



Project Monitoring Report

Project Profile	
Project Title	Developing High Valuable Species in Viet Nam and Thailand as the Mechanism for Sustainable Forest Management and Livelihood Improvement for Local Communities
Project Duration	Start date: 28 Dec 2015 End date: 27 Dec 2018
Implementing Agency	1. Research Institute for Forest Ecology and Environment, Vietnamese Academy of Forest Sciences, Viet Nam 2. Forest Research and Development Bureau, Royal Forest Department, Thailand
Participating Countries	Viet Nam and Thailand
Project Site	Cao Bang, Bac Kan Provinces in Viet Nam Loei and Nan Provinces in Thailand
Budget and Source of Finance	Total: US\$ <u>720,000</u> - AFoCO: US\$ <u>600,000</u> - National: US\$ <u>120,000</u>
Summary of Monitoring Report	
Monitoring Period	19 – 28 July 2017
Monitoring Site	Project sites in Cao Bang, Bac Kan Provinces, Viet Nam and in Loei and Nan Provinces, Thailand
Monitoring Check Points	<ul style="list-style-type: none"> ● To visit 4 project sites and monitor field implementation progress ● To meet and discuss with project related officials and other stakeholders such as local communities ● To assess the issues, impact and sustainability of the activities in the field and make recommendations for future actions

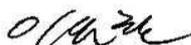
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Disclaimer

The opinion, views and recommendations provided in this project monitoring report do not (NOT) represent the official view and position of the Interim Secretariat for Asian Forest Cooperation Organization (AFoCO), but those of the authors of the report. This report is based on the information provided and observation made during the monitoring visits in Thailand and Viet Nam. For further information and clarification, please contact Mr. Htain Lin (htainlinmm@gmail.com) and/or Prof. Yohan Lee (yohanlee76@gmail.com).

Project Monitoring Report

1. Introduction

This regional project (AFoCo/009/2015) was proposed by Viet Nam and Thailand as a three-year project under the Agreement on ASEAN-ROK Forest Cooperation (2012 – 2016). Following the signing of an MOU by Thailand, Viet Nam, Republic of Korea and the Secretariat for ASEAN-ROK Forest Cooperation in December 2015, project activities were launched in Viet Nam in June 2016 followed by Thailand in October 2016. Viet Nam is the lead coordinating country for this project. Vietnamese Academy of Forest Sciences and Royal Forest Department of Thailand were designated as the implementing agencies for this project.

The project aims to improve sustainable forest management and the livelihood of local people in Viet Nam and Thailand through the development of high valuable plant species. The specific objectives of the project include:

- (1) assessing and selecting suitable species in the study sites;
- (2) developing appropriate techniques, marketing and policy recommendations for the development, processing and trade of the study species;
- (3) improving knowledge, techniques and skills of local people and relevant stakeholders through capacity building programs; and
- (4) developing demonstration models for the development of study species.

Four highly valuable species and their study sites were identified as follow (2 in Thailand and 2 in Viet Nam):

1. Bamboo species *Cephalostachyum pergracile* in Loei site, Thailand;
2. Bamboo species *Dendrocalamus sericeus* in Nan site, Thailand;
3. Star anise species *Illicium verum* in Cao Bang site, Viet Nam; and
4. Cinnamon species *Cinnamomum cassia* in Bac Kan site, Viet Nam.

The project plans to establish demonstration models for planting and tending these species in collaboration with the local stakeholders. Upon establishment, these models are expected to be used for training and research purposes. Technical guidelines for each species will also be developed as appropriate.

Due to its short implementation period and tight schedules to be completed by December 2018, the Interim Secretariat for Asian Forest Cooperation Organization (AFoCO) proposed a project monitoring in order to observe the implementation of activities in the field and identify any technical and management issues that should be addressed by key stakeholders for the project. A two-member monitoring team was formed with Mr. Htain Lin, Senior Program Manager of the Interim Secretariat for AFoCO and Dr. Yohan Lee, Assistant Professor of Yeungnam University in the Republic of Korea. The monitoring team visited the project sites in Thailand and Viet Nam from 19 to 28 July 2017.

This monitoring report will be submitted to the Interim Secretariat for AFoCO, International Cooperation Division of the Korea Forest Service (KFS), Vietnam Administration of Forestry

(VN Forest), Vietnamese Academy of Forest Sciences (VAFS) and Royal Forest Department (RFD) of Thailand.

2. Major monitoring activities

This report is based on documents review, field observation and discussions with the relevant stakeholders. The schedule of field visits from 19 to 28 July 2017 and the list of persons met in both countries are attached in **Appendix 1** and **Appendix 2**, respectively.

At the onset of the field monitoring visits in Thailand and Viet Nam, both of project managers gave a brief presentation on the implementation progress of the project, respectively. Those presentations provided the background information and current status of the project from which the monitoring team was able to review and check the field activities against their plan. Progress of implementation activities against their work plan is attached in **Appendix 3**. The monitoring methods and findings against the planned activities of the project are mentioned in **Table 1** below.

This 10-day monitoring trip was organized to cover all project sites located in remote border areas of both countries. Covering in such remote areas would not have been this much effective without the support and assistance of the concerned officials all the way from the headquarters to the field in both countries. Especially, it is noteworthy and highly appreciable that the project teams in both countries have put additional efforts in order to ensure the success of our project monitoring. In Thailand, for instance, Deputy Director-General of RFD has joined the field trip, showing a high-level support for the project.

Besides observing the project activities, there are many lessons given from this monitoring visit. Understanding local bureaucratic structures and the socio-economic condition of local people was one of the prevailing factors needed for this project. We may look further into the sustainability of this project intervention in the area.

Across the borderland of Thailand, a wide-scale encroachment of market-driven farming pattern has been prevailed in most forest land areas, such as extensive farming areas of corn, pineapple, and other cash crops being cultivated along the deep slope of mountain range. We found that most of these farming areas are prone to land erosion. There have been various stakeholders involved in these economic activities in the past decades, ranging from big multinational companies to middlemen (brokers) to farmers.

