



## PROJECT ANNUAL REPORT

January to December 2017

### <Project Profile>

<b>Project Title</b>	Domestication of Endangered, Endemic and Threatened Plant Species in Disturbed Terrestrial Ecosystem in Malaysia and Thailand
<b>Project Duration</b>	Start date: 19 <sup>th</sup> May 2016 End date: 18 <sup>th</sup> May 2022
<b>Implementing Agency</b>	Royal Forest Department, Thailand
<b>Participating Countries</b>	Malaysia and Thailand
<b>Project Site</b>	Mae Moh Mine, Lampang, and Takua Pa, Phang Nga, Thailand
<b>Budget and Source of Finance</b>	Total: US\$ - Secretariat: US\$36,395 - National budget (in-kind): US\$ 406,424

**<Implementing Agency Profile>**

<b>Name</b>	Royal Forest Department
<b>Address</b>	61 Phaholyothin road, Lardyao subvdistrict, Chatuchak District, Bangkok 10900
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<b>Contact</b>	Tel.: +66-632715998 Fax: Email: Chumnunpian@gmail.com
<b>Project Staff</b>	As Appendix 3
<b>Declaration</b>	<p><input checked="" type="checkbox"/> This report includes all the essential information on executed activities, achieved outputs, issues and challenges encountered in the period covered by the report meant for higher level of administration.</p> <p><input type="checkbox"/> This project was prepared by the Project Manager and the staffs.</p>

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## 1. Project Overview

(To include executive summary, immediate objectives and expected output from the Project Document)

*Malaysia and Thailand are a mega-biodiversity landscape and the rapid development and changes of climate had inevitably caused degradation of terrestrial ecosystems. The problem of forest degradation and potential biodiversity loss is critical and Malaysia and Thailand are addressing the problems through research and development activities. Domestication of endangered, endemic and threaten species (EETS) is one of the effective approaches to conserve the germplasm. The Malaysia-Thailand project aims to strengthen bilateral cooperation between the two nations focused on biodiversity conservation, domestication and eco-tourism through pilot testing, workshops on best practices and technology transfer and capacity development.*

## 2. Implementation Progress

### 2.1 Overall Progress

*(To indicate the state of progress in a tabular form with specific descriptive comparison between planned and actual project implementation of activities using the final version of corresponding Annual Work and Budget Plan of the Project)*

Activity No.	Key Activity	Progress Description	Time line	Percentage Executed
A.1*	Selection of plating sites in denuded and disturbed forest, and identification of EETS for domestication	The activities cover DSA , logging and transportation cost for the project staff and contract service for data collecting at Ta Kua Pa project site.		
Activity A.3.5	Tending of 2016 planting	In Mae Moh project site: the total of 3 ha with 1,800 planted trees of 6 EETS species in 2016 were well maintain via vegetation control, watering, refill the dead tree, fertilizations, fencing, shading, mulching and take care of nursing plants. Additional 500 of EETS species seedling were purchase and planted in project boundary. These made the total area of Mae Moh project site is 4 ha with 2,300 planted trees. In Ta Kua Pa project site: the total of 0.5 ha with 400 planted trees of 4 EETS species in 2016 were well maintain via vegetation control, watering, refill the dead tree, and fertilizations.	Jan – Dec 2017	100
Activity A.3.7	Monitoring/supervising of site preparation, planting and tending	The project staffs include the new director had monitoring the project site. Supervising were	Jan – Dec 2017	100

Activity No.	Key Activity	Progress Description	Time line	Percentage Executed
		done during the tending process as well as collection data of the survival rate and investigate the case of dead trees and make the record in both Mae Moh project site and Ta Kua Pa project site.		
Activity B.1	Domestication of EETS in ASEAN countries	One project staff had attended the Seminar on Reclamation, Rehabilitation and Restoration of Disturbed Sites: Domestication of National and IUCN Red List Species, between 15-17 August 2017, Kuala Lumpur, Malaysia which organize by FRIM. During the seminar, on behalf of the AFoCo/010/2016 project, Thailand counterpart had presented the first year project progress as shown in Annex 1	August 15-17, 2017	100
Activity C.1	Cross visits	The team of 8 project staff from Thailand together with the team from FRIM had cross visit to the Makiling Center for Mountain Ecosystem and University of Philippines, Los Banos for learning about Makiling Center for Mountain Ecosystem manage its EETS species.	Jan 15-19, 2018 (was plan in Q4 of 2017)	100
Activity C.2.1	Manual	Manual on "Identification of weeds at Mae Moh mine and their medicinal uses" has been sent to publisher	Feb 2018 (was plan in Q4 of 2017)	90
Activity C.2.4	Maintaining of project website	One project website was maintaining via update the project information and	Jan – Dec 2017 (the	100

Activity No.	Key Activity	Progress Description	Time line	Percentage Executed
		activities. The website needs also to pay the fee for its domain. The project website address is <a href="https://afocothailand-malaysia.com/">https://afocothailand-malaysia.com/</a> which available in English and Thai language.	planned in Q4 in the budget plan is for pay the project domain fee	
Activity D.2	Attending overseas meetings	This activity will postpone to 2018 due to the lack of appropriate international meeting that suit to the project objective.	-	-
Activity D.3	PCC meeting	Three of project staff including project manager had attended the 3 <sup>rd</sup> Project Coordination Meeting on 21-25 November 2017 in Tapah, Malaysia.	Nov 21-25, 2017	100
Activity D.4	Annual report	The annual report was prepared according to the agreed templatd. The finished report will destitute to the relevant person/offices	Feb 2018 (was planed in Jan 2018)	50
Activity D.5.1	Office supply	For office supply	Jan – Dec 2017	100
Activity D.5.2	Phone, Fax, Mailing costs	Phone, Fax, Mailing costs	Jan – Dec 2017	100
Activity D.5.3	Office automation	Office automation	Jan – Dec 2017	100
Activity D.5.4	Local part-time Coordinator (contract)	One of Local part-time coordinator was signed the contract start from June to Dec.	June – Dec, 2017	100
D.7*	Stakeholder meeting	Stakeholder meeting was held on December 26, 2016 at Lampang province (Mae Moh project site) and on March 7-9, 2017 at Phang Nga province (Ta	Dec 2016 – March 2017	100

Activity No.	Key Activity	Progress Description	Time line	Percentage Executed
		Kua Pa project site) The PCC meeting also held back to back with stakeholder meeting in Mae Moh project site on December 27-29, 2016		



## 2.2 Key Decisions of Project Steering Committee /Coordination Meeting

*(To summarize key decisions made to address issues and guide the project during PSC/PCC meetings organized during the reporting period)*

