Conserving Rosewood genetic resources for resilient livelihoods in the Mekong

Training of trainers on tree seed and seedling marketing
Vientiane, Lao PDR, 11-12 November 2019

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CGIAR RESEARCH PROGRAM ON Forests, Trees and Agroforestry

Introduction

A training-of-trainers workshop was organised in Lao PDR on marketing tree seed and seedlings, to support income generation from and planting of Dalbergia species. The workshop was held at the National Agriculture and Forestry Research Institute (NAFRI), in Vientiane. The training was delivered by Mr Lars Schmidt, University of Copenhagen, who has more than 30 years of international experience on improving tree seed supply systems in tropical countries. Mr Chaloun Bounithiphonh of Forest Research Centre translated the training between English and Lao.

Working with forestry authorities and rural communities in Cambodia, Lao PDR, Thailand and Vietnam, the project *Conserving Rosewood genetic resources for resilient livelihoods in the Mekong* uses *in situ* and *ex situ* methods to safeguard the genetic resources of three *Dalbergia* rosewood species of high conservation concern, namely *Dalbergia cochinchinensis*, *D. oliveri*, and *D. cultrata*. The strengthens and develops capacity for seed collection, seed source and nursery management, and associated value chain development in Cambodia, Lao PDR and Vietnam. The project will build the capacity of rural households to generate livelihood benefits from sustainable use of these resources. The project is funded by the UK Darwin Initiative and runs from July 2018 to March 2021.

Workshop programme is given in Annex 1 and list of participants in Annex 2.

Day 1

Workshop opening

Mr Vongvilay Vongkhamsao, Director of Forest Research Centre (FRC), welcomed the participants to the workshop. Participants introduced themselves. Lars Schmidt noted that the participants come from different organisations and backgrounds, and their diverse experience can be capitalised on during the training and development of business strategies for Dalbergia seed and seedlings.

Figure 1. Mr Vongvilay, Director of Forest Research Center, welcoming the participants to the workshop.

Session 1: Basic business concepts

Lars Schmidt explained through examples how seed selling is a small business, but very important. Seed is not expensive, but it is valuable. It is relatively easy to provide a good product for a good price, the aim of successful business plans.

Participants discussed the possibilities for improving seed businesses in Laos:

- Seed could be obtained more directly from natural forests, not through middle men
- Good seed sources are needed. It is difficult to access seed trees on private land as payment is often required
- Quality of seed is unknown
- Advertising of seed should be improved, using tv, radio, facebook and any other possible channels. Detailed information about the project should be made available at the time of advertising
- FRC must give guarantee certification to all their products (already standard practice)
- Overall, participants felt that they were able to meet the demand for Dalbergia seed. Dalbergia is a relatively easy species to market since the seed are orthodox and can be stored. This is different from many other native tree species in the region

Table 1. Can we make a business where everybody is happy? Checklist of what producers and customers look for in value chains.

Producer	**Buyer / customer**
• Low production costs • Efficient distribution • No waste • Options to expand market • Good price	• Good quality • Reliable supply (available when needed) • Good product information • Good price

Session 2: Quality parameters for seed and seedlings

It is important to identify and address problems in the context. Barriers to seed production can be biological or socio-economic. For **biological barriers**, observing the flower and fruit phenology and the timing of problems in fruit development helps identify what the problems or barriers are. If there are no flowers at all, this is probably due to lack of the right weather triggering factor (e.g. unsuitable provenance). This makes seed origin very important, including in enrichment planting: if provenance is different than originally on the site, planted trees may not flower, or may flower at a different time, meaning lack of cross-pollination.

Socio-economic and technical barriers to seed production include access to seed source, problems in seed collection, or seed maturity. If the trees belong to someone, it is fair that the owner gets some compensation. This also serves as an incentive for the owners to maintain the trees. Is it possible to develop a standard agreement or framework for accessing seed trees? Tree owners would know how much they can get for seed, and do not need to climb trees on their own.

Knowing the indicators of **seed maturity** is important. Mature seed germinates well and seedlings are vigorous. Pre-mature seeds or over-mature seed do not germinate well, which results in waste of time and resources. Collectors must know to avoid other than mature seed. Maturity indicators for Dalbergia spp. are firmness, colour and petiole breaking.