Meanwhile, the government of Thailand implemented many royal projects in these trans-boundary areas for developing agro-forestry cropping patterns and enhancing the sustainable livelihood of poor local communities. Currently, RFD has embarked with a new policy mandate of reforestation that drive in these frontier areas. However, the involvement of large companies and land-based livelihood of vulnerable local poor people make it complicated in their effort of reforestation in encroached areas.

The scenario of Viet Nam, on the other hand, offers a different story. It is similar to a controlled market economy where the government is promoting private sector development by even transforming previous government agencies into private companies for managing forest areas such as conservation and production activities. Size and scale of land ownership for a Vietnamese farmer is relatively small compared to his counterpart in Thailand. However, land use and property right for a Vietnamese farmer is well protected by law and guaranteed for a specified term, which gives extra incentive for the farmer to invest

with confidence and security. At least, Viet Nam has managed to develop to a stage where farm machineries are widely used even in those frontier areas. At the same time, the government provides full support and infrastructure for local administrative bodies to ensure proper supervision and maintain regular community activities. Forest protection at local level seems to be well under control after years of over exploitation in the past.

Table 1: Monitoring methods and findings against planned activities

Activity No.	Activities	Monitoring Indicator & Method	
		Quantitative	Qualitative
A. DIRECT ACTIVITY COST			
Output 1	Selection of study species and sites in Bac Kan and Cao Bang provinces (Viet Nam)		
Activity 1.1	Collection of relevant data and information on high valuable species, natural and social conditions of the 2 provinces	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 1.2	Quick visit to Bac Can Province to select study species and sites	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 1.3	Quick visit to Cao Bang Province to select study species and sites	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 1.4	Materials, stationery and others	n/a*	n/a
Output 2	Selection of study species and sites in Nan and Loei provinces (Thailand)		
Activity 2.1	Collection of relevant data and information (at national and provincial levels)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 2.2	Quick visit to Nan Province selected districts and communes to meet relevant agencies and local authorities to select high valuable species and study sites	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 2.3	Quick visit to Loei Province selected districts and communes to meet relevant agencies and local authorities to select high valuable species and study sites	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 2.4	Support activities	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Output 3	Technical guidelines, policy and marketing recommendations to develop high valuable species in Bac Kan and Cao Bang provinces (Viet Nam)		
Activity 3.1	Survey in Bac Kan province	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders

Activity No.	Activities	Monitoring Indicator & Method	
		Quantitative	Qualitative
Activity 3.1.1	Preparation for detailed survey (detailed plan and questionnaires on status, distribution, value, uses, development potential, planting, tending, harvesting, processing, marketing, trade, policy applied...) in Bac Kan province	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 3.1.2	Survey the selected species in Bac Kan Province (status, distribution, value, uses, development potential, planting, tending, harvesting, preservation and processing, marketing, policies applied, indigenous and modern knowledge applied...)	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 3.2	Survey in Cao Bang province		
Activity 3.2.1	Preparation for detailed survey (detailed plan and questionnaires on status, distribution, value, uses, development potential, planting, tending, harvesting, processing, marketing, trade, policy applied...) in Bac Kan province	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 3.2.2	Survey the selected species in Bac Kan Province (status, distribution, value, uses, development potential, planting, tending, harvesting, preservation and processing, marketing, policies applied, indigenous and modern knowledge applied...)	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 3.3	Develop technical guidelines for the selected species in Bac Kan province (based on data and information collected)	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 3.4	Develop technical guidelines for the selected species in Cao Bang province (based on data and information collected)	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 3.5	Report on policy and marketing recommendation	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 3.6	Material, stationery and others	-	
Output 4	Technical guidelines, policy and marketing recommendations to develop high valuable species in Nan and Loei provinces (Thailand)		

Activity No.	Activities	Monitoring Indicator & Method	
		Quantitative	Qualitative
Activity 4.1	Survey in Nan Province	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 4.1.1	Preparation for detailed survey of the selected species (detailed plan and questionnaires on status, distribution, value, uses, development potential, planting, tending, harvesting and processing ...) in Nan Province	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 4.1.2	Survey the selected species in Nan Province (status, distribution, value, uses, development potential, planting, tending, harvesting and processing, indigenous and modern knowledge applied...)	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 4.2	Survey in Loei Province	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 4.2.1	Preparation for detailed survey of the selected species (detailed plan and questionnaires on status, distribution, value, uses, development potential, planting, tending, harvesting and processing ...) in Loei Province	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 4.2.2	Survey the selected species in Loei Province (status, distribution, value, uses, development potential, planting, tending, harvesting and processing, indigenous and modern knowledge applied...)	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 4.3	Develop technical guidelines for the selected species in Nan province (based on data and information collected)	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 4.4	Develop technical guidelines for the selected species in Loei province (based on data and information collected)	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 4.5	Report on policy and marketing recommendation	Survey data	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 4.6	Support activities	-	
Output 5	Technical training and good model visiting (Viet Nam) (Technical training on seedling production, site		

Activity No.	Activities	Monitoring Indicator & Method	
		Quantitative	Qualitative
	preparation, planting, tending, harvesting, processing, preservation and trading of 2 studied species)		
Activity 5.1 Activity 5.2	Develop 2 training curricula for 2 species (1 curriculum for 1 species)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 5.3 Activity 5.4	Organize technical trainings on 2 species (10 trainings, 3 days/training, 25 people/training) in two provinces	# of participants, # of trainings	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 5.5	Visiting good models within or outside the province (1 day for each visit)	# of participants	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Output 6	Demonstration model establishment (Thailand)		
Activity 6.1	Demonstration model of the study species in Nan province	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 6.1.1	Site selection for model establishment in Nan province	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 6.1.2	Water or moisture resource for the Demonstration plot (1 system/commune for 2 communes)	n/a	
Activity 6.1.3	Model of planting (2 ha/commune for 2 communes)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 6.1.4	Model of tending (2 ha/commune for 2 communes)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 6.1.5	Maintaining of model	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 6.1.6	Model of harvesting (1 species for 2 communities)	n/a	n/a
Activity 6.1.7	Model of processing and utilization (1 species for 2 communities)	n/a	n/a
Activity 6.2	Demonstration model of the study species in Loei province	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 6.2.1	Site selection for model establishment in Loei province	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 6.2.2	Water or moisture resource for the Demonstration plot(1system/commune for 2 communes)	n/a	n/a

