

# **Annual Report 2018**

## **Rehabilitation and Development of Mangrove Forest Ecosystem in Thai Binh Province, Viet Nam**

Under  
**AFoCo Landmark Program**  
**Restoration Component**

**Executed by**  
**Viet Nam Administration of Forestry**

January 2019



Project title: Rehabilitation and Development of Mangrove Forest Ecosystem in Thai Binh Province, Viet Nam

Project Sites: Thuy Xuan and Thuy Hai communes of Thai Thuy District; and Dong Hoang and Dong Long communes of Tien Hai District, in Thai Binh province

Project duration: Ten years (2016-2025)

Executing Agency: Viet Nam Administration of Forestry (VNFOREST)

Funding Agency: Korea Forest Service, Republic of Korea

Cooperating Agency: Interim Secretariat for Asian Forest Cooperation Organization (AFoCO)

Prepared by: VNFOREST

## **LIST OF ACRONYMS**

|          |   |
|----------|---|
| AFoCo    | ASEAN-ROK Forest Cooperation                          |
| AFoCO    | Asian Forest Cooperation Organization                 |
| PMB      | Project Management Board                              |
| RIFEE    | Research Institute for Forest Ecology and Environment |
| VNFOREST | Viet Nam Administration of Forestry                   |

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## I. INTRODUCTION

The overall objective of the project is to sustainably rehabilitate and develop mangrove ecosystem, protect biodiversity, reduce greenhouse gas emissions, minimize impacts of climate change, protect the coastal dyke system, enhance knowledge related to mangrove forest and improve livelihoods of local people in the long-run. The 2017 annual objectives and outputs and targets of the project are described in Table 1 below.

**Table 1. 2017 annual target by project output and objective in two project sites**

|             | Description   |
|-------------|---|
| Objective 1 | New planting 80ha and supplementary planting 80ha of mangrove forest, and protecting 960ha of mangrove forest, including new planted area, supplementary planted area and existing area of mangrove forest          |
| Output 1.1  | Survey, develop a detailed design with maps on the new afforestation, supplementary planting and the protection of mangrove forest: 960 ha  |
| 2018 Target | Survey and prepare designs of new planting and supplementary planting of mangrove forest  |
| Output 1.2  | New planting of mangrove forest: 80 ha  |
| 2018 Target | New planting of 30ha of mangrove forest   |
| Output 1.3  | Supplementary planting of mangrove forest: 80 ha  |
| 2018 Target | Supplementary planting of 30ha of mangrove forest   |
| Output 1.4  | Protect new afforestation and supplementary planting areas and existing mangrove areas: 960 ha  |
| 2018 Target | Protection of 800ha of existing mangrove forest   |
| Objective 2 | Raising capacity and enhancing knowledge through training and communications  |
| Output 2.1  | Develop a training plan based on training needs assesment   |
| Output 2.2  | Create elaborate publications for local communities, training documents on relevant technical topics such as seed selection, seedling production, planting and tendering techniques, protection of mangrove forests |
| Output 2.3  | Develop and operate the community regulations on management and protection of mangrove forest in the communes of the projects   |
| Output 2.4  | Organize 10 1-day training courses for provincial technical staff and local communities, and one (1) thematic workshop on payments forestecosystem services and sustainable mangrove management                     |
| 2018 Target | Organize 2 training courses on community-based mangrove forest management and protection  |
| Output 2.5  | Conduct two (2) study tours to Thailand and Indonesia to elarn from experiences on sustainable mangrove management and conservation and management of ecotourism for improving local livelihoods                    |
| 2018 Target | Organize 1 study tour to Malaysia to exchange experience on mangrove forest protection and development and development of ecotourism in the mangrove forest   |
| Output 2.6  | Develop and implement communication activities in the project areas   |
| 2018 Target | Produce and publish news on project and communication products  |
| Output 2.7  | Provide equipment for mangrove forest protection and development  |

## II. RESULTS OF IMPLEMENTED ACTIVITIES IN 2018

### 1. Completion status and milestones of project activities in 2018

This report covers a period of four quarters (from January to December 2018). The Table 2 shows main activities conducted for this period and the respective completion status.