Figure 2. Lars Schmidt, trainer, explains the concepts of seed trade chain.

Technical issues limiting collection must be solved efficiently, e.g. by ensuring easy availability of seed collection equipment. Not all collectors may need their own equipment. If you work with collectors, have some equipment that the collectors can borrow to make their work effective. Collectors must agree with tree owners on the collection method, e.g. is pruning allowed and if yes how much can be pruned. This must be agreed beforehand to avoid conflict.

Quality parameters for seeds: how to determine seed quality after the seed has been collected? Quality is not visible, and germination testing is destructive. The key is to use good collection practices; collect from many healthy-looking trees. Quality parameters for seed are largely the same as for seed.

Good collection practices can be developed into a **business argument**: *Our seeds have been collected from the best seed sources and best seed trees to assure the best inherited quality*. Physiological quality treatment (right storage, testing etc.) can also be formulated as a business argument: *Our seeds have been treated in an optimal way to ensure high germination percentage, and tested for high germination*. *Our seedlings have been propagated from the best sources and managed for optimal vigour*. Product price cannot be increased unless quality is improved. Business arguments on seed quality help to justify product price. If you use a quality argument, make sure you follow it, as it is the basic tenet of trust.

Documented quality includes:

- Verified scientific name (bring a branch from the tree), date of collection, purity test – free from other species, moisture test, germination test
- For seed: Genetic quality: species name, provenance, number of mother trees (genetic base, selection criteria (Phenotype)
- For seedlings: Genetic quality: species name, provenance, number of mother trees (genetic base, selection criteria (Phenotype), seedling age

Discussion:

- *Can you collect all the seed you want? If not, what are the limiting factors?*
  - Trees are too tall, equipment are not available. This is a relatively easy problem to address, by providing equipment

    - FRC: When seeds reach maturity, the seeds that fall down are not vigorous/viable. This is thought to be lack of pollination and pollinators by FRC, but is in fact likely due to inbreeding (if lack of pollination, seeds would not develop in the first place).
- *How do you know if Dalbergia seeds and seedlings are better or worse than average? What would pay best to improve?*
    - Participants suggested ensuring seed is collected from a good seed source

Session 3: Customer psychology

Customers should get a positive experience. It is often (partially) unconscious decision which of the two products the customer chooses, and the experience of the buying process can affect this.

Important aspects:

- Product should be available in amounts close to the exact amount that the buyer wants
- Nice wrapping is associated with nice product
- Wrapping keeps the product separate from other products and protects the products

General psychology of buyers can also be applied to selling seed and seedlings. Why should people buy and plant Dalbergia seed/seedlings?

- People want to do something good for the environment
- Appealing to their conscience is usually effective (we should plant critically endangered species, grows only here in Indochina)
- Use images that the people can relate to, e.g. images referring to their own culture. Children planting trees is a powerful message about future benefits
- Esthetical reasons: beautiful wood, used for musical instruments, furniture

Session 4: Group discussion

Participants split into two groups and discussed how agreements with seed tree owners can be developed and what the agreements should cover.

Group 1

- Train tree owners how to collect seed, if they want to collect themselves
- Contract with tree owner should be drafted very carefully and in detail. Must agree with them on the fee for seed
- To make the agreement: need local authority at village level to be involved; to get permission from the head of district and tree owner. Witness from village, PAFO and DAFO is needed. Also, to make sure that the system is sustainable, we have to establish a seed network or seed association, in order to have ownership and participation from villagers. Network is related to benefit sharing which is important part. Two options for benefit sharing: (1) owner of tree and collector as beneficiaries. If owner collects himself, must follow the protocol and be trained by technician. The buyer must have the capacity to train locals in collection. The witnessed agreement guarantees that owner will not change his mind and cut down the tree (predictability for collector). This process is considered feasible and is based on experience on the ground.
- Two types of contract should be considered: general contract (just to ask owner to keep the tree survive) and a more detailed bilateral contract which should include contract duration, names of seed buyer and seller, source of seed, price etc.

- Pricing: if owner sells seed directly, price should be 350,000 kip per kg of fruit. With this price, the buyers come to the house to buy. Price should be 300,000 kip if the collector collects; i.e. 50,000 kip is to be given to the owner for the permission to collect seed. To get 1 kg of seed, 2.9 kg of fruit is needed.