Activity No.	Activities	Monitoring Indicator & Method	
		Quantitative	Qualitative
Activity 6.2.3	Model of planting (2 ha/commune for 2 communes)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 6.2.4	Model of tending (2 ha/commune for 2 communes)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 6.2.5	Maintaining of model	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 6.2.6	Model of harvesting (1 species for 2 communities)	n/a	n/a
Activity 6.2.7	Model of processing and utilization (1 species for 2 communities)	n/a	n/a
Activity 6.3	Support activities	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Output 7	Demonstration model establishment (Viet Nam)		
Activity 7.1	Establish demonstration models in Bac Kan	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 7.1.1	Site selection for model establishment (planting, tending...)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 7.1.2	Design planting models (2 ha)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 7.1.3	Design tending models (4 ha)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 7.1.4	Building model of planting (2 ha)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 7.1.5	Building model of tending (2 ha)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 7.1.6	Maintenance of models	n/a	n/a
Activity 7.1.7	Material, communication, stationery and others	n/a	n/a
Activity 7.2	Establish demonstration models in Cao Bang	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 7.2.1	Site selection for model establishment (planting, tending...)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders

Activity No.	Activities	Monitoring Indicator & Method	
		Quantitative	Qualitative
Activity 7.2.2	Design planting models (2 ha)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 7.2.3	Design tending models (5 ha)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 7.2.4	Building model of planting (2 ha)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 7.2.5	Building model of tending (3 ha)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 7.2.6	Maintenance of models	n/a	n/a
Activity 7.2.7	Material, communication, stationery and others	n/a	n/a
Output 8	Dissemination and training (Thailand)		
Activity 8.1	Dissemination (Inception meeting, PSC meetings in Thailand, Travelling to Viet Nam, Midterm workshop, Final workshop)	# of meeting, # of participants, # of workshop. etc	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 8.2	Training	# of meeting, # of participants, # of workshop. etc	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 8.3	Visiting good models within or outside the province (1day for each visit)	# of participants	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 8.4	Support activities	n/a	n/a
Activity 8.5	Audit	n/a	n/a
Activity 8.6	Contingency	n/a	n/a
Output 9	Management, operation, monitoring and dissemination (Viet Nam)		
Activity 9.1	Establish PMU, recruitment of staff, open bank account	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 9.2	Inception meeting	n/a	n/a
Activity 9.3	Meeting of the PSC in Viet Nam (Ha Noi)	n/a	n/a
Activity 9.4	Travelling to Thailand (PSC meeting)	n/a	n/a
Activity 9.5	Midterm workshop	n/a	n/a

Activity No.	Activities	Monitoring Indicator & Method	
		Quantitative	Qualitative
Activity 9.6	Final Workshop	n/a	n/a
Activity 9.7	Audit	n/a	n/a
B. INDIRECT COST/TO OPERATIONS			
	(Thailand)		
Activity 10.1	Supply for PMU (paper, toners, etc)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 10.2	Allowances for part-time project manager (1 person x 1,500 USD/month)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
	(Viet Nam)		
Activity 11.1	Office facility	n/a	n/a
Activity 11.2	Assist in administration, financial and technical issues of the PMU	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders
Activity 11.3	Assist in running the PMU (material, communication, publication and others)	Available data collected	Document Review, Field Observation, Expert Interview, Interview with stakeholders

* n/a: not available

3. Key findings and issues

3.1. Thailand

The activities are implemented in collaboration with relevant agencies such as district authority, village chief, and local staff of RFD. One local officer of RFD is assigned as site manager to supervise and look after the project sites in each province. The demonstration models are set up in the land owned by the individual farmers and the project is supporting with seedlings, planting and construction of water storage and supply facilities. The enthusiasm of a site manager and owner farmers as well as the support of local officials from Loei province is well noticeable. Overall, the project activities are being implemented according to plan and it was informed that there will be surplus of budget after completion of some activities.

- Issue 1: Management delay

For overall supervision and guiding the project, a senior officer and another professional officer are assigned jointly; however, due to the fact that both of them are stationed quite far from the project sites, they have to guide and rely on the local site managers who know best about the local situation and people. In addition, the project budget, administrative and logistic matters are managed from Bangkok by a team of project personnel and junior RFD officials. Under Thai system, internal approval is needed for any field activities and budget spending through a hierarchy from the field officer up to a senior official (usually Deputy Director-General) based in Bangkok and the process cannot be done electronically. Since the key personnel are assigned in different locations of the country and handling the project is their additional task, this creates a constraint and delay in this project management.

- Issue 2: Relevance of models with objectives

In general, all 4 model plots in Loei and Nan provinces have been designed as mixed agro-forestry pattern, using the experience of the past and existing royal projects. Royal projects have been introducing various mixed agro-forestry cropping patterns for sustainable farming and livelihood improvement for the poor farmers in these borderland areas. Selected bamboo species was planted as one of 4 species in these mixed agro-forestry patterns. However, current model does not seem to make a priority on bamboo and it is questionable whether and how it can promote bamboo species through this model. Since the key objective of the project is to develop bamboo as a high valuable species in terms of production technique, processing technology and trade of products, current model could only address some parts of production technique and other aspects of production technique such as mono bamboo farming may be needed to introduce further. In addition, more efforts are needed to put on the other aspects of processing and marketing of selected bamboo species.

- Issue 3: Limited market opportunities in Loei Province

One other concern is about limited market opportunities for bamboo products in Loei province. While it was learned that there are 2 factories in Nan province for bamboo products – one for domestic market and one for export market, there are no such factories or facilities existed in the vicinity of Loei province. A model site in Loei province is located close to Thai-Laos border and apparently, there will be high transaction cost to reach the products to the market. Due to this, bamboo products from Loei province will be less competitive in the market or otherwise, it has to solely rely on local demand of traditional bamboo products. The factory supplying for domestic market in Nan province has a supplying capacity of about 3,000 kg finished bamboo products per week at its peak in the summer and It was learned

that in collaboration with the factory, the project is going to initiate supporting some local families with the equipment necessary for making semi-products. Therefore, promotion of processing technology and trade of bamboo products in Loei province needs to be further reviewed and make adjustment as necessary.

