002. Some forest areas have been destroyed or transformed from virgin to deciduous forest. Any recommendation and techniques discussed in this workshop should hopefully lead to successful forest restoration in Laos.

### **Objectives of the Workshop – Mr. Sounthone Ketphanh, Dr. Stephen Elliott**

Mr. Sounthone introduced the aims of the workshop. Later, Dr. Steve presented the objectives and why a FORRU Project is needed in Lao PDR. Dr. Steve presented the organizations involved such as FORRU–CMU, EMR and the Darwin Initiative, U.K. He also explained that a FORRU's aim is to develop the best method to restore forest for biodiversity conservation. The recommended method is the Framework Species Method using native species in which can be applied to each location. The results from workshop in Chiang Mai were also mentioned together with the possibilities of establishing a FORRU in Lao PDR. Moreover, the ideas and inputs from all stakeholders would help to develop FORRU – Laos through discussion from this workshop.

### **Role of FRC - Mr. BounPhom Mounda, Director of FRC**

Mr. BounPhom said that forest in Laos is important for livelihoods and for products and goods for the economy. The strategy and goal of Lao Forestry is to have 60 – 70% forest cover by the year 2010. Laos forest will be represented as the lungs of Asia. The FRC has been carrying out research since 1996, studying 18 -19 native tree species in 100 nurseries, focusing on NTFP (non timber forest products) and based on community – home gardens. They have also tried to invent a model for Laos forest restoration that will eventually cover 1 M ha . In addition, experience of working with Framework Species was presented.

### **Lessons of FORRU from other Countries - Dr. Stephen Elliot (FORRU)**

Dr. Steve explained that the framework species method had its origins in Australia, and the method was subsequently adapted to northern Thailand. The technique is passing on FORRU-CMU's experiences to Laos, Cambodia and China through the Darwin Initiative. He also presented the Framework concept which involves planting 20-30 indigenous forest tree species, which enhance natural forest regeneration and accelerate biodiversity recovery. In addition, the lessons learned from each country; Australia, Thailand, and also the 3 countries within the Darwin Initiative supporting were reported. This project supported by the Darwin Initiatives, U.K. to help forestry organizations in Laos, Cambodia and China to establish their own versions of FORRU, based on the Chiang Mai

model. Moreover, the progress in Yunnan, China showed that it is possible to start work using existing resources.

### **Questions form floor**

**Q:** How can the attitudes of local people be changed in regard to planting species that are good for biodiversity restoration and not just for commercial purposes?

**A:** FWSP can provide NTFP, medicines, timber. We should explore all options.

**Q:** Now we have a lot of plantations in our communities, and only about 15-20% forest cover left, how can the rest be restored themselves and how about natural regeneration?

**A:** Accelerated natural regeneration (ANR) is presented in the Field Guide.

**Q:** What should the ratio between pioneer and climax species be?

**A:** This depends to a large extent on what you want, but generally, pioneers should not be less than 30%.

**Q:** Is it better to plant in lines, circles, or randomly?

**A:** We do random planting, not in rows, and spacing between plants is 1.8 metres. Density is 500 trees per Rai, or approximately 3,000 trees per hectare.

### **Forest Strategy in Lao PDR – Mr. Sousath Sayakoummane, Head of Division, Department of Forestry,**

Mr. Sousath described how the lessons learned from Thai and Cambodian experiences will be adapted and applied to the Lao PDR forest strategy. He reported that Lao PDR still lack an effective forestry law and also good policies and planning. The main objective of the new strategy is to increase the forest cover (both quantity and quality) to 70% by the year 2020. Reorganization of the strategies and planning will help to fulfill the goal.

### **Research in FRC – Mr. Sounthone Ketphanh**

Mr. Sounthone reported that NAFRI started in 1980 and the Forest Research Centre was established later in year 1996 to address the forestry and forest restoration problems. The objectives are carried out by researchers, and results disseminated to the public and rural communities to conserve biodiversity for sustainable uses. FRC already carries out research, focused on native species, and works with the university and many organizations such as the UK Darwin Initiative, GTZ, SIDA, FAO, and UN etc.