**Table 2. Completion status in 2018**

| No         | Activites  | Status of accomplishment |
|------------|--|--------------------------|
| <b>I</b>   | <b>MAIN ACTIVITIES</b>   |                          |
| 1          | Preparation of designs of new plantation and supplementary plantation of mangrove forest       |                          |
| 1.1        | Design of new plantation of mangrove forest  | Implemented              |
| 1.2        | Design of supplementary plantation of mangrove forest  | Implemented              |
| 2          | New planting (22ha) and supplementary planting (22ha) of mangrove forest in Thai Thuy district | Implemented              |
| 3          | New planting (8ha) and supplementary planting (8ha) of mangrove forest in Tien Hai district    | Implemented              |
| 4          | Tending and protection of mangrove forest planted in 2017 (60ha)                               | Implemented              |
| 5          | Tending and protection of mangrove forest planted in 2016 (40ha)                               | Implemented              |
| 6          | Protection of existing mangrove forest (800ha)   | Implemented              |
| <b>II</b>  | <b>SUPPORTING ACTIVITIES</b>   |                          |
| 1          | Study tour to Malaysia   | Implemented              |
| 2          | Thematic workshop on mangrove forest   | Not yet implemented      |
| 3          | Training courses (02 courses)  | Implemented              |
| 4          | Communication  | Implemented              |
| 5          | National Technical Consultancy Agency  | Implemented              |
| 2017-4     | (2017 Remaining) Final payment to NTCA   | Implemented              |
| <b>III</b> | <b>PROJECT MANAGEMENT</b>  |                          |
| 1          | Central Project Management Board   | Implemented              |
| 2          | Provincial Project Management Board  | Implemented              |
| 3          | Contracted supporting staff  | Implemented              |
| <b>IV</b>  | <b>OTHER COST/CONTINGENCY</b>  |                          |
| 1.         | Central Project Management Board   | Implemented              |
| 2.         | Provincial Project Management Board  | Implemented              |

### 2. Project management in 2018

#### 2.1. Project management

In the 3<sup>rd</sup> year of operation, the project has also been implemented and managed in

accordance with the Master Financial Plan and Master Bidding Plan which were approved by Minister of Agriculture and Rural Development in 2016, internal regulation on planning and payment procedures as well as donor's regulation. This activity has achieved the following results:

- **Preparation of the 2018 annual work and budget plan:** The 2018 annual work and budget plan was agreed by donor and approved by VNFOREST under the Decision No. 79/QĐ-TCLN-KHTC on 14 March 2018.

- **Change of PSC members and project staff:** There are changes of PSC members as follows: 1) Prof. Dr. Pham Van Dien, Deputy Director General of VNFOREST replaced of Dr. Nguyen Van Ha, 2) Mr. Pham Xuan Thinh, Deputy Director of Department of Planning, Finance, VNFOREST, replaced of Mr. Pham Hong Luong, 3) Dr. Park Eunsik, Acting Executive Director of the Secretariat for AFoCO replaced of Mr. Choi Jun Seok. Moreover, there is also a change of project staff is that Mr. Le Van Thanh, Deputy Director of RIFEE replaced of Mrs. Ha Thi Mung.

**Table 3: Updated list of PSC members**

| No. | Name                                       | Position   | Agency  |
|-----|--|--|---|
| 1   | Prof. Dr. Pham Van Dien – Head of PSC      | Deputy Director General  | VNFOREST  |
| 2   | Mrs. Nguyen Tuong Van – Deputy head of PSC | Deputy Director  | Department of Science, Technology and International Cooperation, VNFOREST |
| 3   | Mr. Pham Xuan Thinh                        | Deputy Director  | Department of Planning, Finance, VNFOREST                                 |
| 4   | Mr. Trieu Van Luc                          | Director   | Department of Forest Development, VNFOREST                                |
| 5   | Mrs. Nguyen Thi Nga                        | Deputy Director  | Thai Binh Department of Agriculture and Rural Development                 |
| 6   | Mr. Vo Dai Hai                             | Director   | Vietnamese Academy of Forest Science                                      |
| 7   | Mr. Park Eunsik                            | Acting Executive Director  | AFoCO Secretariat   |
| 8   | Mr. Lee Yeong Joo                          | Director of Planing and Finance Division                           | AFoCO Secretariat   |
| 9   | Ms. Soozin Ryang                           | Project Management for Restoration Projects under Landmark Program | AFoCO Secretariat   |

- **Project interim evaluation:** As planned, the interim evaluation for the Landmark Program was conducted in early July 2018, in which the interim evaluation for the project in Viet Nam was conducted from 5 to 6 July 2018. The evaluation has 2 objectives: (i) to evaluate the progress and achievements of the Landmark Program during the period 2014 – 2018; and (ii) to provide future directions and recommendations for the period 2019 – 2023 based on all factor relevant for the

current implementation of the Program. The evaluation adopts 5 OECD/DAC criteria which are relevance, effectiveness, efficiency, impact and sustainability. Data for analysis includes field interviews, survey, data, annual plans and reports and archival documents. The evaluation reveals that the project in Viet Nam reflects an excellent performance with an overall performance score of 4.34 out of the total score of 5.00.

Based on the finding from the evaluation, 2 recommendations are given to the project for better management of mangrove forest in ecological and socio-economic ways. Firstly, there is a need to continuously develop ideas on how to make the planted mangrove forests rich in biodiversity in the long term. Secondly, the project team in the central and provincial governments should communicate closely with local communities on how to develop the concept of a model forest which can bring socio-economic benefits and improve livelihood in the province.



*Visiting planted mangrove forest and meeting with local communities in Thuy Xuan commune, Thai Thuy district during the interim evaluation*

- **Organization of the 4<sup>th</sup> Project Steering Committee Meeting:** The 4<sup>th</sup> Project Steering Committee Meeting was held on 30 November 2018 in Ha Noi. At the meeting, it was noted that most of the activities had been accomplished as planned, with close cooperation among VNFOREST, Thai Binh DARD, local authorities, and the Secretariat, except for the thematic workshop. It was also agreed to finalize the annual work plan and budget for 2019 in due course, upon revision based on the recommendations made at the meeting.