3.2. Viet Nam

The activities are initiated and implemented by the project team based in Hanoi. All project activities are planned and managed by Hanoi office and there is no site manager assigned to supervise the project activities at local level. Technical guidelines, policy and marketing recommendations for the development of 2 highly valuable species (star anise and cinnamon) are prepared by local expert(s) after field survey and study. Vietnamese version of guidelines and reports are now available. The demonstration models are planned to be established in the individual farmer's field except a 2-ha new planting model to be managed by a government agency-turned-company in Bac Kan province. Currently, 2 tending models have been established in both provinces while the planting models are scheduled to be established later 2017. Overall, the project is making progress as planned.

- Issue 1: Future prospect of demonstration models

At this reporting time, the monitoring team has observed 2 tending model sites, one for star anise in Cao Bang province and one for cinnamon in Bac Kan province. Demonstration models for new planting are scheduled in late 2017. At this stage, it was not so clear how technical guidelines and marketing recommendations developed by the project are applied in current tending models. Perhaps more technical reports from the project would be useful. The owner farmers of these tending models appear content with what they have been dealing with the project. A cinnamon farmer in Bac Kan province is pursuing a learning-by-doing approach on cropping pattern and shading trees to gain a higher survival of his cinnamon plants. At this point, it is premature to assess whether the project inputs for these tending models can make a difference compared to the farmers' traditional practices. Such impact can be known over a few years after completion of the project and only ex-poste evaluation of these models later will give a clear assessment of impact and outcome.

- Issue 2: How to disseminate the outcome of demonstration models

When it comes to the area of targeted project site, it is limited to expand the outcome of demonstration models to neighboring areas. Local project managers agreed that the current selected species is demanded in not just local markets but also neighboring Asian countries such like China, Korea, and Japan. However, farmers need to plant those species in a relatively large area in order to produce the material or final product of the designed species (i.e., *Illicium verum* Hook and *Cinnamomum cassia* Nees ex Blume). Even if the demonstration site shows that developed high valuable species can contribute to the livelihood of local communities by providing secondary income sources, this project may end up in failure to achieve the ultimate goal because of the limited area of plantation of high value species for the public. Thus, in order to guarantee the sustainability of the project, the government of Vietnam and AFoCO may take future steps into account in this stage.

3.3. Challenges for the success of projects

We identified some key challenges to be overcome for the success of this project: "Developing High Valuable Species in Vietnam and Thailand as the Mechanism for

Sustainable Forest Management(SFM) and Livelihood Improvement for Local Communities”. First of all, local people need government institutions for secure land and tree tenure. Where these are absent, local community involvement in tree-planting and management will be limited. However, if they are guaranteed by government institutions, their interests for SFM stimulated. Because tree-planting requires a relatively long period from managing and cultivating trees, it is an important to establish a land-tenure system for local people.

In addition, it is crucial for local community to determine how they obtain good seeds, seedlings, and clones suitable for the purpose of this project. Especially, project managers and government officials who are in charge of this project have to take this issue into account, in order to disseminate the outcome of this project by providing high valuable species to local communities. Also, policy makers need to consider small-entrepreneurial seed and seedling suppliers for avoiding a certain situation that discriminates against them because government may be willing to provide extension services to give seeds for free to local communities.

Lastly, many given environments don't recommend planting high valuable tree species as an attractive investment relative to current farming practices. For instance, local communities can harvest corns in a relatively short period and sell them to a large company in Thailand, which encourage the expansion of corn farming in the neighboring area of project sites. Unless the developed model of high-valuable species production can contribute the livelihood of local community in practice, local community may reject to adopt the developed species for their own farming practices.

4. Supplementary information

A collection of some photos from the field monitoring visit in Thailand and Viet Nam are shown below. Also, we obtained the document files of projects such as technical guidelines for selected species in Vietnam (written in Vietnamese).