## **Forest Plantation in Korea – Prof. Don Koo Lee, President of the International Union of Forest Research Organisation (IUFRO)**

Prof. Lee was a special guest from IUFRO, which works closely with FRC. He represented IUFRO and presented a forest restoration project in Korea. IUFRO undertakes research and education training and includes six graduate students from Asian countries. He also described regeneration in Korea. The Korean Government totally supported the forest restoration project. Between 1960's to 1980's they planted 4 million hectares, including 643,000 ha for fuel wood plantation. Reforestation of degraded land, as part of the national tree planting movement will develop long term timber resources: build commercial forest region; and activate forest protection activities. Factors which helped to promote forest restoration in Korea included the education to strengthen human willpower, the environment, and a social factor promoting productivity and increasing income.

## **Seed Procurement – Mr. Outhong Vongsay, FRC**

Mr. Outhong from FRC showed the results from his Tree Seed Improvement Section. 6,665 seedlings were produced last year from selective techniques through research concerning the quality of seeds and their sources, and the management of nurseries to produce good quality of seedlings.

## **Darwin Initiatives Project in LAOS PDR –Mr. Khamphone Sengdala**

Mr. Khamphone the head of the NTFP Section reported a project entitled “**Rattan Inventory List and Specimens**” which was supported by the Darwin Initiative, U.K. This project helped Lao taxonomists and researchers to identify species, and generate herbarium skills. Furthermore, the inventory list will be used to identify the NTFP, commercial, and rare species. A Manual and Flora of Laos will be published. He also reported new records for 5 families, and 1 species identified as new to science.

## **Roles of FORRU in Forest Restoration – Ms. Sudarat Sangkum (FORRU)**

Ms. Sudarat presented more details about FORRU-CMU's work, which aims to develop effective methods to complement and accelerate natural forest regeneration for biodiversity conservation and environmental protection. The research activities and educational services from FORRU-CMU were presented to the participants. Research generates new knowledge and effective techniques. Education and skills training enable local people to make use of them. Furthermore, the future tasks to experimenting with candidate framework tree species for lowland deciduous forests also were presented.

## **Question and Discussion - FORRU-Laos – Possibilities and Constraints**

**Q:** Why do we need a FORRU?

**A:** Laos PDR still lacks of knowledge about trees species, local names, scientific names, only some families groups of trees are surveyed. Taxonomic studies are needed and also ecology of trees especially the phenology survey; as well as the development of the FWSP method.

**Q:** How to apply the Framework Species Methods and how to start?

**A:** The ranking of Laos Framework species (FWSP, 38 spp.) were discussed in the last workshop in Chiang Mai (See Appendix II); so now we need to study phenology and how to grow these species. FWSP method ideally needs forest nearby to transfer seedlings via wind or animals. Distance between planting seedlings is also a factor: too close is expensive and does not allow other species to grow; too far is also expensive because you need to do weeding over a longer period. Direct seeding is one of the techniques to consider.

**Q:** Communities may only be concerned with commercial species?

**A:** People's attitudes towards species selection often focuses on commercial attributes - this has to be changed. FRC – NAFRI – Sangthong – can be the model of FORRU-Laos, with the benefits of forest restoration properly explained to people, working with them.

FORRU-CMU carried out intensive aftercare by hiring villagers to weed and help to monitor seedlings - it's hard work, so we pay for casual labour. It's very important that villagers work with researchers to monitor trees. Youth groups can come and help and can witness how fast the trees grow. This can encourage the villagers to appreciate some of the benefits from the project.

**Q:** Progress on the manual **How to Plant a Forest** (Laos version)?

**A:** The book should be discussed at the workshop, and should include Laos experiences. The participants can read after today and discuss again. All participants are asked to discuss the book proposal in detail, later in the workshop. Participants want to take part and share their experiences in national planning and policy.

**Q:** Is possible or suitable to have a FORRU-Laos?

**A:** It's possible and suitable! However, the Laos situation concerns restoration and other aspects. Proposal and objectives for the project **MUST** be clear and detailed before any proposal is submitted to a national level.

Constraints include land use planning and management inconsistencies. Policy and Application need long-term planning and action, not just run forest restoration in 2-3 years and left, then transfer to agricultural land or national development such as for industry, dam, tourist sites. Forest landscape planning is also an important issue. After the re-write the national policy and strategy, the situation is better. It's clearer about the land use pattern, and classification of protected areas and management. Strategy is in the national plan. However, an action plan is also needed to be clear and certain.

**Q:** Why choose Sangthong District?

**A:** Some places were chosen in last workshop, such as Boricamxai, Phukhaokwai, and Sangthong. Sangthong is convenient and the district office already generally approved for the principle of the project. Sangthong can be a model for other places.