*The 3<sup>rd</sup> Project Steering Committee Meeting*

- **Other project management activities**, including financial management, project reporting, project evaluation and monitoring and project asset management, are frequently conducted under regulations by MARD, VNFOREST and donor.





*Checking and monitoring planted mangrove forests*

## **2.2. National Technical Consulting Agency**

Based on the Terms of Reference and consulting contract in 2018, RIFEE conducted the following activities:

- **Reviewed and appraised designs of new planting and supplementary planting of mangrove forest:** RIFEE completed the appraisal of new planting and supplementary planting designs and plantation estimation for the 2018 plantation activities on 12 June 2018 and submitted to the central PMB and VNFOREST for approval of designs of the 2018 plantation activities. Based on that, VNFOREST issued the Decision No. 272/QĐ-TCLN-PTR dated 17 July 2018 on approving designs and budget estimation of new planting and supplementary planting of mangrove forests in 2018.
- **Participated in technical training courses:** Based on training materials approved by VNFOREST in 2016, RIFEE assisted the central PMB to organize training courses on forest management and protection based on local people and livelihood development in mangrove forest for 4 communes of Dong Long, Dong Hoang, Thuy Xuan and Thuy Hai in November 2018.



*Presentation by RIFEE at training course in Thuy Xuan commune, Thai Thuy district*

- **Monitored and evaluated the progress and quality of silvicultural activities:** Based on the “Monitoring and Evaluation Plan for Silvicultural Activities” approved by VNFOREST in May 2017, RIFEE has monitored and evaluated the progress and quality of silvicultural activities in 4 communes, including checking and monitoring the 2018 plantation activities, monitoring and evaluation of the tending and protection of mangrove forests planted in 2016 – 2019, and reported to the central PMB.



*Checking seedlings before planting*

- **Reviewed and re-checked silvicultural activities:** RIFEE already reviewed and re-checked in the fields on the basis 10% of area of silvicultural activities.



*Re-checking the 2018 plantation activities*

In general, RIFEE has closely coordinated with the central and provincial PMB to conduct consulting activities in accordance with the Terms of Reference and signed consulting contract for the year of 2018.

### **3. Results of implemented activities in 2018**

The detailed annual work and budget plan for 2018 was endorsed by the donor and approved by VNFOREST under the Decision No. 79/QĐ-TCLN-KHTC dated 14 March 2018. Accordingly, the following activities were completed:

#### **3.1. Objective 1:** New planting, supplementary planting and protection of mangrove forest

Specific outcomes of the Objective 1 are as follows:

- New planting of 30ha of mangrove forest, including 22ha in Thai Thuy district and 8ha in Tien Hai district;
- Supplementary planting of 22ha of mangrove forest, including 18ha in Thai Thuy district and 8ha in Tien Hai district;

- Tending and protection of 60ha of mangrove forest planted in 2017;
- Tending and protection of 40ha of mangrove forest planted in 2016;
- Protection of 800ha of existing mangrove in 4 communes.

In accordance with the annual plan, results of the Objective 1 are as below:

- *Activity 1: Surveying and preparing designs of new planting and supplementary planting of mangrove forest*