Photo 1: Display of bamboo products in Loei Province, Thailand



Photo 2: Agro-forestry mixed cropping introduced under royal project, Thailand



**Photo 3: A planting model site in Loei, Thailand
(Note: well established crop farms at the background)**



Photo 4: Water pond under construction in Loei, Thailand



Photo 5: Local farming with forest at the background, Loei, Thailand



Photo 6: Agriculture encroachment into forest land in Loei, Thailand



Photo 7: A planting model site, Nan, Thailand



Photo 8: Erosion prone farming practice, Nan, Thailand



Photo 9: Inside the bamboo product factory, Nan, Thailand



**Photo 10: A typical home of Vietnamese farmer
(Star anise tending model site at the right upper hand corner)**



Photo 11: At Star anise tending model site in Cao Bang, Viet Nam

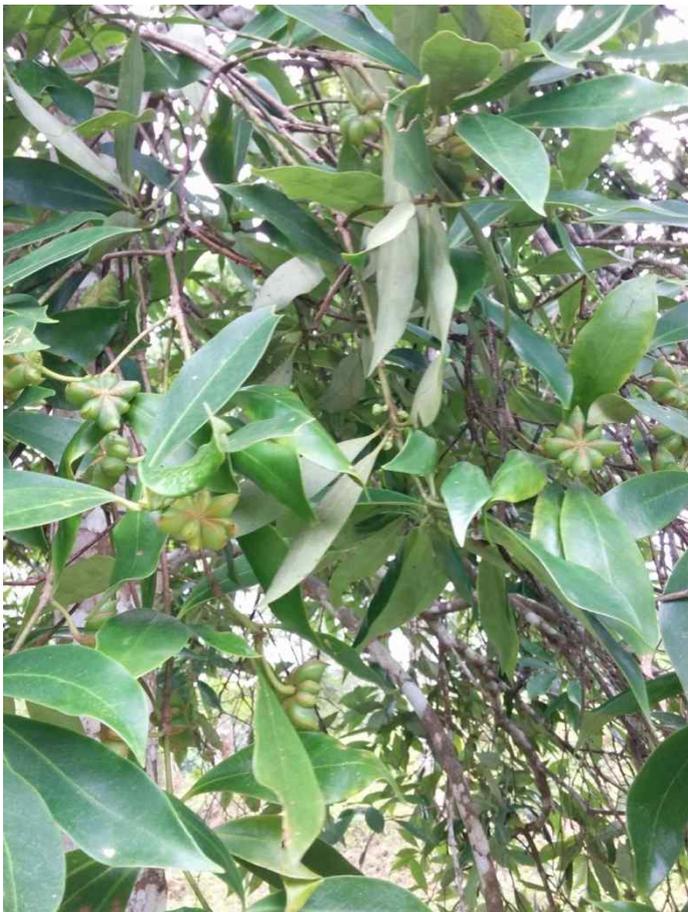


Photo 12: Star anise fruits

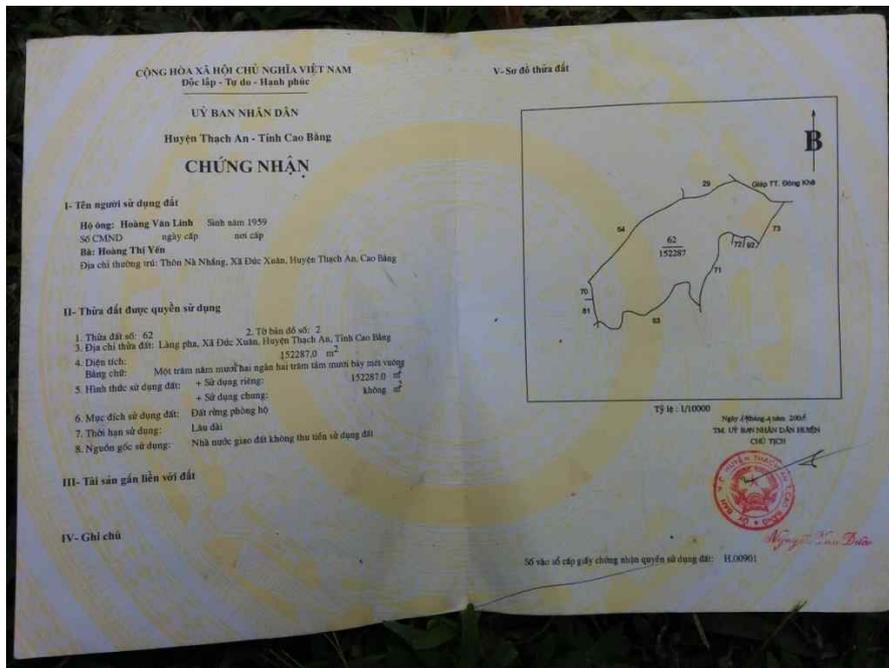


Photo 13: A land use certificate in Viet Nam
(Note: Transferrable legal paper that is entitled for bank loan)



Photo 14: A farmer at his cinnamon tending model farm, Bac Kan, Viet Nam



Photo 15: Cinnamon tending model site, Bac Kan, Viet Nam



Photo 16: A farmer with his farming equipment in Viet Nam

5. Recommendations

Based on the issues identified in Section 5 (Key Findings and Issues), some recommended follow-up actions are summarized in **Table 2**.

Table 2: Recommended follow-up actions

No.	Issues	Recommended Follow-up actions	by whom
1.	Management delay (Thailand)	Currently, approval of field activities and budget is done on ad-hoc basis. It is recommended to organize regular meetings involving all key stakeholders (even including farmers) and make collective decisions and signing of approvals and actions in one place regularly.	All stakeholders led by project-in-charge
2.	Relevance of models with objectives (Thailand)	In addition to current mixed agro-forestry cropping patterns with 4 species, mono culture (single species farming) with selected bamboo species may be introduced if possible and time permits.	Project-in-charge
3.	Limited market opportunities in Loei Province (Thailand)	It was not so clear whether promotion of products and market access for Loei farmers would be beneficial compared to those in Nan province. If not, a new approach for processing technique and market promotion related to domestic market situation can be considered.	Site manager, farmers and project-in-charge
4.	Future prospect of demonstration models (Viet Nam)	There was a question of whether technical guidelines and marketing recommendations developed by the project are effective, applicable and beneficial for the demonstration models being established. This question can only be answered by conducting an ex-poste evaluation later after the project.	AFoCO Secretariat, Viet Nam
5	Institutions for smallholder tenure (Thailand & Viet Nam)	Specific policies for developing high valuable species for the livelihood improvement of local communities, such as more attention to ensuring smallholder tenure of trees and land, greater support for how local community members obtain tree-planting materials and wider acknowledgement of those developed species as an investment option.	the Government of Thailand and Vietnam
6	Demand for research and development (Thailand & Viet Nam)	Intensified research into tree domestication to provide planting material appropriate for smallholders, and further assessment of the complementarity and resilience of adopting a newly developed forest management systems in the face of climate change and other socio-economic challenges.	AFoCO Secretariat and the Government of Thailand and Vietnam

6. Appendices

Appendix 1: Project Monitoring Schedule to Thailand & Viet Nam [AFoCo/009/2015], 19~28 July 2017