A. The Meeting agreed that the 4th Project Coordination Meeting will be hosted by Thailand in the last week of November 2018. The date and venue of the meeting will be decided in due course. The Meeting took note that a regional workshop is planned in Thailand in 2018 and further agreed on the proposal of Thailand to schedule the workshop back to back with the Project Coordination Meeting

B. Considering the time required for the external auditing, accounting process and financial reporting, the Meeting noted that the financial report for 2017 will be submitted in May 2018. The Meeting noted that the budget needs to be secured before respective domestic procurement procedures. In this regard, the Meeting agreed the surplus amount of 2017 to be considered in the budget request for quarter 3 and quarter 4 of 2018. Subsequently, the surplus of quarter 1 and quarter 2 of each year will be considered for budget request of quarter 1 and quarter 2 of the following year. The surplus of quarter 3 and quarter 4 of each year will be considered for budget request of quarter 3 and quarter 4 of the following year

C. The Meeting noted and agreed to reallocate excess amount from D.1.1 External Auditing to other activities under Activity D in 2017

D. The Secretariat informed the Meeting on the anticipated formalization of the Asian Forest Cooperation Organization (AFoCO). The Secretariat further proposed the draft arrangement (draft statement of consent) for smooth transition upon formalization for review and consideration of relevant legal official in Malaysia and Thailand.

## 2.3 Review of Performance Indicators and Activities

*(To review how the project is actually performing against its Work Plan)*

Output/ Activity No.	Key Activity	Indicators (Planned)	Indicators (Achieved)	Comments
Activity A.1*	Selection of planting sites in denuded and disturbed forest, and identification of EETS for domestication	1. Visit project site 3 officers. 2. GPS mapping 0.5 ha	1. Visit project site 3 officers. 2. GPS mapping 0.5 ha	
Activity A.3.5	Tending of 2016 planting	3.5 ha	4.5 ha	
Activity A.3.7	Monitoring/supervising of site preparation, planting and tending	40 days	44 days	
Activity B.1	Domestication of EETS in ASEAN countries	1 person	1 person	
Activity C.1	Cross visits	8 people	8 people	
Activity C.2.1	Manual	250 copy	250 copy	
Activity C.2.4	Maintaining of project website	1 website	1 website	
Activity D.2	Attending overseas meetings	1 person	0 person	Insufficient budget
Activity D.3	PCC meeting	3 people	3 people	
Activity D.4	Annual report	20 copy	20 copy	
Activity D.5.1	Office supply			
Activity D.5.2	Phone, Fax, Mailing costs			
Activity D.5.3	Office automation			
Activity D.5.4	Local part-time Coordinator (contract)	7 months	7 months	
Activity D.7*	Stakeholder meeting	1. stakeholder meeting 2 times. 2. PCC meeting 1 time.	1. stakeholder meeting 2 times. 2. PCC meeting 1 time.	

### 3. Financial Report

*(To insert financial statements for the fiscal year and include in-kind contribution)*

*To be submitted in separate report*

#### 4. Issues & Lessons Learned

*(To elaborate on any issue encountered and lesson learned within the reporting period. To include quantification of any advance or delay in implementing the Activities and causes and anticipated effects there of.)*

1. The internal process of approval of project staff to field visit and procurement of goods and services is still the major problem which case in delay of implementing project activities as well as the changing of the high level positions which effecting that the project staff order need to revise to fit the new person in the position.

2. Method for collect microclimate data need further studied and collected the data in an appropriate technique to get the real information. The collected data is tend to represent the equipment temperature rather than the air temperature around planted trees

3. Soil analysis result which the project received only the result of soil analysis from the consultant which cannot explain the methodology that consultant use to analyze the soil sample. The project manager need to do further consultation with the consultant regarding this matter for better explanation to be include in this project.

## 5. Conclusion and Recommendation

*(To provide the conclusion reached on the state of project implementation, based on the analyses made above. To also recommend any corrective actions or adjustment necessary for the achievement of the project's objectives.)*

In conclusion of implementing of project activities for Thailand counterpart for the year 2017 can be divided into 2 parts as follow:

Part 1; the planned activities for 2017 which have about 8 main activities with budget of US\$ 36,395. The activities and budget of year 2017 is smaller in compare to the work and budget in 2016. Hence, most of the activities planned for 2017 were complete except attending overseas meetings.

Part 2; the postponed activities from 2016 are 8 main activities with budget of US\$ 42,467.15. The budget of 2016 which already spend in 2017 is US\$ 34,870.34. The main changed activity is activity D5 which is due to the termination of local coordinator which result in lower monthly payment for the new local coordinator whom had different assignment.

The establishment of model plots since 2016 is well established and maintain. The data of planted trees and project sites were collected for further analysis. There were some dead plant but had been replaced. Over all survivor rate is shown from 55% to 100% depending on the species and sites.

Thailand is considering to have more EETS planted in the project site for more diversity and meet the need of the scientist in Thailand including Royal Forest Department Researchers. The species such as *Magnolia rajaniana* which is rated as vulnerable (VU) under IUCN Red List of Threatened Species

The cash flow and budget balance had been slowly processed due to the changed of internal regulation related to financial matter announce by officer of the Prime Minister entitle 'Regulations of the Office of the Prime Minister on Procurement B.E.2560 (2017).

## 6. Appendices

### Appendix 1. Detailed Results of Key Activities

*(To describe key activities implemented during the reporting period in detail with the use of graphical information, such as maps, tables and graphs.)*

#### Activity A.3.5 Tending of 2016 planting



1 m radiant wide around seeding was clearing of weed. Loosening of soil and applying compost was practiced regularly to promote plant growth.



Activity A.3.7 Monitoring/supervising of site preparation, planting and tending









Annex I

Activity B.1 Domestication of EETS in ASEAN countries

**Report on Attending**

**Seminar on Reclamation, Rehabilitation and Restoration of Disturbed Sites:  
Domestication of National and IUCN Red List Species**

between 15-17 August 2017, Kuala Lumpur, Malaysia

By

Mr. MONTRI INTASEN

Forest Technical Officer, Practitioner Level

International Forestry Cooperation Office,  
Planning and Information Technology Bureau

Royal Forest Department, Thailand

With the support from AFoCo Agreement through the AFoCo Regional Project entitled:  
Domestication of Endangered, Endemic and Threatened Plant Species in Disturbed  
Terrestrial Ecosystem in Malaysia and Thailand

## **Part 1 General Information**

1.1 Name: Mr.MONTRI INTASEN

Position: Forest Technical Officer, Practitioner Level

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1.2 Course / Meeting Title: Seminar on Reclamation, Rehabilitation and Restoration of Disturbed Sites: Domestication of National and IUCN Red List Species

1.3 Support by AFoCo Agreement through the AFoCo Regional Project entitled: Domestication of Endangered, Endemic and Threatened Plant Species in Disturbed Terrestrial Ecosystem in Malaysia and Thailand

1.4 Country: Malaysia

1.5 Date: 15-17 August 2017

## **Part 2 Summary of Seminar**

2.1 Objective(s):

- i) increase knowledge of participants from the ASEAN region on practices in conservation of endemic, endangered and threatened plant species,
- ii) share knowledge and experiences in relation to conservation efforts throughout the ASEAN region, and
- iii) promote collaboration and better networking across Southeast Asia on plant conservation.