*Mr. Khamphong Gingmanithong* from Sangthong district explained that:

1. Sangthong is in protected area
2. Poverty has led to a lot of deforestation for logging and agriculture.
3. It's not so far from Vientiane
4. Forestry areas are available in nearby.
5. A lot of deforested land needs to be restored.
6. He was a destroyer before, so now he wants to see a better future and better forest for the future generations.

*Mr. Duangta Sourivong* also added that

1. Sangthong district is the best watershed area in Vientiane
2. People participation should be increased and income will be generated for the village.
3. Species selection also important.
4. Aftercare technique is the most important. Many projects in the past reports, but no trees. He wants to see something different!





## The Need to have FORRU in Laos (Tuesday 4<sup>th</sup> July 2006)

### Project Planning and Proposal Draft

The draft proposal to set up FORRU-Laos was discussed. The draft needs to be detailed and the agreement about the proposal and responsible stakeholders. One of the most important factors is the aims/objectives, also the agreement among stakeholders. Later, other topics were discussed. In May 2007, a workshop in Chiang Mai will be held and the proposal will be shared with other countries.

## Field trip to FRC (Namxuang) on Wednesday 5<sup>th</sup> July 2006

### FRC Centre at Namxuang District

Participants drove from Vientiane to Namxuang, which took around one hour. The NAFRI Headquarters were visited first, to look at their facilities. In the main office there is a small library, some small offices (some with computers and air-conditioning), and upstairs there are a few rooms which could be allocated for FORRU work.

### Rattan Forest

The local community has access to use this plot to harvest the rattan and other NTFPs. The plot contains 3 – 6 spp. of rattan, 2 ‘economic’ *Calamus* spp. which can generate income of more than 200,000 kp/year. Dr. Steve recommended that the degraded area could be restored for 6 years before introducing rattan, so the FWSP method could be applied. Main trees here include *Dalbergia* sp., *Dipterocarpus* sp., *Cardamon* sp. They also have *Afxelia xylocarpa*, which could be a FWSP, *Aquilaria crassna* – commercial sp., and a *Pterocarpus* sp. which is rare in Laos.

### Herbarium

There are at least 3 small herbaria within Vientiane, belonging to different organizations involved with Laos forestry and research projects. The FRC herbarium is a small two storey building, with a fan and freezer downstairs. The specimens here were not kept properly, with insects and their eggs found in many drawers. The specimens were mostly collected as part of a Darwin Rattan project from 1998 – 2000. They still lack botanists and taxonomists, and a proper data documentation system. The recommendation was made to have “The NATIONAL HERBARIUM” located here, to gather all specimens in one standard herbarium.



### Seed Center

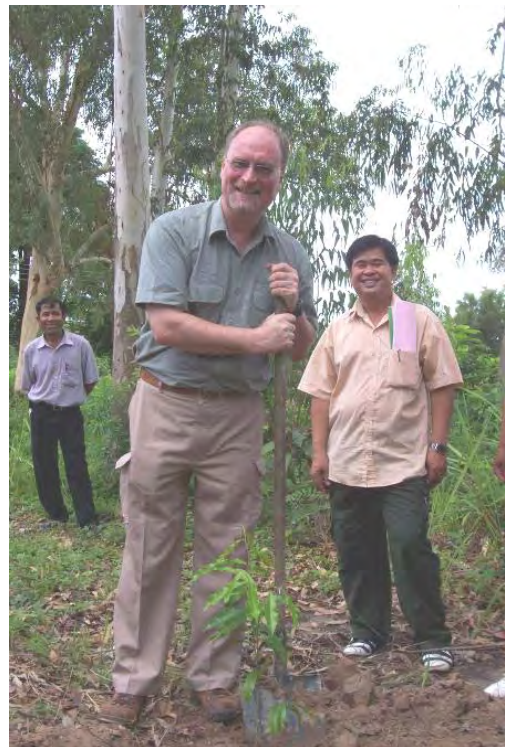
The next stop was the seed research lab. This contained a refrigerator filled with many tree seeds, some of which FORRU-CMU used as framework species. Many of the seeds had not yet been germinated or grown on.

### Nursery

The nursery appeared to be well organized, housing many healthy plants. They have demonstration plots for *Aquilaria crassna*. After this some *Aquillaria* trees were planted by the visitors, with the staff of NAFRI, near the nursery. Dr. Steve also commented that self sufficiency could be achieved by selling some seedlings.