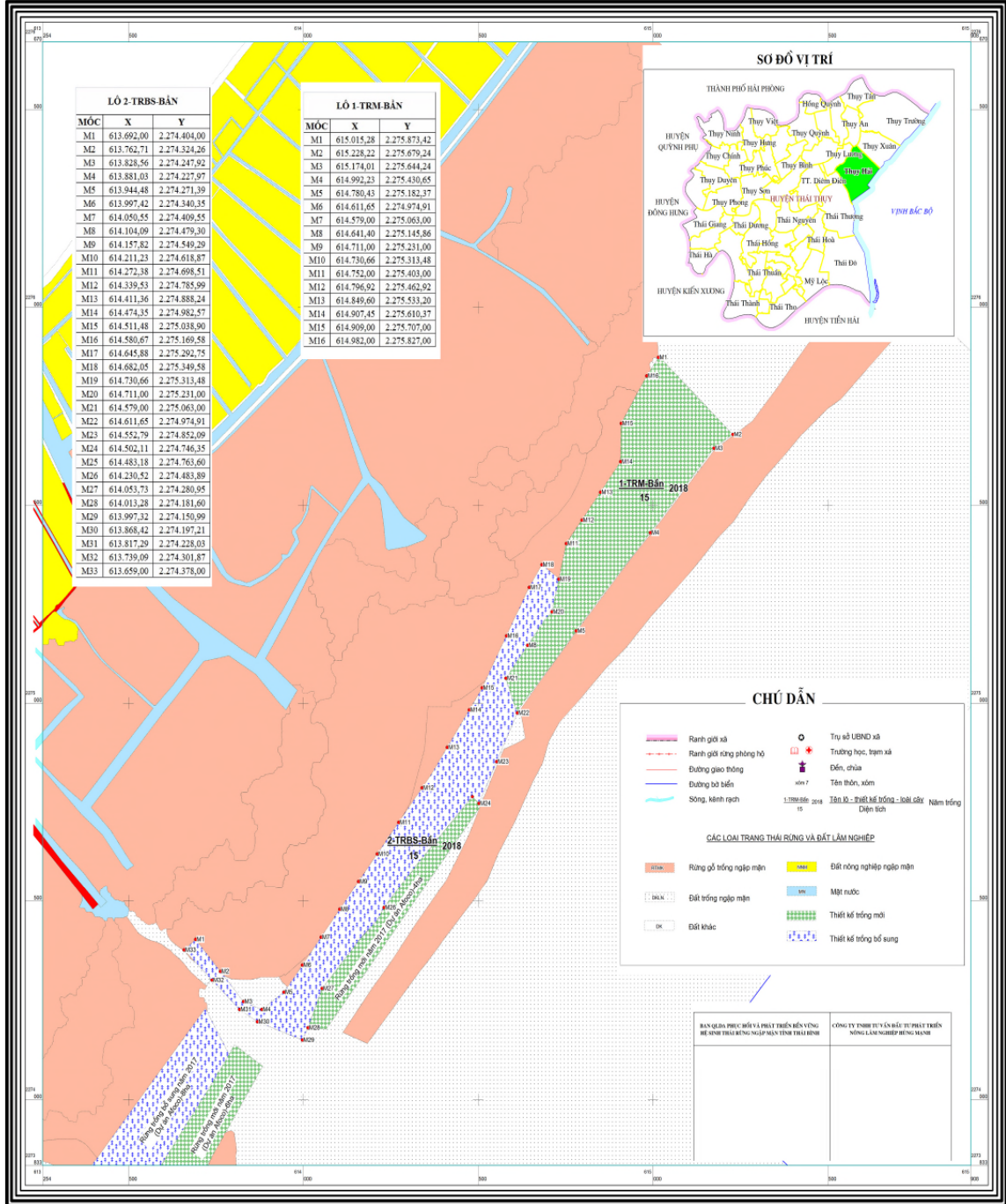
Designs of new planting (30ha) and supplementary planting (30ha) were prepared by national independent consultant, appraised by RIFEE and approved by VNFOREST under the Decision No. 272/QĐ-TCLN-KH&HTQT dated 17 July 2017.

# BẢN ĐỒ THIẾT KẾ TRỒNG RỪNG NĂM 2018

## XÃ THỤY HẢI - HUYỆN THÁI THỤY - TỈNH THÁI BÌNH

DỰ ÁN: PHỤC HỒI VÀ PHÁT TRIỂN BỀN VỮNG HỆ SINH THÁI RỪNG NGẬP MẶN Ở TỈNH THÁI BÌNH

(LÔ 1-TRM-BẢN, TRỒNG MỚI NĂM 2018 VÀ LÔ 2-TRBS-BẢN, TRỒNG BỔ SUNG NĂM 2018)