2.2 Summary of Seminar

The Seminar was held at the Sunway Putra Hotel, Kuala Lumpur, Malaysia with the representative from 8 ASEAN countries; Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Singapore Thailand, and Viet Nam. Most of Malaysia participants are from Forest Research Institute Malaysia (FRIM).

The opening session of the Seminar was officiated by Dato' DrAbd. LatifMohmod. Then the seminar was followed by Keynote speaker, Plenary Session by ASEAN Member Countries, Scientific Presentation and Poster Presentation. The last day of seminar (17 August 2017) there was field excursion to degraded site (ex-tin mine) of FRIM Research Station in Bidor, Perak, Malaysia.

The two keynote speakers from Chiang Mai University, Thailand (Dr. Stephen David Elliott) and from FRIM, Malaysia (Dr. Lai Hoe Ang) were present to share successful cases for forest restoration. In specific of Dr. Elliott's presentation was focus on the restoring tropical forest ecosystems. Dr. Elliott encouraged to use the natural restoration techniques where a nearby remnant of least disturbed forest should be selected as the "target forest ecosystem". If the top soil is lacking, planting 'nurse' tree to improve soil structure and nutrient may apply. Dr. Elliott recommended that Ficus and legumes as 'nurse' trees. Dr. Ang presented the successful cases in Peninsular Malaysia of restoration at disturbed sites. Those disturbed sites include ex-farmland, construction sites, disturbed riverbank habitat, landfill, and mine spoils. Dr. Ang concluded that the site will be sustainable after canopy closure. One of the evidences of sustainability that the wildlife have returned to the restoration sites.

Representative of ASEAN member countries from Cambodia, Indonesia, Philippines, Singapore Thailand, and Viet Nam were present their country experience in reclamation, rehabilitation and restoration of disturbed sites in their country during the plenary session except for Myanmar representative presented at the poster session. The topic of ASEAN member countries presentations are as follow:

1. Indonesia: Forest Plantation characteristics on ex-coal mined land in Indonesia
2. Philippines: Rehabilitation efforts of disturbed areas using endemic species in Zambales diversified metals corporation
3. Thailand: Plant species diversity, vegetation structure and aboveground biomass in natural regeneration forest and *Acacia mangium* plantation in ex-tin mine at Phang-Nga Forestry Research station
4. Cambodia: Identifying framework tree species for restoring forest ecosystem in Siem Reap Province
5. Viet Nam:
  - 5.1 Status and conservation of IUCN Red List Species in Viet Nam
  - 5.2 Population of threatened dipterocarp species in the forests under various past disturbances in the south of Viet Nam
6. Singapore: Habitat enhancement of urban park in Singapore
7. Myanmar: Reintroduction of some medicinal orchid species in NatmaTaung National Park (Poster)

There were various of scientific presentation during the seminar. Most of the presenters are FRIM' researecher. There are total of 9 presentation topics as follow;

1. Are threatened species suitable for rehabilitation programmes? By Dr Lillian Chua
2. Variability of landfill soils at tree planting areas of SungaiMelaka recreation and beautification sites by Dr Wan Rasidah Wan A. Kadir
3. Phytoremediation of heavy metals using *Acacia mangium* in Rahman Hydraulic Tin (RHT) tailings by DrJeyannyVijayanathan
4. Turning an ex-landfill into a mixed rainforest tree speciesstand in AraDamansara Environmental Park by Dr Lai Hoe Ang
5. Cultivation and management practices of *Aquilaria foragarwood* in Malaysia by DrEngHaiLok
6. Effects of different soil amendments on growth of *Bambusavulgaris* in ex-mining land in Dengkil, Selangor, Malaysia by Amir SaaiffudinKassim
7. The five Cs of the aquatic plant conservation outreach programme of Lake Chini Cause, choice, capacity, communication and continuity by Ming Yee Chew
8. Ex-situ conservation of dipterocarp species in Peninsular Malaysia by Ahmad FauziMohdShariff
9. Germination and storage studies of *Dryobalanopsaromatic* seeds by Nor Asmah Hassan

For the poster presentation, there are 21 poster presentation cover the domestication of various tree species such as *Pterocarpusindicus*, *Shorearoxburghii*, *Calophylluminophyllum*, Bamboo, *Acacia mangium*, *Khayaivorensis*, *Hopeaodorata*, *Aquilariamalaccensis*, *Dipterocarpuscharteus*, *Dryobalanopsoblongifolia*, *Hopeaferruginea*, *Lagerstroemia langkawiensis*, *Neobalanocarpusheimii*, *Palaquiummaingiyi*, *Hopeahelfri*, *Shoreaglauca*, *Shoreasumatrana*, *Ficushispida* etc.

The third day of the meeting, all participants have a chance to visit FRIM research station in Bidor, Perak, Malaysia. The tin tailings consist of slime and sand tailings that are predominantly covered by grass and sparsely colonised by several pioneer species such as *Muntingiacalabura*, *Vitexpubescens*, and *Mallotus* species. In order to improve the ecological of the ex-tin mine, the government have endorsed the plan to rehabilitate these tin tailings mine. Several species had been planted in this tin tailings mine such as *Hopeodorata*, *Khayaivorensis*, *Swieteniamacrophylla*, *Acacia* spp., *Dyeracostulata*, *Drybalanopsoblongifolia*, *Hibiscus cannabinus* etc.



The regional project "Domestication of Endangered, Endemic and Threatened Plant Species in Disturbed Terrestrial Ecosystem in Malaysia and Thailand", was under the Agreement on ASEAN-ROK Forest Cooperation (AFoCo) with two implementing countries: Malaysia (by the Malaysian Forestry Research and Development Board: FRIM) and Thailand (by Royal Forest Department of Thailand: RFD) started in May 2016. The total project period is 6-year project and will be completed in May 2022.

The project primarily aims to develop and transfer domestication techniques of Endangered, Endemic and Threatened Plant Species in disturbed terrestrial ecosystems and biodiversity conservation in Malaysia and Thailand. As implementing countries, Malaysia and Thailand are expected to conduct the domestication model of these species, and exchanging domestic technologies, knowledge and experiences to ASEAN member countries through regional workshops, technical transfers and publications.