7/19, Wed	06:00~18:00	Visit Royal Forest Department headquarters in Bangkok and meet with staff of International Cooperation Division, Forest Research and Development Bureau and Project Management Team. Mr. Sira Siritipakul, Project Manager for Thailand, makes a presentation on project implementation progress.	Flight from Seoul (ICN) to Bangkok (09:35~13:25 hr), overnight stay at Amari airport hotel, Don Mueung International Airport (DMK), Bangkok
7/20, Thu	06:00~18:00	Upon arrival at Loei airport, travel by car to project site. After a briefing session at the site, visit the field. Visit to a Thai-Laos border crossing in Loei province.	Domestic flight from Bangkok (DMK) to Loei Airport (LOE), By car from the airport to the field (60 km). Overnight stay in Loei.
7/21, Fri	08:00~17:00	Visit 2 nd project site in Loei province. Then proceed to Nan province.	By car to project site and then to Nan Province (230 km). Overnight stay at Nan.
7/22, Sat	08:00~17:00	Visit 2 project sites in Nan province together with Deputy Director General of RFD. Lunch with local people. Visit district administration office and a bamboo product factory.	By car and overnight stay at Nan.
7/23, Sun	09:00~15:00	Nan to Bangkok and debriefing with project manager.	Domestic flight from Nan to Bangkok (DMK) and overnight stay in Bangkok
7/24, Mon	05:00~18:00	Travel from Bangkok to Cao Bang province in Viet Nam. Dr. Pham Duc Chien, Project Manager, joins the trip from Bac Kan and makes a brief presentation on the activities in Viet Nam.	Flight from Bangkok to Hanoi, Vietnam (07:45~09:35). By car from Hanoi to Cao Bang province (280 km). Overnight stay in Cao Bang.
7/25, Tue	08:00~14:30	Meet with Management Board of protection forest at Thach An district office and visit to project site (Na Nhang Village in Duc Xuan Commune). Discuss with local community and lunch together.	By car to the field and back. Overnight stay at Cao Bang.
7/26, Wed	07:30~17:00	Meet with officials from semi-private forest company in Bac Kan and visit the project site (New plantation – Cinnamon).	Travel by car from Cao Bang to Bac Kan (120 km) and overnight stay at Bac Kan.
7/27, Thu	07:30~15:30	Meet with officials of Nong Thuong Commune; Field visits to Tan Thanh (Cinnamon tending model) and discuss with local people. Back to Hanoi in the afternoon.	Travel by car from Bac Kan to the field and then to Hanoi (160 km). Overnight stay in Hanoi.
7/28, Fri	08:00~13:00	Debriefing and discussion for preparation of report	Flight from Hanoi to Seoul (ICN) (23:00~05:20 hr)

Appendix 2: List of officials and persons met during project monitoring trip to Thailand & Viet Nam [AFoCo/009/2015], 19~28 July 2017

No	Name	Position / title	Business location / address
THAILAND			
1.	Athapol Charoenshunsu (Mr.)	Deputy Director-General	Royal Forest Department, Bangkok
2.	Thiti Visaratana (Mr.)	Director	Forestry Research and Development Bureau, Royal Forest Department, Bangkok
3.	Sapol Boonsermsuk (Mr.)	Director	International Cooperation Division, Royal Forest Department, Bangkok
4.	Montri Intasen (Mr.)	Program Officer	International Cooperation Division, Royal Forest Department, Bangkok
5.	Dr. Suwan Tangmitcharoen (Mr.)	Forestry Technical Adviser	Royal Forest Department, Bangkok
6.	Pracheon Sroithongkham (Mr.)	Chief Project Officer	Nan and Loei Province / Nakhon Ratchasima
7.	Suthep Chiaplaem (Mr.)	Deputy Chief Project Officer	Nan and Loei Province / Chiang Mai
8.	Narattanan Suwanphong (Ms.)	Project Officer	Royal Forest Department, Bangkok
9.	Kandith (Mr.)	Site Manager	Loei Province, Royal Forest Department
10.	Dennarong (Mr.)	Site Manager	Nan Province, Royal Forest Department
11.	Songsak (Mr.)	District Sheriff	Loei Province
12.	Somyod (Mr.)	Community Leader	Loei Province
13.	Thawat Kamphai (Mr.)	Farmer	Loei Province
14.	Thongnak Jantakhon (Mr.)	Community Leader	Loei Province
15.	Samrouy Hatpol (Mr.)	District Sheriff	Nan Province
16.	Sira Siritipakul (Mr.)	Project Manager	Royal Forest Department, Bangkok
17.	Wichien Janjumroon (Mr.)	Project Technical Officer	Royal Forest Department, Bangkok
18.	Pacharamon (Ms.)	Supervisor	Nan Province
VIET NAM			
1.	Dr. Pham Duc Chien (Mr.)	Regional Project Manager	Vietnamese Academy of Forest Sciences, Ha Noi
2.	Dr. Le Van Thanh (Mr.)	Deputy Director	Vietnamese Academy of Forest Sciences, Ha Noi
3.	Nong Van Uyen (Mr.)	Director	Forest Management Board, Thach An, Cao Bang Province
4.	Ly Truong Thanh (Mr.)	Vice Director	Forest Management Board, Thach An, Cao Bang Province
5.	Nong Van Thanh (Mr.)	Staff	Forest Management Board, Thach An, Cao Bang Province
6.	Nguyen Thi Hoa (Mr.)	Staff	Forest Management Board, Thach An, Cao Bang Province
7.	Hoang Van Linh (Mr.)	Village Leader	Na Nhang, Duc Xuan, Thach An
8.	Hoang Van Phong (Mr.)	Village Leader	Na Nhang, Duc Xuan, Thach An
9.	Ly van Hiep (Mr.)	Commune Leader	Na Nhang, Duc Xuan, Thach An
10.	Hoang Van Sang (Mr.)	Commune Official	Na Nhang, Duc Xuan, Thach An
11.	Nong Van Huu (Mr.)	Commune Official	Na Nhang, Duc Xuan, Thach An
12.	Hoang Thi Duyen (Ms.)	Director	Cao Bang Department of Forest Protection
13.	Hoang Phuong Vy (Mr.)	Vice Director	Cao Bang Department of Forest Protection
14.	Hoang Thi Le (Ms.)	Staff	Cao Bang Department of Forest Protection
15.	Hoang Thi Tham (Ms.)	Staff	Cao Bang Department of Forest Protection
16.	Nong Thi Huong (Mr.)	Staff	Cao Bang Department of Forest Protection
17.	Vi Van Chuong (Mr.)	Staff	Cao Bang Department of Forest Protection