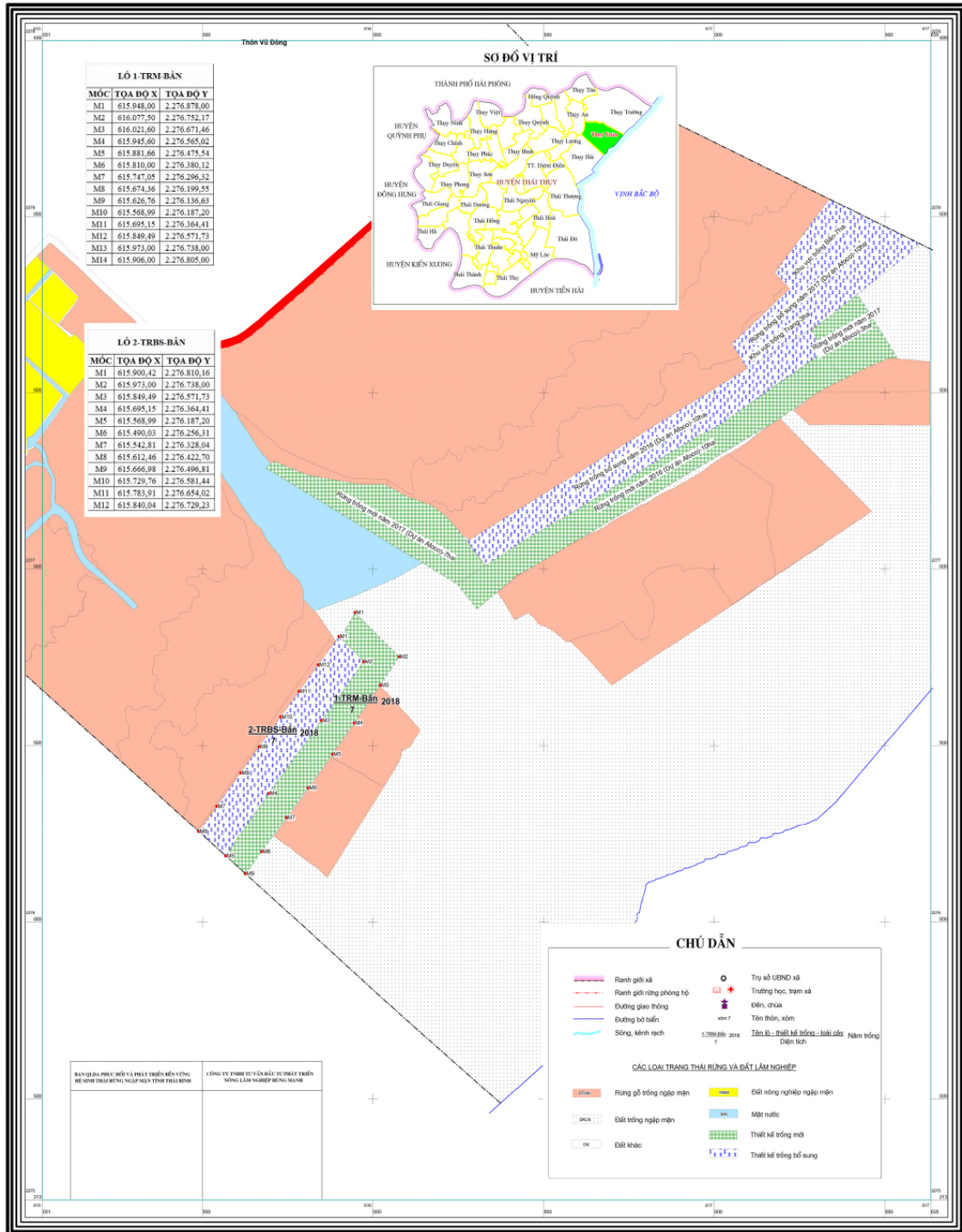
Chủ quản dự án: Bộ Nông nghiệp và Phát triển Nông thôn  
 Chủ đầu tư: Tổng cục Lâm nghiệp/Sở Nông nghiệp và Phát triển Nông thôn tỉnh Thái Bình  
 Tài liệu tham khảo và sử dụng:  
 Tên bản đồ địa chính cơ sở tỉnh Thái Bình tỷ lệ 1/5.000  
 Bản đồ hệ tọa độ VN2000, kinh tuyến trục 105 độ 30 phút, múi 3 độ

**TỶ LỆ 1 : 5.000**

1 cm trên bản đồ bằng 50m ngoài thực địa

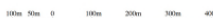
Plantation map in 2018 in Thuy Hai Commune

**BẢN ĐỒ THIẾT KẾ TRỒNG RỪNG NĂM 2018**  
**XÃ THỤY XUÂN - HUYỆN THÁI THỤY - TỈNH THÁI BÌNH**  
 DỰ ÁN: PHỤC HỒI VÀ PHÁT TRIỂN BỀN VỮNG HỆ SINH THÁI RỪNG NGẬP MẶN Ở TỈNH THÁI BÌNH  
 (LÔ 1-TRM-BẢN, TRỒNG MỚI NĂM 2018 VÀ LÔ 2-TRBS-BẢN, TRỒNG BỔ SUNG NĂM 2018)



Chủ quản dự án: Bộ Nông nghiệp và Phát triển Nông thôn  
 Chủ đầu tư: Tổng cục Lâm nghiệp/Sở Nông nghiệp và Phát triển Nông thôn tỉnh Thái Bình  
 Tài liệu tham khảo và sử dụng:  
 Trên nền bản đồ địa chính cơ sở tỉnh Thái Bình tỷ lệ 1/5.000  
 Bản đồ hệ tọa độ VN2000, kinh tuyến trục 105 độ 30 phút, múi 3 độ