For the first year of project, Thailand (by RFD) implemented most of main activities in 2016 including site selection, purchasing seedling, establishing 3.5 ha of domestication plots, purchasing equipment of project site documentation, cross visits, publication, stakeholder meeting, website development and launching, GPS mapping and soil. The expected survival rate of 70% planted EETS at the demonstration site with refilling and watering activities.

**Key word:** AFoCo, Endangered, Endemic, Threatened, Plant Species, Malaysia, Thailand.

**Achievements:**

Within 7 months of project implementing in Thailand for the Domestication of Endangered, Endemic and Threatened Plant Species in Disturbed Terrestrial Ecosystem in Thailand. The inception meeting of this project was held in Lampang province, Thailand on August 25-27, 2016 while the official started date of the project is May 19, 2016 as the MOU was completed sign by all parties. The project steering committee was established leading by the Director General of Royal Forest Department for oversee and guidance of project implementation in Thailand. In regional level, The Project Coordination Committee (PCC) was established for oversee and guidance of project with include the representative from Malaysia, Thailand, and AFoCo Secretariat. The PCC meeting was held twice in 2016: 1st PCC meeting was host by Malaysia and 2nd PCC meeting was host by Thailand.

Thailand had established the demonstration site of 3.5 ha in total (Mae Moh Lignite Mine Deposition Site 3 ha and Takuapa Ex-tin Mine Site 0.5 ha). Thailand selected 6 EETS to be demonstration under this project namely *Aquilaria crassna*, *Corylebium lanceolatum*, *Dalbergia cochinchinensis*, *Dalbergia oliveri*, *Neobalanocarpus heimii*, and *Vatica diospyroides*. The two project sites were well established and maintenance including relate information of the site such as site history, existing plant and weed species, soil analysis, microclimate, fire protection, inspection road, demarcation and wind protecting. The GIS mapping techniques were used for created the site map.

The EETS were mothering and evaluation by project staffs. After planting, watering and fertilizing were deployed use manual method. The plastic sheet (sand) were installed over the seedling and banana shoots were used as nursing plant. Three months after planting, clear weeding was done about 1 m around each plant. Performance of plants were observed and photographed. Survival rates were recorded at 1 and 3 months after planted. Diameter at ground level and height of every seedling was measured and recorded after 3 months of planted.

Beside the established of project demonstration site, several activities were done such as stakeholder meeting. One staff was attend IUFRO Regional Congress for Asia and Oceania 2016 in China as the attending overseas meetings activity. Two time of cross visit for exchange knowledge and experiences, visited Malaysia and visited Singapore.

EETS	Survival		Average Height of 3 months (m)
	1 month	3 month	
<i>Aquilaria crassna</i>	100%	100%	1.50
<i>Corylebium lanceolatum</i>	100%	100%	1.50
<i>Dalbergia cochinchinensis</i>	100%	100%	1.50
<i>Dalbergia oliveri</i>	100%	100%	1.50
<i>Neobalanocarpus heimii</i>	100%	100%	1.50
<i>Vatica diospyroides</i>	100%	100%	1.50

**6 EETS**  
*Aquilaria crassna*  
*Corylebium lanceolatum*  
*Dalbergia cochinchinensis*  
*Dalbergia oliveri*  
*Neobalanocarpus heimii*  
*Vatica diospyroides*

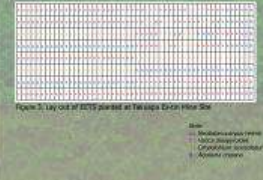
**4 EETS**  
*Aquilaria crassna*  
*Corylebium lanceolatum*  
*Neobalanocarpus heimii*  
*Vatica diospyroides*

**Mae Moh Lignite Mine Deposition Site:**  
Mae Moh mine is a vast open pit of lignite mining in Mae Moh basin. The mine and the adjoining power generation facilities are operated by Electricity Generating Authority of Thailand (EGAT). Mae Moh mine geography is surrounded by the mountainous complex terrain on three sides except in the southwest. The selected site at Mae Moh was dumped in 2000 and has been reclaimed for sometimes by planting some soil covering plants to enrich and detox the soil until suitable for planting trees.

**Takuapa Ex-tin Mine Site:**  
Takuapa was an important tin dredging area in the first half of the twentieth century. There were dredges in the rivers, with narrow gauge tramways following them upstream. Its topography is rather flat with some sand mound and ponds. Soil texture is laterite with sand and gravel. The soil quality is poor with run off surface and erosion. Nowadays there are no signs remaining of the mining, as plantations, particularly rubber, have covered the former dredged areas.

**Planting at Mae Moh Lignite Mine Deposition Site:**  
The planting of 6 replications EETS was located on a long sloping area with the width of about 60-70 m, and the length was parallel to the inspection road along both sides (Figure 1). 6 blocks of 12 rows including 25 plants per row were set lengthwise. In each block, 2 rows of each EETS were planted (Figure 2). EETS of *Dalbergia cochinchinensis*, *Dalbergia oliveri*, *Aquilaria crassna*, *Vatica diospyroides*, *Neobalanocarpus heimii*, and *Corylebium lanceolatum* were planted covering an area of 3 ha. Each EETS was spaced at 4x4 meter and dug at 0.5x0.5x0.5 meter. In planting a seedling, soil around the hole was used to fill up the hole and mixed with the planting materials already placed below.

**Planting at Takuapa Ex-tin Mine Site:**  
Back hoe was used to loosen the compact soil at 1.5 meter deep, 2 meter wide and 100 meter strip. 8 strips were dug interleave under the existing trees which provide shade for the new seedlings. Each strip is at least 5 meter away from each other. 1X1X1 meter deep of planting hole was dug 2 meter apart. 1 strip can accommodate 50 plants. 8 strips of the plants were divided into 4 replications. Each replication includes 4 rows of 25 plants. EETS of *Aquilaria crassna*, *Vatica diospyroides*, *Neobalanocarpus heimii*, and *Corylebium lanceolatum* were planted. Allocation of the plants illustrated in Figure 3.