Group 2:

- The central authority which proposes to encourage local people having *Dalbergia* trees to establish seed source supply needs to issue an official letter on this to Provincial and District Agriculture and Forestry Offices (PAFO, DAFO), village authorities and owner of trees, respectively.
- The objective and importance of the agreement must be communicated to the village authorities and tree owners (reason for seed collection; tree is valuable and cannot be found elsewhere.
- Make the agreement and issue the bilateral contract with the tree owner, make sure that the contract should ensure the equivalent benefit sharing and should indicate the price and amount of buying-selling in such year;
- If owner agrees, sign a formal contract
- Establish regulation or rule in order to preserve or protect the trees. Provide instructions for protecting the tree.
- Needs a penalty for those who do not respect the contract, and acknowledgement for those who do.
- Monitoring and assessment system is needed to assess the condition of the contract and the population.

Discussion:

- Should the price be fixed for multiple years? It is difficult to predict pricing. Contract can say that the price should be 'at least' or 'up to…'
- How long is the contract valid? Cannot be for a very long time, otherwise may not be feasible for the owner.
    - No more than 3 years? Owner may want to change to sell to other buyer
    - Contract needs to be flexible; owner must be able to sell to others if buyer does not collect
    - Minimum amount to be collected could be specified in the agreement, so that owner can expect a minimum income.
- Are there any tree seed collected and marketed by farmers in Lao? There is no information on this.
- At the moment, do seed tree owners get some payment from seed collectors on one-to-one basis? For teak, it depends on buyers. International buyers require very detailed information on origin, number of mother trees. Seed source should be qualified by local authority, PAFO or DAFO.
- If there is no experience with such contracts, we would put a model in place with the Dalbergia project. Collectors for also other species would then look up to this model. It is good to have this template in place. The process generates information about seed sources, and supports tracing of seed origin; this is very useful