*Dr. Steve discussed with Mr. Sounthone and Mr. Khamphone about how to apply FWSP in Rattan Plot.*



*Dr. Steve planted an *Aquilaria crassna* tree at FRC Namxuang station.*

## Visit Sangthong District Office at Sangthong District

After lunch there was a 2 hr drive to Sangthong, mostly along unsealed road. Sangthong is a small town of around 6000 people. In the afternoon we visited the local community council Head to talk about where it might be possible to carry out planting. Dr. Steve described FORRU-CMU's techniques and how FRC and FORRU want to pass on knowledge to local people. The district office is very supportive of the project because forest restoration is the main objective and major activity of this district. The proposed area to plant is Huay Taan Forest Reserves which is just 1 km from the park and has good fire protection. In addition, this area also has elephants, deer, wild pigs, and hornbills. Main species currently planted is an *Afxelia* sp. The plantation site may be around 20 ha. After that, more the visitors planted some trees around the soccer field. That afternoon the visitors played volleyball with NAFRI staff and local community council staff.

## Trip to Forest Sites in Sangthong on Thursday 6<sup>th</sup> July 2006

In the morning two potential nursery sites were inspected

### Community Soccer Field

The first was just on the outskirts of Sangthong, located behind the soccer field. The site has a medium sized dam, and requires clearing as there are a lot of plants growing wild there at present. This site has access to electricity from the village and water from dam. It is a 20 minute drive or ride to the mountain where Phenology studies and seed collecting would take place. The close proximity to the village may inspire the local community to be involved in the project. This appeared to be quite a suitable site.



### Phu Pha Duean Forest Reserve

The second site was about ten minutes out of town. At this site there were no immediate source of electricity, but there is a river near the research station. This site has teak plantations that were planted 5 years ago. It was completely overgrown, with climbers reaching the top of the trees. There were local laborers clearing the plantation during the visit. A potential planting site was one planted 3 years ago, where there were trees of considerable size, but also many weeds. This site may only require ANR, not complete planting. Evidence of wild pigs and other animals were found. There was another possible planting site a further 20 kilometres away which was more degraded, but this could not be visited on this occasion.



# **The Need to have a FORRU in Laos (Tuesday 4<sup>th</sup> July 2006) and the discussion to Finalize the Project Design (Friday 7<sup>th</sup> July 2006)**

## **Project Planning and Proposal Draft**

The draft proposal that will eventually be submitted to a funding agency for setting up FORRU-Laos was discussed.

### **Discussion**

#### **1. Develop tools for studying forest restoration eg. Seedling Identification handbook, and specimens, herbarium, database, morphology. Notes on points discussed:**

- Suitability for Laos? Species?
- Can we really do this, feasibility?
- Choose only some objectives?
- Need good plan, need co-operate with communities
- Who will be responsible for co-operation with other stakeholders?
- Possible stakeholders – University, FRC, Research nursery, field site
- Herbarium – how and who will operate?
- Seedling herbarium –needed for forest restoration, because the knowledge in this area is so limited.
- Need training for herbarium skills and plant taxonomy – FORRU–CMU can help for training about taxonomy and herbarium training.
- Put in curriculum for Forestry Faculty, University of Laos to study – NAFRI acting as the internship place and special guest lecturer as building capacity to be sustainable.
- Mr. Khamphone Sengdela wants to have seedling collection in all stages and identify the seedlings in the forest for inventory and biodiversity..
- Dr Steve recommend --Identify adult trees – grow from seeds – seedlings – stages – specimen – new knowledge here.
- Seedling herbarium is one of the main objectives.
- SEED DATABASE can link with FWSP – DANIDA can help?
- When we visit the Nam Suang Area – DANIDA Seed center can discuss again about seed database.
- Policy makers with no scientific background may not see benefits from this project.
- Dr Steve: explain more about FORRU and how to link data to the database – how data is collected in the field and transferred to computer databases. In China, an herbarium has already been established near to field sites to enable specimens to be collected and stored
- Herbarium staff should be scientific/research staff.
- Local people can help to collect voucher species if trained to do so, but the process of specimen preparation can be done by researchers.

## 2. Study ecological processes of natural forest to determine ways in which these processes might be accelerated.

In the first day, most topics were discussed in detail. The aims and objectives were clarified. One of the major concerns raised was the sharing of responsibilities between stakeholders and authorities. The field visit will give clearer ideas about the details on project proposal.