**TỶ LỆ 1 : 5.000**  
 1 cm trên bản đồ bằng 50 m ngoài thực địa



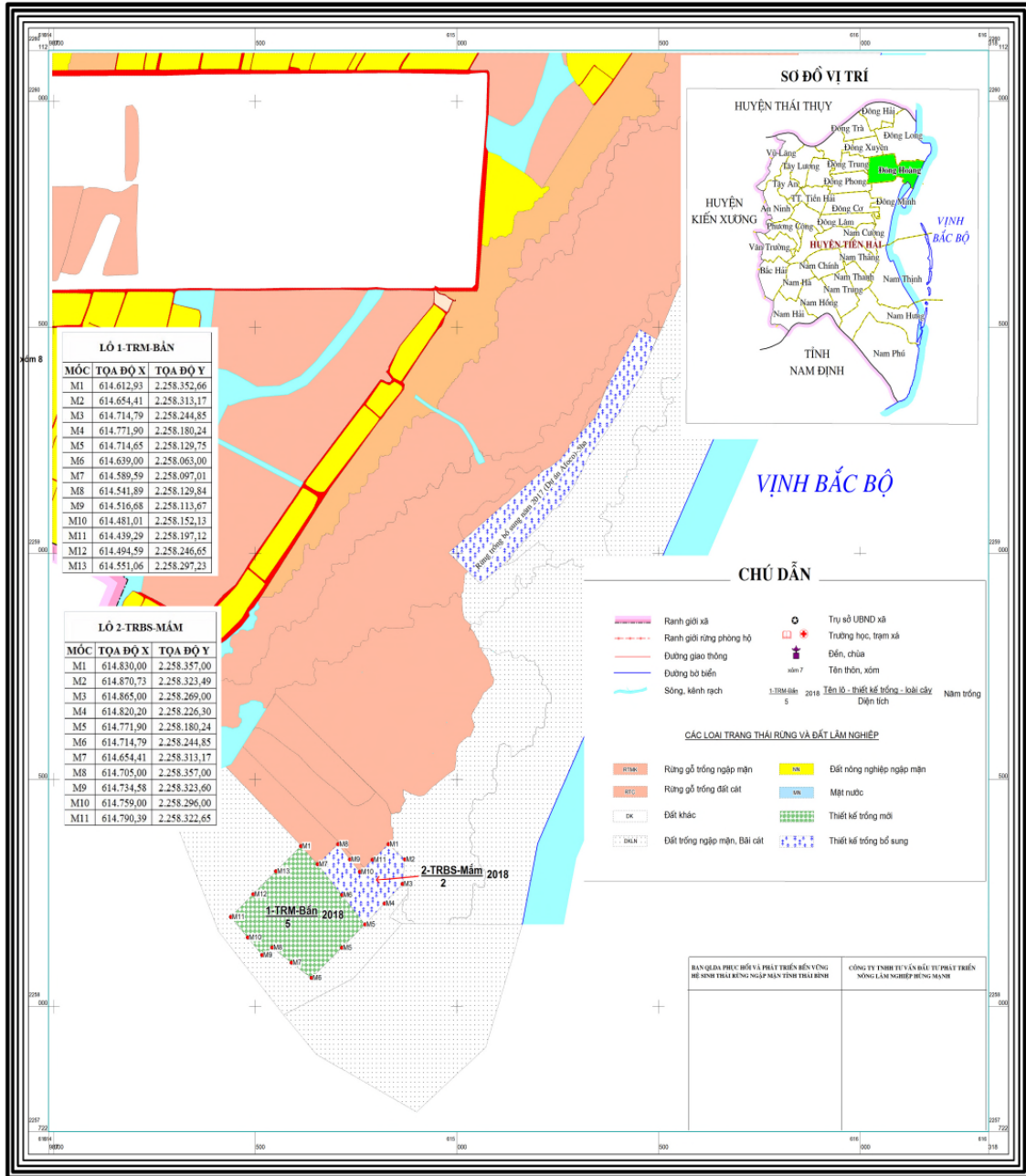
*Plantation map in 2018 in Thuy Xuan Commune*

# BẢN ĐỒ THIẾT KẾ TRỒNG RỪNG NĂM 2018

## XÃ ĐÔNG HOÀNG - HUYỆN TIỀN HẢI - TỈNH THÁI BÌNH

DỰ ÁN: PHỤC HỒI VÀ PHÁT TRIỂN BỀN VỮNG HỆ SINH THÁI RỪNG NGẬP MẶN Ở TỈNH THÁI BÌNH

(LÔ 1-TRM-BẢN, TRỒNG MỚI NĂM 2018 VÀ LÔ 2-TRBS-MẮM, TRỒNG BỔ SUNG NĂM 2018)



Chủ quản dự án: Bộ Nông nghiệp và Phát triển Nông thôn  
 Chủ đầu tư: Tổng cục Lâm nghiệp/Sở Nông nghiệp và Phát triển Nông thôn tỉnh Thái Bình  
 Tài liệu tham khảo và sử dụng:  
 Trên nền bản đồ địa chính cơ sở tỉnh Thái Bình tỷ lệ 1:5.000  
 Bản đồ hệ tọa độ VN2000, kinh tuyến trực 105 độ 30 phút, vĩ độ 3 độ