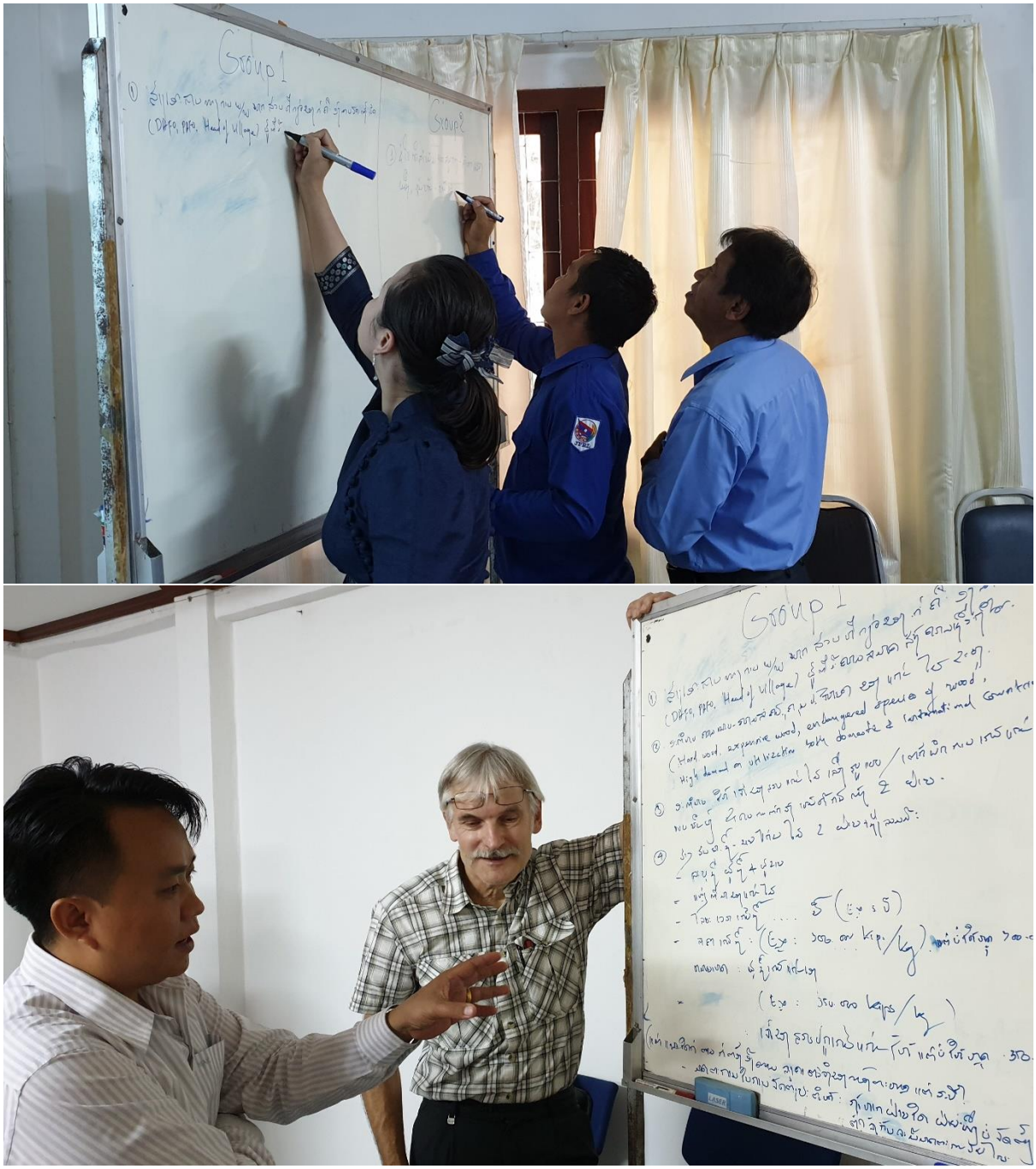

Figure 3. *Above:* Participants writing the results of group discussions for sharing in plenary. *Below*: Chaloun Bounithiphonh, Forest Research Center, translates the insights from the groups to Lars Schmidt.

Day 2

Session 5: Market chain assessment and development

Characteristics of **market chains**:

- Market chains consists of multiple actors, from producers to middle-men, traders, processors, wholesalers, retailers and consumers.

- There is tendency in all trade chains that all actors get more specialised, especially the longer the chains are and the more actors are involved
- Everyone in the chain must be paid for their inputs (activities) in the chain, starting from the seed source owner
- At every step, there is a risk of loss during the activity, and the cost of it must be added to the value of the activity. The higher the risk involved in the activity, the higher the profit must be. E.g. the seed tree owners have no/little risk, while the nursery producers have a high risk of unsold material, mortality etc, which must be reflected in the price of the seedings at that step
- The price at the last step in the chain is based on customer's willingness to pay (price-controlled items are an exception), and can vary considerably

Why to plant rare trees, when it is not so profitable, and actual end cost would be very high? **Subsidies** can be introduced to help push prices down and make the products more affordable while ensuring that everyone in the trade chain benefits. Value chains do not always work independently if the true cost of production and supply is just too high, and they need to be supported from other sources (subsidies etc). Reforestation is often under-budgeted, and as a result exotic trees are commonly planted because they are easier to obtain and cheaper

Seed networks can be complicated and consist of small and large producers, suppliers and users. Key elements of supply networks include:

- Association of seed collectors, seed source owners, seed users (formal or informal)
- Coordination and streamlining of collection agreements, quality standards (documentation, seed source lists)
- Coordinate marketing and communication to seed buyers (list of buyers and their details)
- List of seed suppliers for each species (and zone)
- Joint information material, e.g. species leaflets, seed pamphlets, propagation protocols

How to organise the trade chain for Dalbergia so that it works and supplies the amount of seed needed?

- Standardise process where possible, e.g. agreement templates etc (still up for negotiation but a basis exists), quality standards (what information needed)
- Information about suppliers (by zone) must be easily available, because customers are impatient

Customer profiling increases the number of potential customers by differentiating products (seed or seedlings etc). Assumption: the product is the same, but the quality and delivery systems can be adjusted to fit customer needs. Typical segments for tree seed buyers include discount segment, quality conscious segment, small scale buyers (difficult to access, needs a very fine supply network, but if their numbers are added up, they can make up a big part of the market), and urban buyers. All segments need differentiated marketing strategy.