Activity C.1 Cross Visits

**Report on Cross Visit to**

**Makiling Center for Mountain Ecosystem,  
University of Philippines, Los Banos**

between 15-19 January 2018, Los Banos, Philippines

With the support from AFoCo Agreement through the AFoCo Regional Project entitled:  
Domestication of Endangered, Endemic and Threatened Plant Species in Disturbed  
Terrestrial Ecosystem in Malaysia and Thailand

## Part 1 General Information

- 1.1 Name: Mr.Saroj Wattanasuksakul  
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- 1.2 Name: Mr.Prasit Piananurak  
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Office: Forest Research and Development Bureau, Royal Forest Department
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Position: Forest Technical Officer, Senior Professional Level  
Office: Forest Research and Development Bureau, Royal Forest Department
- 1.4 Name: Mr.Somboon Boonyuen  
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Office: Forest Research and Development Bureau, Royal Forest Department
- 1.5 Name: Mr.Suwan Tangmitcharoen  
Position: Forest Technical Officer, Senior Professional Level  
Office: Forest Research and Development Bureau, Royal Forest Department
- 1.6 Name: Mrs.Chumnun Piananurak  
Position: Forest Technical Officer, Senior Professional Level  
Office: Forest Research and Development Bureau, Royal Forest Department
- 1.7 Name: Mrs.Phuangphan Whuangplong  
Position: Forest Technical Officer, Senior Professional Level  
Office: Forest Research and Development Bureau, Royal Forest Department
- 1.8. Name: Mr.Montri Intasen  
Position: Forest Technical Officer, Practitioner Level  
Office: International Forestry Cooperation Office, Planning and Information Technology Bureau, Royal Forest Department
- Course / Meeting Title: Cross Visit to Makiling Center for Mountain Ecosystem, University of Philippines, Los Banos
- Support by AFoCo Agreement thought the AFoCo Regional Project entitle:Domestication of Endangered, Endemic and Threatened Plant Species in Disturbed Terrestrial Ecosystem in Malaysia and Thailand
- Country: Philippines  
Date: 15-19 January 2018

## Part 2 Summary of Seminar

### 2.1 Objective(s):

To cross visit on management of Domestication of Endangered, Endemic and Threatened Plant Species at Makiling Mountain under the management of Makiling Center for Mountain Ecosystem, University of Philippines, Los Banos as well as the plant biodiversity conservation and environmental management and technology transfer.

### 2.2 Summary of cross visit

The group had visited Makiling Mountain area via visiting Certral Forest Experiment Station for the wild seeding and seeding production of plants species

found in Makiling Mountain for conservation. The group also visited Makiling Rain Forest Park which the rest/recreation area for the visitor at Makiling Mountain. The park also have the collection of plants/trees which original grew in the area and other panted species.

The area management of Makiling Mountain using the buffer zone management. Those areas such as agroforestry, university extension stations including private land ownership that willing to protect the biodiversity in Makiling Mountain. Some of the buffer zone areas belong to University of Philippine, Los Banos.

Makiling Botanic Gardens which have the collections of plants/trees that found in Makiling Mountain. The group can learn most of the plants/trees in Makiling Mountain in this botanic garden.

During this cross visit, the group had an great opportunities to meet with Director and Deputy Director of Makiling Center for Mountain Ecosystem, Dean and Vice Dean of College of Forestry, and Chancellor of University of Philippines, Los Banos for deep decision on the domesticate plant red list species in the areas.



## Activity C.2.1 Manual

The Manual on “Identification of weeds at Mae Moh mine and their medicinal uses” has been sent to publisher.




*Acacia farnesiana* (L.) Willd

Probably a native of tropical America, *Acacia farnesiana* was introduced to many tropical countries for its bark, gum, seed and wood. It is often planted as an ornamental or to check erosion, and is also used in the perfume industry because of its scented flowers. This thorny, deciduous shrub grows to 4m in height, forming impenetrable thickets or sometimes a more open cover and prefers dry habitats between sea level and 1000 m. In Australia it occurs along watercourses on rangeland and farmland limiting access to water. It has also become an invasive species in Fiji, French Polynesia, New Caledonia, Solomon Islands, and Vanuatu.

[https://hort.purdue.edu/newcrop/duke\\_energy/Acacia\\_farnesiana.html](https://hort.purdue.edu/newcrop/duke_energy/Acacia_farnesiana.html)

### Uses

Cassie perfume is distilled from the flowers. Cassie absolute is employed in preparation of violet bouquets, extensively used in European perfumery. Cassie pomades are manufactured in Uttar Pradesh and the Punjab. Pods contain 23 percent tannin, a glucoside of ellagic acid, and are used for tanning leather. Bark also used for tanning and dyeing leather in combination with iron ores and salts. In Bengal and West Indies, pods are used for a black leather dye. Gummy substance obtained from pods used in Java as cement for broken crockery. Gum exuding from trunk considered superior to gum arabic in arts. Trees used as ingredient in Ivory Coast for arrow poison; elsewhere they are used as fences and to check erosion. Wood is hard and durable underground, used for wooden plows and for pegs. Trees often planted as an ornamental (Duke, 1981). Morton (1981) says that the seeds, containing an unnamed alkaloid, are used to kill rabid dogs

 <p><b>Acacia farnesiana</b></p> <p>Acacia farnesiana (L.) Willd. is a species of flowering tree in the subgenus Farnesiana of the genus Acacia. It is native to tropical America and is widely distributed in the tropics. The tree is characterized by its thorny branches and bright yellow flowers. It is often planted as an ornamental or to check erosion, and is also used in the perfume industry because of its scented flowers.</p>	 <p><b>Acacia farnesiana</b></p> <p>Acacia farnesiana (L.) Willd. is a species of flowering tree in the subgenus Farnesiana of the genus Acacia. It is native to tropical America and is widely distributed in the tropics. The tree is characterized by its thorny branches and bright yellow flowers. It is often planted as an ornamental or to check erosion, and is also used in the perfume industry because of its scented flowers.</p>	 <p><b>Acacia farnesiana</b></p> <p>Acacia farnesiana (L.) Willd. is a species of flowering tree in the subgenus Farnesiana of the genus Acacia. It is native to tropical America and is widely distributed in the tropics. The tree is characterized by its thorny branches and bright yellow flowers. It is often planted as an ornamental or to check erosion, and is also used in the perfume industry because of its scented flowers.</p>	 <p><b>Acacia farnesiana</b></p> <p>Acacia farnesiana (L.) Willd. is a species of flowering tree in the subgenus Farnesiana of the genus Acacia. It is native to tropical America and is widely distributed in the tropics. The tree is characterized by its thorny branches and bright yellow flowers. It is often planted as an ornamental or to check erosion, and is also used in the perfume industry because of its scented flowers.</p>	 <p><b>Acacia farnesiana</b></p> <p>Acacia farnesiana (L.) Willd. is a species of flowering tree in the subgenus Farnesiana of the genus Acacia. It is native to tropical America and is widely distributed in the tropics. The tree is characterized by its thorny branches and bright yellow flowers. It is often planted as an ornamental or to check erosion, and is also used in the perfume industry because of its scented flowers.</p>
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## Activity C.2.4 Maintaining of Project Website



### NEWS&PROMOTION



### KNOWLEDGE



## English language

Takuapa Project Site Monitoring: December 2017

04/0

BY MONTH: 04/0

NEWS/SECTION

On December 14-17, 2017 Project Manager of AFoCo Regional Project entitled "Domestication of Endangered Endemic and Threatened Plant Species in Disturbed Terrestrial Ecosystems in Malaysia and Thailand" (Mr. Chuanman Piananusak, Project Manager) with the project staffs had visited the project site in Phang-Nga Forestry Research Station, Phang-Nga Project for project monitoring which the site has the area about 0.5 ha.