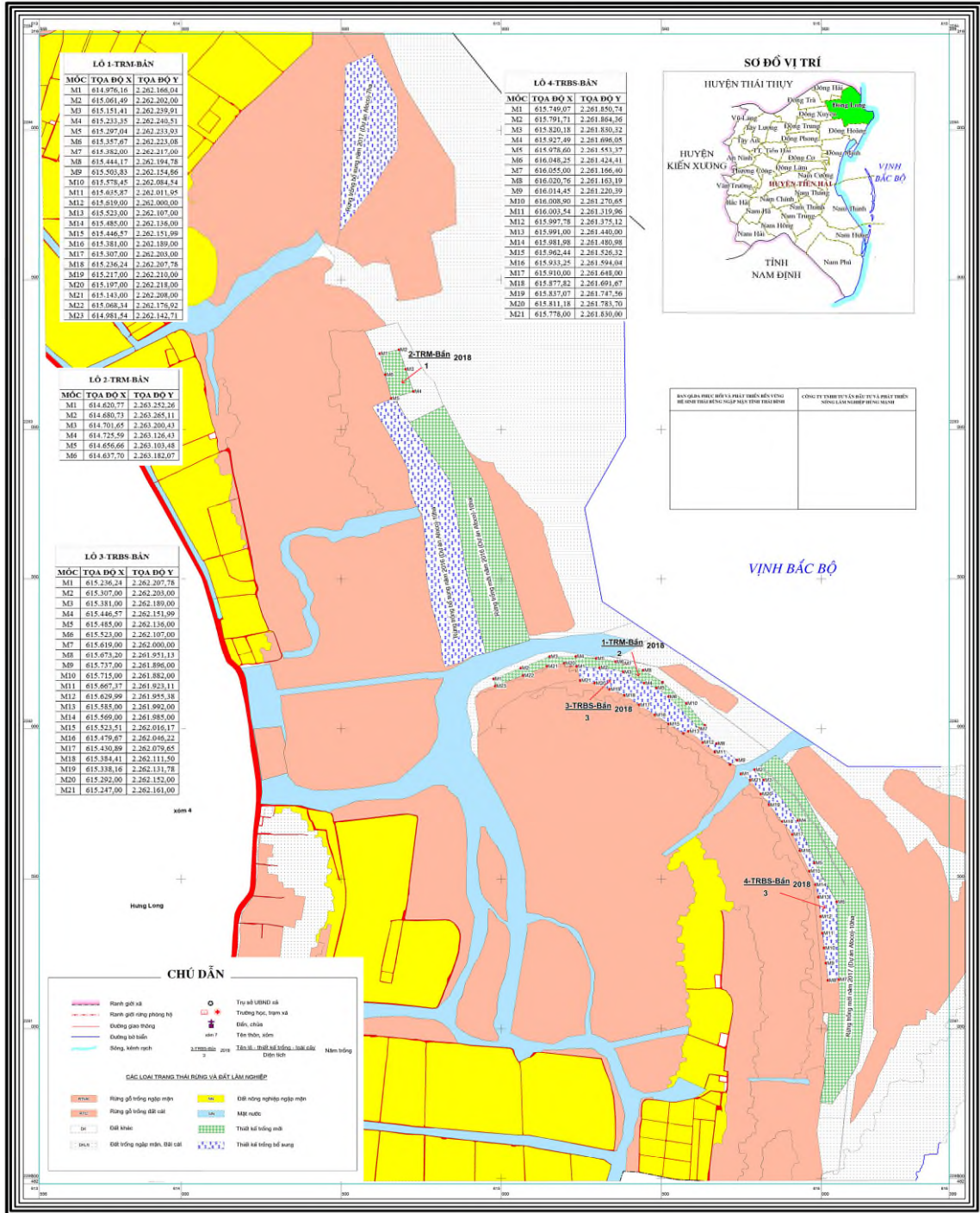
**TỶ LỆ 1 : 5.000**  
 1 cm trên bản đồ bằng 50m ngoài thực địa

Plantation map in 2018 in Dong Hoang Commune

# BẢN ĐỒ THIẾT KẾ TRỒNG RỪNG NĂM 2018

## XÃ ĐÔNG LONG - HUYỆN TIỀN HẢI - TỈNH THÁI BÌNH

**DỰ ÁN: PHỤC HỒI VÀ PHÁT TRIỂN BỀN VỮNG HỆ SINH THÁI RỪNG NGẬP MẶN Ở TỈNH THÁI BÌNH**  
(LÔ 1-TRM-BẢN, LÔ 2-TRM-BẢN, TRỒNG MỚI NĂM 2018 VÀ LÔ 3-TRBS-BẢN, LÔ 4-TRBS-BẢN, TRỒNG BỔ SUNG NĂM 2018)



Chủ quản dự án: Bộ Nông nghiệp và Phát triển Nông thôn  
 Chủ đầu tư: Tổng cục Lâm nghiệp/Sở Nông nghiệp và Phát triển Nông thôn tỉnh Thái Bình  
 Tài liệu tham khảo và sử dụng:  
 Tỉ lệ nền bản đồ địa chính cơ sở tỉnh Thái Bình tỷ lệ 1/5.000  
 Bản đồ hệ tọa độ VN2000, kinh tuyến trực 105 độ 30 phút, múi 3 độ

**TỶ LỆ 1 : 5.000**  
 1 cm trên bản đồ bằng 50 m ngoài thực địa



*Plantation map in 2018 in Dong Long Commune*

- Activity 2 and Activity 3: New planting of 30ha of mangrove forest and supplementary planting of mangrove forest

Based on the plantation designs approved by VNFOREST, the provincial PMB completed necessary preparatory works for the 2018 plantation activities. The 2018 plantation activities were conducted in September and October 2018. Table 4 below describes details of the 2018 plantation activities.