Marketing materials:

- Customer segments: some customers know exactly what they want, others need awareness raising. For this purpose, consider sales posters / advertisements ('did you know…'; raise interest; end with a call to action)
- Seed leaflets: samples from DANIDA serve as templates for what information is needed; if the information does not exist, it should be collected. The information will help to plan seed collection, seedling production and supply. Other resources exist, e.g. taxonomic

descriptions of Dalbergia species. Also: what information do seed and seedling users need to know? This needs to be synthesised and included in seed plants. This is easy to write when you know the plants, and very useful. For example, planting depth is important and it is useful to remind people about it.

- It is important to write in a factual way, and give the key information and people do not feel inferior. You can ask / test the guidelines with the users ('what do you think your neighbour needs to know')
- Seedling descriptions are important, because some people may try to cheat by mixing in seed from different species. Guideline can be used in the nursery to verify material.

Discussion:

- What group of customers is the most common /growing in Lao at the moment? Small-scale buyers, according to the training participants
- How to approach the quality conscious segment? They typically search information from the internet, and making information available about suppliers online is important for reaching them. This is quite easily achieved. These customers are also quality conscious: species must match, origin must be known etc. They are very critical, so trust is really important for maintaining them as customers. Provide as much information as they need, and they will pay for it.

Session 6: Group discussion

Participants split into two groups and discussed what would be a fair share of income from Dalbergia seeds to individual stakeholders in the trade chain. Stakeholders may be changed as needed (e.g. include specific stakeholders such as Forestry Department or FRC)

Example:

Stakeholder	**Duties/responsibilities/roles**	**'Official' price (seed or seedlings)**
Seed source owner		
Seed collector		
Seed processor		
Seed trader		
Nursery		
Tree planter		

Group 1:

- 4 stakeholders, to ensure role for smallholder farmers
- (1) owner + seed collector: duties: maintain tree, collect quality seed, record information, can sell seed or fruit (375,000 kip for seed, 300,000 kip for fruit)
- (2) seed processor and trader: know how to extract seed, record information by seedlot; produce guideline or instruction for planters on how to germinate, plant to get good price, packing of seed (1,000,000-1,500,000 kip/kg seed). Germination rate must be given. Risk (no germination/not sold) not yet included in the price.

- (3) Nursery: need knowledge on germination, propagation, production; knowledge on planting must be given to customer (2,000 kip for one-year-old seedlings; including production cost, soil, manure, polybag)
- (4) planter: know how to plant

Group 2:

- (1) seed tree owner and seed collector: maintain tree, take care of the tree, know how to observe fruit maturity, know the method of collection, use of equipment without damaging tree; store fruit; record information by seedlot; clean fruit for exact weight; keep labels with each fruit bag: mother tree number, date of collection. Price: 300,000 kip/kg fruit; 1,000,000 kip/seed (without guarantee/testing)
- (2) processor, trader and nursery: extract seed if with fruit; sort seed, test germination; knowledge of germination/propagation technique to reduce loss; production cost will be 1,200 kip for 6-12 month old seedlings. Seed can be sold at 1,500,000 kip/kg
- (3) tree planter

Discussion:

- Current situation in Lao: people lack education, and it is difficult for them to record the information or they may lack interest. This may be difficult step in Lao. Needs consideration on how to best train them. Rules may be established but might not always be followed.
- Next level in the trade chain can demand documentation as a condition for buying. Amount of information needed at this level is very simple. People can be given labels with pre-written text to fill in. It is about finding a good routine that can be implemented
- Need a way to raise expectation and seed quality; persuade people to collect the key information. Need to keep the information at minimum, considering that many people in rural areas may not be used to reading and writing. Consider what information can be obtained from elsewhere
- Can set up a network in the village, get someone to coordinate seed collection and recording of information, e.g. Head of Village to check. Seed can be compiled in one place for buyers to collect in bulk.
- Needs incentive/support to locals through the project.
- Can establish a register of mother trees in the village. Head of the village can act as facilitator between villagers and FRC/other stakeholders
- Participants who were involved in nursery businesses shared their experiences: they do not make available information on how to plant seed/seedlings, but think that people can ask for the information if they need. But this works only when suppliers are close to the customers. If there are many customers or not that close linkage, it becomes very important to provide the guideline once and for all.
- Experience: one participant had sold teak seed to Cambodia. Customer did not know how to propagate seed, and because instructions were not provided, germination failed. Customer then bought teak seed from Solomon Islands, and because propagation instructions were provided, germination succeeded.