## 2<sup>nd</sup> Session Proposal Write-up and discussion

### Review the workshop activities and project by slides show

- Site visit – nursery, planting site in FRC (Namxuang) and Sangthong district
- Teak plantation, weeding
- Reforestation – need?
- Other possibilities – rice fields

## GUIDELINES to Proposal draft -- Project planning

### 1. Project title: Laos Forest Restoration Project

### 2. Aim or goal of the project:

- To undertake research on forest restoration methods and systems to suit local conditions, to restore the biodiversity and environmental protection.

### 3. Objectives

- To generate and develop tools and capacity building for forest restoration
- To study natural regeneration, to survey for biodiversity
- To generate FWSP lists for Laos
- To develop nursery research to improve propagation techniques

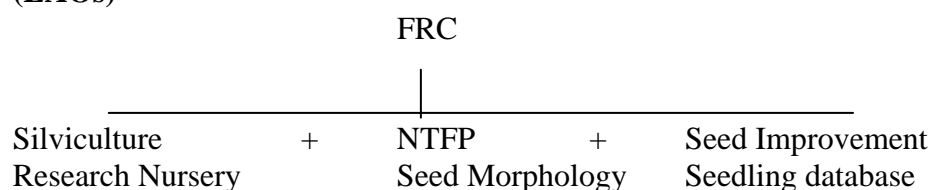
### 4. Background & Justification

- Solution – Problem, current needs
- Laos Policy and Strategy Forestry – can help improve livelihoods and health, alleviate poverty and improve the environment
- Collaboration
- Meet International agreements

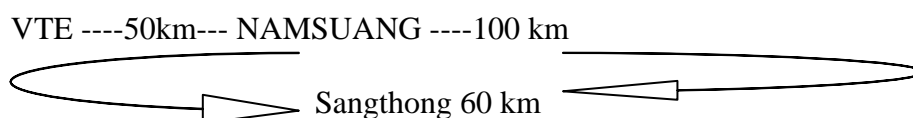
### 5. Project period maybe 3 years and second phase

### 6. Project Implementation

- Admin – organizations, responsible stakeholders – match with site **FORRU (LAOs)**



- **Others Responsible Parties and Stakeholders** – DOF, Faculty of Forestry, NuoL, NAFES, DAFES Sangthong District, FORRU (CMU), Donors
- Documentation, report and evaluation
- How unit can construct: nursery, office, field site
- Nursery and office is under Somprachan's silviculture unit, FRC, which, together with the NTFP Unit (herbarium) enjoys good participation from villagers.
- University can join for database and herbarium
- Nursery – location – FRC (Namxuang) already has nursery can use for research nursery, seed database and herbarium.
- Sangthong province – local nursery for tree planting



- Sangthong local nursery can be in Faculty of Forestry, University of Laos, Sangthong campus – 250 ha.
- Research program content – **methodology**
  - Classified and mark – Deforested area Sangthong – 30 ha
  - Area for experimentation
  - Fire prevention
  - Monitoring – how many seedlings, how many people needed?
  - Forest structure and biodiversity study – vegetative survey – before and after, and also nearby forest
  - Phenology study in virgin forest
  - Survey for indigenous species esp. NTFP from interview from villagers for species in the past.
  - Participation with local needs
  - Species selection
  - Experimental plots – monitor growth and natural regeneration
  - Herbarium voucher procedures
  - University of Laos – involved with the Herbarium, also monitoring activities can be done by larger groups of students and dissertations can be undertaken.
  - Target group involvement can be from various places and organizations.
  - Capacity building in the community

## 7. Schedule of work – Activities may include

- Project management
- Develop tools and capacity building for studying the restoration forest ecosystem
- Phenology
- Seed procurement
- Seedling propagation
- Seed morphology
- Seedling database – record every stage changes for seedlings manual for identification – apply in the university curriculum –generate info. – education

- Terminology – seedlings, trees
- Herbarium voucher specimens, and seedlings specimens (from nursery)
- Local selection – deforested area –criteria?
- Objectives – biodiversity initially, but also economic
- Location
- FWSP – species selection