## Thai language:

การติดตามแปลงทดลองกล้วยน้ำว้า เดือนธันวาคม 2560

04/0

BY MONTH: 04/0

NEWS/SECTION

เมื่อวันที่ 14-17 ธันวาคม 2560 ผู้จัดการโครงการ "การปรับปรุงสภาพพันธุ์พืชที่ใกล้สูญพันธุ์ พิษเฉพาะถิ่นและพืชที่ถูกละเลย ในระบบนิเวศบนบกที่ถูกรบกวน ในมาเลเซียและไทย" (นางจามรค์ เดียงสุทิม, ผู้จัดการโครงการ) พร้อมเจ้าหน้าที่ที่เกี่ยวข้อง ได้ลงพื้นที่แปลงทดลองโครงการภายในสถานีวิจัยวนศาสตร์พังงา จังหวัดพังงา เพื่อติดตามการดำเนินงานโครงการในพื้นที่ดังกล่าว ซึ่งมีเนื้อที่ประมาณ 0.5 ไร่



## Activity D.3 PCC meeting

### **Domestication of Endangered, Endemic and Threatened Plant Species in Disturbed Terrestrial Ecosystem in Malaysia and Thailand**

**(AFoCo/010/2016)**

#### **3<sup>rd</sup> Project Coordination Meeting**

21-25 November 2017, Tapah, Malaysia

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### **Record of Discussion**

**(Final)**

#### **Introduction**

1. The 3<sup>rd</sup> Project Coordination Meeting for the regional Project “Domestication of Endangered, Endemic and Threatened Plant Species in Disturbed Terrestrial Ecosystem in Malaysia and Thailand” (AFoCo/010/2016) was held on 21-25 November 2017 in Tapah, Malaysia. The main objectives of this Meeting were to review the progress of project implementation in 2017 and finalize the work and budget plan for 2018. The Meeting was attended by the officials responsible for implementation of the Project from Malaysia and Thailand as well as from the Interim Secretariat for the Asian Forest Cooperation Organization (Secretariat). The list of participants is attached in **ANNEX 1**.

2. As part of the Meeting, a field visit to Tin Tailings Afforestation Centre (TTAC) in Malaysia was organized on 23-24 November 2017 to observe 3 ha of the domestication plots established by the project. The Meeting noted that planting of Endangered, Endemic and Threatened Plant Species (EETS) has been completed successfully.

#### **Opening session**

3. A brief opening session was organized on 22 November 2017 at Meeting Room, Tapah, Malaysia. Dr. Ang Lai Hoe, Senior Research Officer, Forest Research Institute Malaysia (FRIM), in his opening remarks, warmly welcomed all delegates to the Meeting. He expressed appreciation to the Republic of Korea (ROK) for the support, as well as to Thailand for the collaboration. He looked forward to the successful implementation of the project.

4. On behalf of the Secretariat, Ms. Kim Jimyung, Program Officer on External Relations, extended congratulations to the successful implementation of project. She thanked Malaysia and Thailand for the cooperation and looked forward to the success of the Project.

### **Agenda 1: Election of Chair**

5. Dr. Ang Lai Hoe, Senior Research Officer, FRIM was unanimously elected as the Chairman of the Meeting.

### **Agenda 2: Adoption of Agenda**

6. The Meeting considered and adopted its agenda, which is attached in **ANNEX 2**.

### **Agenda 5: Progress in the Implementation of the Project**

7. Dr. Ang Lai Hoe, National Project Coordinator of Malaysia presented the progress of the project implementation in Malaysia. He highlighted the achievement of project implementation by each activity. Malaysia completed planting of 3 ha (10 species, 1500 seedlings) and noted that the survival rate shows from 40% to 100% depending on the species.

8. Tending activities are done monthly while survival and growth monitoring are done quarterly. Cross-country visit will be organized to Los Banos, Philippines for study on low-land dipterocarp forest conservation and its link to development of eco-tourism.

9. Malaysia successfully held the Seminar on Reclamation, Rehabilitation, and Restoration of Disturbed Sites: Planting of National and IUCN Red List Species in 15-17 August 2017 participated by 39 participants. The Seminar also generated a wide public interest in the planting as reported in several local media. The edited proceedings have been made available online for public access.

10. The soil analysis will be completed in 2018. Microclimate monitoring will be a continuing process until crown closure. The presentation by Malaysia is attached in **ANNEX 3**.

11. Ms. Chumnun Piananurak, National Project Coordinator of Thailand presented the progress of project implementation. Thailand completed planting of 3 ha (6 species, 1800 seedlings) in Meh Moh site, and 0.5 ha (4 species, 400seedlings) is Ta Kua Pa in 2016. Planting of nurse tree, tending, site monitoring, and refilling activities are done in 2017. The Meeting took note the findings of soil analysis and microclimate analysis of the project site. The Meeting noted that the survival rate shows from 55% to 100% depending on the species and sites. Development of website for the project was completed and is currently operational. A stakeholder meeting was held in Ta Kua Pa project site.

12. The Meeting took note that a regional workshop is planned in Thailand in 2018 and further agreed on the proposal of Thailand to schedule the workshop back to back with the Project Coordination Meeting.

13. The presentation by Thailand is attached in **ANNEX 4**.

#### **Agenda 4: Project Work and Budget Plan for 2018**

14. Malaysia and Thailand presented the Project Work and Budget Plans (WBP) for fiscal year 2018. The Meeting considered and approved total budget for fiscal year 2018 which is USD 153,720 and USD 167,150 for Malaysia and Thailand, respectively. The quarterly breakdown for Malaysia and Thailand is attached as **ANNEX 5** and **ANNEX 6**. The Meeting agreed to submit consolidated budget plan for 2016-2022 by 31 December 2017 to the Secretariat.

15. Considering the time required for the external auditing, accounting process and financial reporting, the Meeting noted that the financial report for 2017 will be submitted in May 2018. The Meeting noted that the budget needs to be secured before respective domestic procurement procedures. In this regard, the Meeting agreed the surplus amount of 2017 to be considered in the budget request for quarter 3 and quarter 4 of 2018. Subsequently, the surplus of quarter 1 and quarter 2 of each year will be considered for budget request of quarter 1 and quarter 2 of the following year. The surplus of quarter 3 and quarter 4 of each year will be considered for budget request of quarter 3 and quarter 4 of the following year.