Workshop closing

Lars Schmidt thanked participants for their active participation. He emphasised that it is important to start the dialogue and testing of different approaches in seed supply with the local people because it allows collecting feedback and experiences for refining the approaches.

He asked participants for feedback on the course, to help refine the content for future trainings. Participants were asked to list the main lessons learnt on a white board (Table 2). Overall, participants felt that they had obtained very useful information during the course. They suggested to provide more specific information on local context and add more emphasis on marketing aspects. Language was recognised as a barrier, and it was suggested that training materials be translated to local language in advance.

Mr Vongvilay Vongkhamsao thanked Lars Schmidt for providing the training, and all the participants for their time and involvement in the training activities.

Table 2. Key lessons learnt during the training, according to participants.

- Customer psychology (2 mentions)
- Role of Germination (2 mentions)
- Seed collection techniques
- Seed cleaning
- Customer service: information and advice
- Data collection (important)
- Investments: know how to decide
- Management and maintenance of mother trees
- Reducing production cost
- Knowing how to find and access seed sources
- Benefit sharing: fees to seed tree owners

Field trip

On 12 November afternoon, the participants visited two nurseries in Vientiane.

Mr Thongdee, one of the training participants, owns and operates a small-scale nursery at NAFRI. He grows and sells seedlings of *Dalbergia cochinchinensis*, *Dalbergia odorata*, *Afzelia xylocarpa* and others.

Department of Forestry operates a large nursery as a public-private partnership. They grow and sell seedlings of many forest tree species such as *Dalbergia cochinchinensis*, *Dalbergia cultrata, Pterocarpus macrocarpus*, as well as some fruit trees and horticultural plants. The nursery also supplies very large seedlings/saplings of *Dalbergia cochinchinensis.* Mrs Litsamai showed participants around the nursery and explained about their seed collection practices.

Figure 4: *Left:* Mr Thongdee's nursery at NAFRI. *Right:* Mrs Litsamai explaining to participants about the raising of large *Dalbergia* saplings at the nursery of the Department of Forests.

Annex 1: Workshop programme

Training of Trainer workshop on tree seeds and seedlings marketing
(Darwin *Dalbergia* project)
11-12 Nov. 2019 at NAFRI's ICT meeting room, Vientiane, Lao PDR

ເວລາ	ຫົວຂໍ້ການບຶກສາຫາລື	ຜູ້ຮັບຜິດຊອບ	ໝາຍເຫດ
ວັນທີ 11 ພະຈິກ 2019 ທີ່ຫ້ອງປະຊຸມສູນຂໍ້ມູນຂ່າວສານ ສະຖາບັນຄົ້ນຄວ້າ ກະສິກຳ ປ່າໄມ້ ແລະ ພັດທະນາຊົນນະບົດ **Date: 11 November 2019**			
8:00-8:20	ລົງທະບຽນ Registration	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	
8:20-8:45	ສະເໜີໂຕ Self-introduction	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	
8:45-9:00	ກ່າວຈຸດປະສົງ ແລະ ເປີດພິທີ Opening remark	ທ່ານ ປອ ຈັນສະໝອນ ພົງອຸດົມ ຫຼື ທ່ານ ວົງວິໄລ ວົງຄຳຊາວ	
9:00-9:10	ເຜີຍແຜ່ຈຸດປະສົງ ແລະ ເປົ້າໝາຍຂອງການຝຶກອົບ ຮົມ Introduce the objective & expectation of ToT	ທ່ານ Lars Holger Schmidt ທ່ານ Dr Jalonen Riina	
9:10-9:30	ສະເໜີບົດຮຽນກ່ຽວກັບ ຕົວແບບຂອງທຸລະກິດ ແລະ ສົນທະນາ-ບຶກສາຫາລື (**Business modelling discussion**)	ທ່ານ Lars Holger Schmidt	
9:30-10:00	ສະເໜີກ່ຽວກັບ ບັນຫາ ແລະ ຂໍ້ຈຳກັດຂອງຜົນຜະລິດແກ່ນ (**Limitation for seed production**)	ທ່ານ Lars Holger Schmidt	
10:00-10:10	ພັກຜ່ອນດື່ມ ນ້ຳຊາ-ກາເຟ Coffee break	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	
10:10-10:30	ສະເໜີກ່ຽວກັບໂຕລັບທາງດ້ານຄຸນນະພາບຂອງແກ່ນໄມ້ (**Quality parameters for seeds**)	ທ່ານ Lars Holger Schmidt	
10:30-11:00	ສະເໜີກ່ຽວກັບໂຕລັບທາງດ້ານຄຸນນະພາບຂອງເບ້ຍໄມ້ (**Quality parameters for seedlings**)	ທ່ານ Lars Holger Schmidt	
11:00-12:00	ບຶກສາຫາລື ແລະ ແບ່ງກຸ່ມຝຶກຫັດ-ສົນທະນາ 1. Limitation for seed production 2. Quality parameters for seeds 3. Quality parameters for seedlings Group discussion	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	
12:00-12:45	ຮັບປະທານອາຫານທ່ຽງ Lunch	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	