No	Name	Position / title	Business location / address
18.	Bui Truong Giang (Mr.)	Staff	Cao Bang Department of Forest Protection
19.	Pham Van Thuong (Mr.)	Deputy Director-General	Forest Company, Bac Kan Province
20.	Nguyen Van Huong(Mr.)	Technical Officer	Forest Company, Bac Kan Province
21.	Ho Van Huan (Mr.)	Staff	Forest Company, Bac Kan Province
22.	Pham Ngoc Kien (Mr.)	Vice Director	Bac Kan Department of Forest Protection
23.	Trieu Van Nhuc (Mr.)	Commune Vice President	Nong Thuong Commune, Bac Kan Province
24.	Loc Thi Ky (Ms.)	Staff	Nong Thuong Commune, Bac Kan Province
25.	Hoang Phuc Hien (Mr.)	Farmer	Tan Thanh, Nong Thuong Commune
26.	Hoang Huu Sinh (Mr.)	Farmer	Tan Thanh, Nong Thuong Commune
27.	Luu Tien Dat (Mr.)	Officer	Viet Nam Administration of Forestry, Ha Noi

Appendix 3. Project Implementation Progress as of July 2017

Activity/ Output	Description	Planning by Year			Progress (ON TIME/ DELAYED)	Outputs/ deliverables
		2016	2017	2018		
A. DIRECT ACTIVITY COST						
Output 1	Selection of study species and sites in Bac Kan and Cao Bang provinces (Viet Nam)					
Activity 1.1	Collection of relevant data and information on high valuable species, natural and social conditions of the 2 provinces	Completed			ON TIME	Relevant data and publications collected
Activity 1.2	Quick visit to Bac Can Province to select study species and sites	Completed			ON TIME	Report: 1 species and study sites selected
Activity 1.3	Quick visit to Cao Bang Province to select study species and sites	Completed			ON TIME	Report: 1 species and study sites selected
Activity 1.4	Materials, stationery and others	Completed			-	
Output 2	Selection of study species and sites in Nan and Loei provinces (Thailand)		Completed			
Activity 2.1	Collection of relevant data and information (at national and provincial levels)	Completed			ON TIME	
Activity 2.2	Quick visit to Nan Province selected districts and communes to meet relevant agencies and local authorities to select high valuable species and study sites		Completed		DELAYED (budget transferred in 2016)	Selected study sites in Nan Province
Activity 2.3	Quick visit to Loei Province selected districts and communes to meet relevant agencies and local authorities to select high valuable species and study sites		Completed		DELAYED (budget transferred in 2016)	Selected study sites in Loei Province
Activity 2.4	Support activities		Completed		-	
Output 3	Technical guidelines, policy and marketing recommendations to develop high valuable species in Bac Kan and Cao Bang provinces (Viet Nam)					
Activity 3.1	Survey in Bac Kan province	Completed			ON TIME	

Activity/ Output	Description	Planning by Year			Progress (ON TIME/ DELAYED)	Outputs/ deliverables
		2016	2017	2018		
Activity 3.1.1	Preparation for detailed survey (detailed plan and questionnaires on status, distribution, value, uses, development potential, planting, tending, harvesting, processing, marketing, trade, policy applied...) in Bac Kan province	Completed			ON TIME	Survey plan, and questionnaires
Activity 3.1.2	Survey the selected species in Bac Kan Province (status, distribution, value, uses, development potential, planting, tending, harvesting, preservation and processing, marketing, policies applied, indigenous and modern knowledge applied...)	Completed			ON TIME	Survey report
Activity 3.2	Survey in Cao Bang province	Completed			ON TIME	
Activity 3.2.1	Preparation for detailed survey (detailed plan and questionnaires on status, distribution, value, uses, development potential, planting, tending, harvesting, processing, marketing, trade, policy applied...) in Bac Kan province	Completed			ON TIME	Survey plan, and questionnaires
Activity 3.2.2	Survey the selected species in Bac Kan Province (status, distribution, value, uses, development potential, planting, tending, harvesting, preservation and processing, marketing, policies applied, indigenous and modern knowledge applied...)	Completed			ON TIME	Survey report
Activity 3.3	Develop technical guidelines for the selected species in Bac Kan province (based on data and information collected)	Completed			ON TIME	2 technical guidelines for Hoi and Que species generated
Activity 3.4	Develop technical guidelines for the selected species in Cao Bang province (based on data and information collected)	Completed			ON TIME	
Activity 3.5	Report on policy and marketing recommendation	Completed			ON TIME	Report completed
Activity 3.6	Material, stationery and others	Completed			-	
Output 4	Technical guidelines, policy and marketing recommendations to develop high valuable species in Nan and Loei provinces (Thailand)		Ongoing			

Activity/ Output	Description	Planning by Year			Progress (ON TIME/ DELAYED)	Outputs/ deliverables
		2016	2017	2018		
Activity 4.1	Survey in Nan Province		Ongoing		DELAYED	
Activity 4.1.1	Preparation for detailed survey of the selected species (detailed plan and questionnaires on status, distribution, value, uses, development potential, planting, tending, harvesting and processing ...) in Nan Province		Ongoing		DELAYED (budget transferred in 2016)	Survey plan and marketing plan details
Activity 4.1.2	Survey the selected species in Nan Province (status, distribution, value, uses, development potential, planting, tending, harvesting and processing, indigenous and modern knowledge applied...)		Completed		ON TIME	Report on species in Nan Province
Activity 4.2	Survey in Loei Province		Ongoing		DELAYED	
Activity 4.2.1	Preparation for detailed survey of the selected species (detailed plan and questionnaires on status, distribution, value, uses, development potential, planting, tending, harvesting and processing ...) in Loei Province		Ongoing		DELAYED (budget transferred in 2016)	Survey plan and marketing plan details
Activity 4.2.2	Survey the selected species in Loei Province (status, distribution, value, uses, development potential, planting, tending, harvesting and processing, indigenous and modern knowledge applied...)		Completed		ON TIME	Report on species in Loei Province
Activity 4.3	Develop technical guidelines for the selected species in Nan province (based on data and information collected)		Ongoing		ON TIME	Plan completed on 21 September 2017
Activity 4.4	Develop technical guidelines for the selected species in Loei province (based on data and information collected)		Ongoing		ON TIME	Plan completed on 25 September 2017
Activity 4.5	Report on policy and marketing recommendation		Ongoing		ON TIME	Plan completed on 7 October 2017
Activity 4.6	Support activities		-		-	
Output 5	Technical training and good model visiting (Viet Nam)		Ongoing			