#### **8. Project Outputs may include**

- Information and techniques about forest restoration
- Model plots to demonstrate forest restoration to visitors from other areas
- Human resources - both researchers and students
- Awareness in local community
- Forest and biodiversity
- Academic Manual and Knowledge dissemination about Forest Restoration in Laos
- Develop the forest management course to be included in the University curriculum (Faculty of Forestry)
- Seedling database and identification manual
- Herbarium specimens for both seedlings and vouchers
- Seed Characteristic database and manual

## **9. Benefits**

- Forest cover increased
- NTFPs resources increased
- Watershed recovery and natural resources increased
- Generate knowledge for local communities, students and researchers, and other stakeholders
- Generate more income or alternatives jobs for local communities
- Support government policy and strategies for forest restoration
- Demonstration plots for research studies

## **10. Project team**

- This requires further discussion amongst the local project proposers

## **11. Partnership**

- FRC
- Faculty of Forestry
- National of Agriculture and forestry Extension Service - NAFES
- District of Agriculture and forestry Extension Service - DAFES
- Local community

## **12. Budget**

Salary/Mandate for each nursery, how many staff needed?

- Project management – co director Master/Bsc
- Technical staff: nursery, data analysis – 2 joint with Sangthong nursery Higher Diploma, BSc – 1 nursery assistant
- Field coordinator Technical higher Diploma- Sangthong nursery - fulltime
- Sangthong nursery – nursery assistant literacy

## **13. Matching funding**

- FRC and other funding agencies

## **Presentation on the Workshop Outputs**

### **SUMMARY OF COMMENTS ON DRAFT FIELD GUIDE**

- Vocabulary and terminology definition from English – Thai – Laos  
Finding translators is not easy, and translation of terminology can be problematic. Need to follow the Department of Forestry National Laos Policy and Strategy Planning terminology? Should follow the main concept if need to change to one classification for the whole country can update later.
- Should try to use all information from Laos as much as possible.
- Be aware of copyright, and also include Laotian technology where possible.
- Vocabulary – should try to use Laos as much as possible.
- Need help from NUoL for terminology and definition
- Glossary may needed to verify some of the terms
- Deforestation – all world, should add Laos current status – from DOF report
- Translation purely or modified to Laos version.
- Teachers can help to edit for Laos version, esp. technical term.







- Dr Steve: Concept in Chiang Mai is mentioned, but can adapt to your country for some circumstances. Replace some Laos content and pictures, also species. Note: this is not simply a straight forward translation. The text must be adapted to suit local conditions.
- Need to submit to higher level in Science and Agriculture Council who will approve the book and also review it before it can be recommended across the country
- If only used as textbook may not need to ask permission from government.
- Can ask for more reviewers and translation to better version of Laos.
- Chapter 9 can be done by Laos species.
- Appropriate font should be selected.
- Electronic copy – in pdf file can be distributed easily and safe.
- Animals dispersers – fit to location – Laos species
- Photos from other organizations eg. IUCN, Natural dept. of Laos can help for photos to complete the book.
- More time required for all participants to read and review
- Students from Laos University can help to translate
- Botanical names should be checked to match local names.
- Mr. Sousath will read and help with verification.

**EVALUATION REPORT**  
**“THE FOREST RESTORATION RESEARCH IN LAO PDR”**  
**3 – 7 JULY 2006,**  
**FRC (NAFRI), VIENTIANE, LAO PDR**



**BY FOREST RESEARCH CENTRE (FRC), NAFRI**  
**SPONSORED BY DARWIN INITIATIVES, U.K.**

Please fill in the form how you satisfy about each section of the workshop.

Workshop Program - หัวข้ออบรม	Satisfaction score - คะแนนความพอใจ			
				
3/7/06 – Objectives of the workshop. Introduction to FORRU	7	4		
Lesson of Forest restoration By (Dr. Stephen Elliott)	9	2		
Forest strategy 2002 of Lao PDR by Mr. Sounsath	6	5		
FRC role and responsibility by Mr. Sounthone	5	5	1	
Seed source Management by Outhong Vongsay	1	9	1	
Botanical training Project by Khamphone Siengdara	6	5		
Forest restoration of Korea	5	6		
Forest restoration lesson of FORRU CMU	7	4		
Discussion on the need for establishment of a FORRU in Laos and translation of the Field Guide	3	7	1	
4/7/06 Drafting of the project proposal	5	4	2	
5/7/06 Visiting NuOL herbarium	5	4		
Visiting FRC	4	5		
6/7/06 Field visit Sangthong district	6	3		

**# Any recommendation for the workshop introductory part? Why?**

- Satisfy

**# What do you think about site visiting (incl. herbarium)?**

- Good

**# Comments and Suggestion for administrative issue?**

- Every thing is satisfy.