ເວລາ	ຫົວຂໍ້ການບຶກສາຫາລື	ຜູ້ຮັບຜິດຊອບ	ໝາຍເຫດ
12:45-13:15	ສະເໜີກ່ຽວກັບຫຼັກການ ໃນການບັນທຶກຂໍ້ມູນ ແລະ ການຮັກສາຂໍ້ມູນດ້ານການນຳໃຊ້ແກ່ນໄມ້ ແລະ ການຜະລິດເບ້ຍໄມ້ (**Documenting quality**)	ທ່ານ Lars Holger Schmidt	
13:15-13:45	ສະເໜີກ່ຽວກັບຫຼັກການ ໃນການເຂົ້າໃຈຄວາມຕ້ອງການຂອງລູກຄ້າ (**Customer psychology**)	ທ່ານ Lars Holger Schmidt	
13:45-14:15	ສົນທະນາ ແລະ ແບ່ງກຸ່ມຝຶກຫັດໃນຫົວຂໍ້: 1. Documenting quality 2. Customer psychology Group discussion	ທ່ານ Lars Holger Schmidt	
14:15-14:30	ພັກຜ່ອນດື່ມ ນ້ຳຊາ-ກາເຟ Coffee break	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	
14:30-15:15	ສະເໜີກ່ຽວກັບຫຼັກການ ແລະ ຄວາມເຂົ້າໃຈຕໍ່ກັບແຫຼ່ງທີ່ມາຂອງແກ່ນ ແລະ ການຈ່າຍຜັນທະຕໍ່ກັບແຫຼ່ງທີ່ມາຂອງແກ່ນ (**Seed source owners and seed collection fees**)	ທ່ານ Lars Holger Schmidt	
15:15-16:00	ສົນທະນາ ແລະ ແບ່ງກຸ່ມຝຶກຫັດໃນຫົວຂໍ້: 1. Seed source owners and seed collection fees Group discussion	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	
16:00-16:30	ສະຫຼຸບ ແລະ ວາງແຜນວຽກສຳລັບມື້ຕໍ່ໄປ Wrap up and plan to next day	ທ່ານ Lars Holger Schmidt ທ່ານ Dr Jalonen Riina	
ວັນທີ 12/11/2019 ທີ່ຫ້ອງປະຊຸມສູນຂໍ້ມູນຂ່າວສານ ສະຖາບັນຄົ້ນຄວ້າ ກະສິກຳ ປ່າໄມ້ ແລະ ພັດທະນາຊົນນະບົດ **Date: 12 November 2019**			
8:30-8:45	ລົງທະບຽນ Registration	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	
8:45-9:15	ສະເໜີກ່ຽວກັບ ການປະເມີນ ແລະ ການພັດທະນາຕ່ອງໂສ້ການຕະຫຼາດ (**Market chain assessments and development**)	ທ່ານ Lars Holger Schmidt	
9:15-9:35	ສົນທະນາ ແລະ ຝຶກຫັດເປັນກຸ່ມ (**Market chain assessments and development**) Group discussion	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	
9:35-10:00	ສະເໜີກ່ຽວກັບ ການຕະຫຼາດແກ່ນ ແລະ ເບ້ຍໄມ້ (**Marketing**)	ທ່ານ Lars Holger Schmidt	
10:00-10:20	ສົນທະນາ ແລະ ຝຶກຫັດເປັນກຸ່ມ (**Marketing**) Group discussion	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	
10:20-10:30	ພັກຜ່ອນດື່ມ ນ້ຳຊາ-ກາເຟ Coffee break	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	
10:30-11:00	ສະເໜີກ່ຽວກັບ ການບໍລິການແກ່ນໄມ້ (**Customer 'service' for seeds**)	ທ່ານ Lars Holger Schmidt	