Activity/ Output	Description	Planning by Year			Progress (ON TIME/ DELAYED)	Outputs/ deliverables
		2016	2017	2018		
	(Technical training on seedling production, site preparation, planting, tending, harvesting, processing, preservation and trading of 2 studied species)					
Activity 5.1 Activity 5.2	Develop 2 training curricula for 2 species (1 curriculum for 1 species)		(Q2) In progress		DELAYED	will be completed in Aug (for the training held in Sept).
Activity 5.3 Activity 5.4	Organize technical trainings on 2 species (10 trainings, 3 days/training, 25 people/training) in two provinces		(Q3-Q4)		ON TIME	Will be organized in Sept
Activity 5.5	Visiting good models within or outside the province (1 day for each visit)		(Q3-Q4)		ON TIME	Will be organized in Sept
Output 6	Demonstration model establishment (Thailand)		Ongoing			
Activity 6.1	Demonstration model of the study species in Nan province		Ongoing		ON TIME	
Activity 6.1.1	Site selection for model establishment in Nan province		Completed		ON TIME	
Activity 6.1.2	Water or moisture resource for the Demonstration plot (1 system/commune for 2 communes)		(Q3-Q4)		DELAYED	
Activity 6.1.3	Model of planting (2 ha/commune for 2 communes)		(Q3)		DELAYED	
Activity 6.1.4	Model of tending (2 ha/commune for 2 communes)		(Q4)		DELAYED	
Activity 6.1.5	Maintaining of model		(Q4)		ON TIME	
Activity 6.1.6	Model of harvesting (1 species for 2 communities)				ON TIME	
Activity 6.1.7	Model of processing and utilization (1 species for 2 communities)				ON TIME	
Activity 6.2	Demonstration model of the study species in Loei province		Ongoing			
Activity 6.2.1	Site selection for model establishment in Loei province		Completed		ON TIME	

Activity/ Output	Description	Planning by Year			Progress (ON TIME/ DELAYED)	Outputs/ deliverables
		2016	2017	2018		
Activity 6.2.2	Water or moisture resource for the Demonstration plot(1system/commune for 2 communes)		Ongoing		DELAYED	
Activity 6.2.3	Model of planting (2 ha/commune for 2 communes)		Completed		DELAYED	
Activity 6.2.4	Model of tending (2 ha/commune for 2 communes)		Ongoing		DELAYED	
Activity 6.2.5	Maintaining of model		(Q4)		ON TIME	
Activity 6.2.6	Model of harvesting (1 species for 2 communities)				ON TIME	
Activity 6.2.7	Model of processing and utilization (1 species for 2 communities)				ON TIME	
Activity 6.3	Support activities				-	
Output 7	Demonstration model establishment (Viet Nam)					
Activity 7.1	Establish demonstration models in Bac Kan					
Activity 7.1.1	Site selection for model establishment (planting, tending...)		Completed		ON TIME	Sites selected
Activity 7.1.2	Design planting models (2 ha)		(Q3-Q4)		ON TIME	In progress (will be completed in Oct)
Activity 7.1.3	Design tending models (4 ha)		Completed		ON TIME	Design completed
Activity 7.1.4	Building model of planting (2 ha)		(Q4)		ON TIME	Will be carried out in Nov - Dec
Activity 7.1.5	Building model of tending (2 ha)		Completed		ON TIME	Model
Activity 7.1.6	Maintenance of models				-	For 2018
Activity 7.1.7	Material, communication, stationery and others				-	
Activity 7.2	Establish demonstration models in Cao Bang					PMU/RIFEE
Activity 7.2.1	Site selection for model establishment (planting, tending...)		Completed		ON TIME	Sites selected

Activity/ Output	Description	Planning by Year			Progress (ON TIME/ DELAYED)	Outputs/ deliverables
		2016	2017	2018		
Activity 7.2.2	Design planting models (2 ha)		(Q3-Q4)		ON TIME	In progress (will be completed in Oct)
Activity 7.2.3	Design tending models (5 ha)		Completed		ON TIME	Design completed
Activity 7.2.4	Building model of planting (2 ha)		(Q3-Q4)		ON TIME	Will be carried out in Nov - Dec
Activity 7.2.5	Building model of tending (3 ha)		Completed		ON TIME	Model
Activity 7.2.6	Maintenance of models				-	For 2018
Activity 7.2.7	Material, communication, stationery and others				-	
Output 8	Dissemination and training (Thailand)					
Activity 8.1	Dissemination (Inception meeting, PSC meetings in Thailand, Travelling to Viet Nam, Midterm workshop, Final workshop)	Completed	On-going		ON TIME	PSC Meeting in Thailand will held in November 2017
Activity 8.2	Training		(Q4)		ON TIME	
Activity 8.3	Visiting good models within or outside the province (1day for each visit)				ON TIME	
Activity 8.4	Support activities				-	
Activity 8.5	Audit				-	
Activity 8.6	Contingency				-	
Output 9	Management, operation, monitoring and dissemination (Viet Nam)					
Activity 9.1	Establish PMU, recruitment of staff, open bank account	Completed			ON TIME	Completed
Activity 9.2	Inception meeting	Completed				Meeting
Activity 9.3	Meeting of the PSC in Viet Nam (Ha Noi)	Completed				Meeting
Activity 9.4	Travelling to Thailand (PSC meeting)		Q4			In November/December
Activity 9.5	Midterm workshop		Q4			In November

Activity/ Output	Description	Planning by Year			Progress (ON TIME/ DELAYED)	Outputs/ deliverables
		2016	2017	2018		
Activity 9.6	Final Workshop					
Activity 9.7	Audit		Q4			In December
B. INDIRECT COST/TO OPERATIONS						
	(Thailand)					
Activity 10.1	Supply for PMU (paper, toners, etc)				-	
Activity 10.2	Allowances for part-time project manager (1 person x 1,500 USD/month)				-	
	(Viet Nam)					
Activity 11.1	Office facility				-	
Activity 11.2	Assist in administration, financial and technical issues of the PMU				-	
Activity 11.3	Assist in running the PMU (material, communication, publication and others)				-	