## Appendix I

### Workshop Participants – Total 27 participants

1. Mr. Sithane Sangthong District
2. Mr. Soulivane Conservation Phouphathang
3. Mr. Khamphong Gingmanithong Sangthong District
4. Ms. Theva Ounkeomany Silviculture Section, FRC
5. Mr. Somphone Phongdalach Silviculture Section, FRC
6. Mr. KhamPhone Sengdala Head of Unit, FRC
7. Mr. Outhong Vongsay Tree Seed Improvement, FRC
8. Mr. Duangta Sourivong Sangthong District
9. Mr. Bouaphet WWF, Lao PDR
10. Mr. Lamphoun Sayvongsa Head of Unit , Dongdok FOF, NuOL
11. Dr. Kham Chanh Ponlavong Center Dept. of Medicinal Plant Research
12. Mr. Vaiyaphat Dept. of Division, NAFRI
13. Mr. Khamseng Nanthavong Dept.of Unit , Dongdok FOF, NUoL
14. Ms. Sengphet Yotleasay NTFP Section, FRC
15. Mr. BounPhom Mounda Head of Center, FRC
16. Mr. Sounthone Ketphanh Deputy Director of FRC
17. Ms. Phayvone Phonephanom NTFP Section, FRC
18. Mr. Khamthan Kham Phane FRC Head of Tree Seed Improvement,
19. Mr. Sousat Sayakoummane Forestry Dept. of Division, Department of
20. Mr. Outama FRC
21. Mr. Salemsak Sayamone STEA
22. Mr. Khanthali Khamphilavong FOF, NUoL
23. Mr. Somphachanh Vongphasouvanh Head of Silviculture Section, FRC
24. Mr. Bounthone Chaivongkham Office Bolikhamsay Province, Forestry
25. Dr. Stephen Elliott FORRU, Thailand
26. Ms. Sudarat Sangkum FORRU, Thailand
27. Ms. Alissa Hattersley FORRU, Thailand

## Appendix II

### Laotian forest tree species that are worth testing as Framework species

1. *Hibiscus* sp (Po Hu)
2. *Macaranga* sp (Mai Thong Khop)
3. *Baccaurea oxycarpa* (Mai Mak Fai)
4. *Macrocos paniculata* ( Mai Mak Khom som)
5. *Ficus* sp (Mai Mak Dua)
6. *Persea* sp (Mai Yang Bong?)
7. *Lepisanthes rubiginosa* (Mai Mak Huat)
8. *Croton* sp (Mai Pau)
9. *Flacourtia rukam* (Mai Mak Khen)
10. *Ficus* sp (Mai Mak Hai)
11. *Melia azedarach* (Mai Kadaoxang)
12. *Bombax ceiba* (Mai Ngeo Paa)
13. *Gmelina arborea* (Mai Xo)
14. *Antidesma* sp (Mai Mak Mao)
15. *Syzygium* sp (Mai MAk Waa)
16. *Pterospermum megalocarpum* (Mai Ham Ao)
17. *Anthocephalus chinensis* (Mai Sako)
18. *Sindora siamensis* (Mai Tae ho)
19. *Hopea odolata* (Mai Kaen hua)
20. *Pterocarpus macrocarpus* (Mai Do)
21. *Dipterocarpus alatus* (Mai Ynang)
22. *Vatica* sp (Mai Si)
23. *Litsea monopetala* (Mai Mee)
24. *Aporosa dioica* (Mai Muat)
25. *Azzeria xylocarpa* (Tae kha)
26. *Tetrameles nudiflora* (Mai Phoung)
27. *Michelia champaca* (Mai Champa paa)
28. *Spondias cytherea* (Mai Mak kok)
29. *Azadirachta indica* (Mai Khom ka dao)
30. *Toona febrifaga* (Mai Ynom Pha)
31. *Chukrasia tabularis* (Mai Ynom hin)
32. *Sandoricum indicum* (Mai Mak tong)
33. *Aquilaria crassna* (Khetsana)
34. *Alstonia scholaris* (Tin Pet)
35. *Casnopsis* sp (Mai Ko)
36. *Fernandoa adenophylla* (Khae Lau)
37. *Erythrina stricta* (Thong)
38. *Zanthoxylum rhesa* (Mai Mak Khen)