ເວລາ	ຫົວຂໍ້ການບຶກສາຫາລື	ຜູ້ຮັບຜິດຊອບ	ໝາຍເຫດ
11:00-11:20	ສົນທະນາ ແລະ ຝຶກຫັດເປັນກຸ່ມ (**Customer 'service' for seeds**) Group discussion	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	
11:20-11:40	ສະເໜີກ່ຽວກັບ ຫຼັກການໃນການລົງທຶນ (**Investments**)	ທ່ານ Lars Holger Schmidt	
11:40-12:10	ສົນທະນາ ແລະ ຝຶກຫັດເປັນກຸ່ມ (**Investments**) Group discussion	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	
12:10-12:30	ສະຫຼຸບ ແລະ ກ່າວປິດກອງປະຊຸມ Summary and close the ToT workshop	ທ່ານ Lars Holger Schmidt ທ່ານ Dr Jalonen Riina ທ່ານ ປອ ຈັນສະໝອນ ພົງອຸດົມ ຫຼື ທ່ານ ວົງວິໄລ ວົງຄຳຊາວ	
12:30-13:30	ຮັບປະທານອາຫານທ່ຽງ Lunch	ຜູ້ເຂົ້າຮ່ວມທັງໝົດ Participants	
13:30-15:30	ລົງຢ້ຽມຢາມສວນກ້າ Visit nearby nursery	ທ່ານ ບັນຊາ ແລະ ທ່ານ ຈະລຸນ	

Annex 2: List of participants

Training of Trainer workshop on tree seeds and seedlings marketing (Darwin *Dalbergia* project) during 11-12 Nov. 2019 at NAFRI's ICT meeting room, Vientiane, Lao PDR

No	Name and surname	Organization	Position
1	Mr Bounthan Souksavath	Luangphabang PAFO as representative of Teak Genetic conservation project (ITTO)	Technical staff
2	Mr Bounma Moungkhounsavath	Xiengnguen DAFO, LPB province, as representative of Teak Genetic conservation project (ITTO)	Technical staff
3	Mr Xayyasith Phonphakdee	Luangphabang PAFO as representative of Teak Genetic conservation project (ITTO)	Technical staff
4	Mr Bounthavy Charuensouk	FRC	Technical staff
5	Mr Daovone Keomeephet	Division of forest plantation promotion, DoF	Technical staff
6	Mr Nout Xaypheng	FRC	Technical staff
7	Mrs Phisouda Sivilay	Faculty of Forestry	Lecturer
8	Mrs Viengkhone Khounsackda	Small holder seedling producer & seller	
9	Mrs Thitsakhone Outhavong	Small holder seedling producer	
10	Mr Vanno Nittavong	FRc	Technical staff
11	Phoumsavath Khammixay	FRC	Technical staff
12	Mr Somephone Phongdalath	FRC	Senior technical
13	Mr Lumpha Keomany	Xayabouly PAFO, as representative of Teak Genetic onservation project (ITTO)	Head of Division
14	Mr Leevue Thor	Xayabouly PAFO, as representative of Teak Genetic onservation project (ITTO)	Technical staff
15	Mrs Baisone Inthilath	FRC	Technical staff
16	Mr Bansa Thammavong	FRC	Dept. Director
17	Mrs Somchan Nanthavong	Division of forest plantation promotion, DoF	Dept. head of Section
18	Mr Chaloun Bounithiphonh	FRC	Dept. head of Section
19	Mr Thongdee Bounmy	Small holder seedling producer	Contract staff of NAFRI

20	Ms Phonevilay Sichanthongthip	FRC	Dept. head of Section
21	Ms Bouasavan Phetsomphou	FRC	Technical staff
22	Mr Vongvilay Vongkhamsao	FRC	Director of FRC