#### **Agenda 7: Other matters**

16. The Meeting noted and agreed to reallocate excess amount from D.1.1 External Auditing to other activities under Activity D in 2017.

17. The Secretariat informed the Meeting on the anticipated formalization of the Asian Forest Cooperation Organization (AFoCO). The Secretariat further proposed the draft arrangement (draft statement of consent) for smooth transition upon formalization for review and consideration of relevant legal official in Malaysia and Thailand.

18. The Meeting agreed that the 4<sup>th</sup> Project Coordination Meeting will be hosted by Thailand in the last week of November 2018. The date and venue of the meeting will be decided in due course.

#### **Agenda 8: Adoption of the Record of Discussion of the Meeting**

19. The Meeting considered and adopted the record of discussion of the 3<sup>rd</sup> Project Coordination Meeting.

#### **Closing Session**

20. Dr. Ang Lai Hoe, as the Chairperson of the Meeting, thanked the Royal Forest Department of Thailand and the Secretariat for the effort and cooperation. The delegates thanked Forest Research Institute Malaysia for hospitality and excellent arrangement. The Meeting was held in the traditional spirit of ASEAN–ROK cooperation and cordiality.

*22<sup>nd</sup> November 2017, Tapah, Malaysia.*



Appendix 2. Finalized Annual Work and Budget Plan for forthcoming years

(To provide a final version of detailed Annual Work and Budget Plan for the forthcoming years endorsed by PSC/PCC, with clear indication on any modification made from the Project Document.)

AFoCo Regional project:

*Domestication of Endangered, Endemic and Threatened Plant Species in Disturbed Terrestrial Ecosystems in Malaysia and Thailand*

Work and Budget Plan 2018 of RFD, Thailand

Activity No.	Activity Description	Unit	Unit cost (USD)	Qty					Year 3
					Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	(Jan.- Dec. 2018)
<b>A. Site Characterization</b>					22,860	58,355	23,345	13,495	116,125
Activity A.1	Selection of planting sites in denuded and disturbed forest, and	-	-	-	4,350	5,850	6,150	5,750	22,100
Activity A.1.1	Site selection and identification of EETS for domestication	-	-	-					-
Activity A.1.2	GPS mapping	ha	1,000	3.5		1,200	1,200	1,100	3,500
Activity A.1.3	Producing Site Locality Map	set	20	60		300	600	300	1,200
Activity A.1.4	DSA for 3 officers x 60 days	day	35	180	1,575	1,575	1,575	1,575	6,300
Activity A.1.5	Lodging allowance for 3 officers x 60 nights	night	35	180	1,575	1,575	1,575	1,575	6,300
Activity A.1.6	Transportation for 6 trips	trip	400	12	1,200	1,200	1,200	1,200	4,800
Activity A.2	Procurement of EETS				-	31,110	-	-	31,110
Activity A.2.1	Purchase of seedlings or saplings and nursing plant	seedling	6	4800		28,800			28,800
Activity A.2.2	DSA for 3 officers x 6 days	day	35	18		630			630
Activity A.2.3	Lodging allowance for 3 officers x 6 nights	night	35	18		630			630
Activity A.2.4	Transportation for 3 trips	trip	350	3		1,050			1,050
Activity A.3	Establishment of Model plots (Site preparation, planting stock, planting, tending, monitoring)				11,245	17,195	17,195	7,745	53,380
Activity A.3.1	Irrigation	ha	600	3.5			-	2,100	2,100
Activity A.3.2	Fire protection line and inspection road	km	1,100	1	1,100			-	1,100
Activity A.3.3	Demarcation and wind protecting and fence	ha	1,500	3	4,500			-	4,500
Activity A.3.4	Planting & Tending @USD10.5/plant	plant	10.5	2200	-	11,550	11,550	-	23,100
Activity A.3.5	Tending of 2016 planting	ha	3500	3.5	3,063	3,063	3,063	3,063	12,250

Activity No.	Activity Description	Unit	Unit cost (USD)	Qty					Year 3
					Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	(Jan.- Dec. 2018)
Activity A.3.6	Tending of 2019 planting	plant							-
Activity A.3.7	Monitoring/supervising of site preparation, planting and tending (DS	day	35	80	700	700	700	700	2,800
Activity A.3.8	Lodging allowance for 2 officers for 39 nights	night	35	78	683	683	683	683	2,730
Activity A.3.9	Transportation for 12 trips	trip	400	12	1,200	1,200	1,200	1,200	4,800
Activity A.4	Documentation of biophysical site properties, planting techniques and assessment of growth				7,265	4,200	-	-	9,535
Activity A.4.1	Soil analysis (100 S x 12 reecom 6 composite sample per ha)	sample	108	21		4,200			2,268
Activity A.4.2	Purchase of microclimate sensors / rain gauge	set	300	2	600				600
Activity A.4.3	Purchase of height meter (vertex) / shredder machine	set	1,002	1	1,000				1,002
Activity A.4.4	Purchase of diameter tapes / insect sprayer	set	2,500	2	5,000				5,000
Activity A.4.5	Purchase of high resolution digital camera	set							-
Activity A.4.6	DSA for 2 officers x 3 days	day	35	6	210				210
Activity A.4.7	Lodging allowance for 2 officers	night	35	4	140				140
Activity A.4.8	Transportation for 1 trips	trip	315	1	315				315
<b>B. Regional Workshop</b>									
			-	-	-	-	-	13,605	13,605
Activity B.1	Domestication of EETS in ASEAN countries		-	-	-	-	-	13,605	13,605
Activity B.1.1	Airfare	person	400	10				4,000	4,000
Activity B.1.2	Lodging allowance for 9 ASEAN participants x 3 nights	night	70	27				1,890	1,890
Activity B.1.3	DSA for 9 ASEAN participants x 3 days	day	105	27				2,835	2,835
Activity B.1.4	Lodging allowance for 7 local participants x 3 nights	night	70	21				1,470	1,470
Activity B.1.5	DSA for 7 local participants x 3 days	day	35	21				735	735
Activity B.1.6	Meeting room	day	350	3				1,050	1,050
Activity B.1.7	Coffee break	person	10	25				250	250



Activity No.	Activity Description	Unit	Unit cost (USD)	Qty					Year 3
					Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	(Jan.- Dec. 2018)
Activity B.1.8	Lunch	person	15	25				375	375
Activity B.1.9	Dinner	person	30	25				750	750
Activity B.1.10	Folders and handout documents	set	5	25				125	125
Activity B.1.11	Souvenirs, bag, etc.	set	5	25				125	125
<b>C. Technology Transfer and Capacity Development</b>		-	-	-	-	-	10,200	4,250	14,450
Activity C.1	Cross visits (USD1700/person/trip)	-	-	-	-	-	10,200	-	10,200
Activity C.1.1	Airfare	person	965	6			5,790		5,790
Activity C.1.2	Lodging allowance 6 person x 3 night	night	105	18			1,890		1,890
Activity C.1.3	DSA 6 person x 4 day	day	105	24			2,520		2,520
Activity C.2	Knowledge and technology transfer	-	-	-	-	-	-	4,250	4,250
Activity C.2.1	Manual	number	10	250				2,500	2,500
Activity C.2.2	Leaflet	number	2	250				500	500
Activity C.2.3	Poster and roll up	set	50	20				1,000	1,000
Activity C.2.4	Maintaining of project website	website	250	1				250	250
Activity C.2.5	Lectures allowances	-	-	-					-
Activity C.2.6	Seminar room	-	-	-					-
Activity C.2.7	Site visit	-	-	-					-
Activity C.2.8	Hotel/lodging allowance	-	-	-					-
Activity C.2.9	DSA (day)	-	-	-					-
Activity C.2.10	Seminar kit	-	-	-					-
Activity C.2.11	Transportation	-	-	-					-



Activity No.	Activity Description	Unit	Unit cost (USD)	Qty					Year 3 (Jan.- Dec. 2018)
					Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	
<b>D. Local Operation</b>									22,970
Activity D.1	External Auditing	-	-	-					-
Activity D.1.1	External Auditing	year							-
Activity D.2	Attending overseas meetings	-						3,750	3,750
Activity D.2.1	Airfare	person	1035	2				2,070	2,070
Activity D.2.2	Lodging allowance for 2 local participants x 4 night	night	105	8				840	840
Activity D.2.3	DSA for 2 local participants x 5 day	day	105	8				840	840
Activity D.3	Inception Meeting / PCC meeting	-							-
Activity D.3.1	Airfare	person							-
Activity D.3.2	Lodging allowance for 3 local participants x 2 nights	night							-
Activity D.3.3	DSA for 3 local participants x 3 days	day							-
Activity D.3.4	Meeting room	day							-
Activity D.3.5	Coffee break (for 5 Thai, 3 Malaysian, 3 Secretariate)	person							-
Activity D.3.6	Lunch (for 5 Thai, 3 Malaysian, 3 Secretariate)	person							-
Activity D.3.7	Dinner (for 5 Thai, 3 Malaysian, 3 Secretariate)	person							-
Activity D.3.8	Welcome dinner	dinner							-
Activity D.3.9	Folders and handout documents	set							-
Activity D.3.10	transportation to the field	van							-
Activity D.4	Annual report	-	-	-	-	-	-	900	900
Activity D.4.1	Copy and binding	Set	30	30				900	900
Activity D.5	Miscellaneous	-	-	-	2,580	2,580	2,580	2,580	10,320

Activity No.	Activity Description	Unit	Unit cost (USD)	Qty	Year 3				
					Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	(Jan.- Dec. 2018)
Activity D.5.1	Office supply	year	180	4	180	180	180	180	720
Activity D.5.2	Phone, Fax, Mailing costs	year	200	4	200	200	200	200	800
Activity D.5.3	Office automation	year	250	4	250	250	250	250	1,000
Activity D.5.4	Local full-time administrative officer (contract)	month	650	12	1,950	1,950	1,950	1,950	7,800
Activity D.6	PCC Meeting	-	-	-				8,000	8,000
Activity D.6.1	Airfare or transportation Secretariat	person	1005	1				1,005	1,005
Activity D.6.2	Lodging allowance for 1 Secretariat x 3 nights	night	105	3				315	315
Activity D.6.3	DSA for 1 Secretariat x 4 days	day	105	4				420	420
Activity D.6.4	Meeting room (345 x 3 days) / Meeting arrangement : Transportation (160x5) DSA (35x5x4) Lodging (35x5x4) for 5 Thai Participants	day	647	5				3,235	3,235
Activity D.6.5	Coffee break (for 10 PCC members, 5 Staffs)	person	10	90				900	900
Activity D.6.6	Lunch (for 10 PCC members, 5 Staffs)	person	15	45				675	675
Activity D.6.7	Dinner (for 10 PCC members, 5 Staffs)	person	30	45				1,350	1,350
Activity D.6.8	Folders and handout documents (100) /	set	10	10				100	100
Activity D.7	Stakeholder Meeting	-	-	-					-
Activity D.7.1	Airfare or transportation	person							-
Activity D.7.2	Lodging allowance for 7 local participants x 1 nights	night							-
Activity D.7.3	DSA for 7 local participants x 2 days	day							-
Activity D.7.4	Meeting room	day							-
Activity D.7.5	Coffee break (for 100 representatives from local community, 7 staffs)	person							-



Activity No.	Activity Description	Unit	Unit cost (USD)	Qty					Year 3
					Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	(Jan.- Dec. 2018)
Activity D.7.6	Lunch (for 100 representatives from local community, 7 staffs)	person							-
Activity D.7.7	Dinner (for 100 representatives from local community, 7 staffs)	person							-
Activity D.7.8	Folders and handout documents	set							-
<b>Grand Total (THAILAND)</b>									
					22,860	58,355	33,545	31,350	167,150

Requested By (Name): Ms.Chumnun Piananurak

Designation: Project Manager (Thailand)

Signature: Chumnun

Recommended By (Name): Mr. Athapol Charoenshunsa

Designation: Deputy Director General of RFD

Signature: 

Approved By (Name): DR ANG LAI HOE

Designation: SENIOR RESEARCH OFFICER

Signature: 

(To include any other relevant documents as to support the report.)

### Appendix 3. Project Staff

Athapol Charoenshunsa

Suchat Kalyawongsa

Saraj Wattanasuksakul

Kongsak Meekeaw

Sapol Boonsermsuk

Prasit Piananurak

Somchai Nongnuang

Somboon Boonyuen

Suwan Tangmitcharoen

Chumnun Piananurak

Phuangphan Whuangplong

Montri Intasen

Monchai Phermplniran

Pornpimon Amornchoti

Chayanut Sattathaporn

Rabieb Srigongpan

Atitaya Buaphuan

Sangob Kabtoom

Suphansa Chatmueang

Wasan Chandang

Natthawat Kangsub

Phayungsak Kanchanalerd

Wattachai Sua

Somnuek Aunwaree

Chaiwut Khuankhit

Chanon Kannika

Saruntorn Sukwatnijakul

Kobsak Wanthonchai

Banphot Treerawas