**Table 4: New planting and supplementary planting of mangrove forest in 2018**

| No.                         | Location           | New planting       |                              |                                | Supplementary planting |                              |                                |
|-----------------------------|--------------------|--------------------|------------------------------|--------------------------------|------------------------|------------------------------|--------------------------------|
|                             |                    | Planting area (ha) | Planting species             | Planting density (seedling/ha) | Planting area (ha)     | Planting species             | Planting density (seedling/ha) |
| <b>I Thai Thuy District</b> |                    |                    |                              |                                |                        |                              |                                |
| 1                           | Thuy Xuan Commune  | 7                  | <i>Sonneratia caseolaris</i> | 1,667                          | 10                     | <i>Sonneratia caseolaris</i> | 600                            |
| 2                           | Thuy Hai Commune   | 15                 | <i>Sonneratia caseolaris</i> | 1,667                          | 15                     | <i>Sonneratia caseolaris</i> | 600                            |
| <b>II Tien Hai District</b> |                    |                    |                              |                                |                        |                              |                                |
| 3                           | Dong Hoang Commune | 5                  | <i>Sonneratia caseolaris</i> | 1,667                          | 2                      | <i>Avicennia marina</i>      | 600                            |
| 4                           | Dong Long Commune  | 3                  | <i>Sonneratia caseolaris</i> | 1,667                          | 6                      | <i>Sonneratia caseolaris</i> | 600                            |
| <b>Total</b>                |                    | <b>30</b>          |                              |                                | <b>30</b>              |                              |                                |



*Transportation of seedlings and materials to planting site*

- Activity 4: Tending and protection of 60ha of mangrove forest planted in 2017

60ha of mangrove forest planted under the 2017 annual plan, including 30ha of new plantation and 30ha of supplementary plantation, has been well grown, tended and protected. Poor-grown or dead seedlings were already replaced. Moreover, the



provincial PMB has frequently checked, supervised and directed the tending and protection of planted mangrove forest.

For forest planted in 2017 in Thuy Hai Commune (including 10ha of new plantation and 8ha of supplementary plantation) which was damaged due to typhoons and cold weather in 2017, the re-plantation was completed and seedlings are well grown.

Especially, 3ha of *Kandelia obovata* which were supplementarily planted in Thuy Xuan Commune cannot well grow and survive after 3 months of plantation. It is necessary to supervise and conduct research on the survival of this seedlings so as to introduce appropriate silvicultural measures for this seedlings.

The growth indicators of mangrove forest planted in 2017 are presented in Tables 5 and 6 below.

**Table 5: Growth indicators of new plantation of 2017**

| No.       | Planting lot              | Area (ha) | Location          | Species                      | Density          |                 | Growth criteria |                           |                   | Ref. Decision No. 1205/QĐ-BNN-TCLN |
|-----------|---------------------------|-----------|-------------------|------------------------------|------------------|-----------------|-----------------|---------------------------|-------------------|------------------------------------|
|           |                           |           |                   |                              | Original density | Current density | Height (m)      | Root collar diameter (cm) | Survival rate (%) | Survival rate after 2 years (%)    |
| <b>I</b>  | <b>Thai Thuy District</b> |           |                   |                              |                  |                 |                 |                           |                   |                                    |
| 1         | Lot 01                    | 6         | Thuy Hai Commune  | <i>Sonneratia caseolaris</i> | 1,667            | 1,416           | 1.7             | 2.9                       | 85                | ≥ 60                               |
| 2         | Lot 02                    | 4         | Thuy Hai Commune  | <i>Sonneratia caseolaris</i> | 1,667            | 1,416           | 1.5             | 3.4                       | 85                | ≥ 60                               |
| 3         | Lot 01                    | 7         | Thuy Xuan Commune | <i>Sonneratia caseolaris</i> | 1,667            | 1,500           | 1.7             | 3.3                       | 90                | ≥ 60                               |
| 4         | Lot 02                    | 3         | Thuy Xuan Commune | <i>Sonneratia caseolaris</i> | 1,667            | 1,466           | 1.8             | 3.3                       | 88                | ≥ 60                               |
| <b>II</b> | <b>Tien Hai District</b>  |           |                   |                              |                  |                 |                 |                           |                   |                                    |
| 1         | Lot 01                    | 10        | Dong Long Commune | <i>Sonneratia caseolaris</i> | 1,667            | 1,416           | 1.55            | 3.1                       | 85                | ≥ 60                               |
|           | <b>Total</b>              | <b>30</b> |                   |                              |                  |                 |                 |                           |                   |                                    |

**Table 6: Growth indicators of supplementary plantation of 2017**

| No.       | Planting lot              | Area (ha) | Location           | Species                      | Density          |                 | Growth criteria |                           |                   | Ref. Decision No. 1205/QĐ-BNN-TCLN |
|-----------|---------------------------|-----------|--------------------|------------------------------|------------------|-----------------|-----------------|---------------------------|-------------------|------------------------------------|
|           |                           |           |                    |                              | Original density | Current density | Height (m)      | Root collar diameter (cm) | Survival rate (%) | Survival rate after 2 years (%)    |
| <b>I</b>  | <b>Thai Thuy District</b> |           |                    |                              |                  |                 |                 |                           |                   |                                    |
| 1         | Lot 03                    | 8         | Thuy Hai Commune   | <i>Sonneratia caseolaris</i> | 600              | 510             | 1,6             | 3,2                       | 85                | ≥ 60                               |
| 2         | Lot 03                    | 7         | Thuy Xuan Commune  | <i>Sonneratia caseolaris</i> | 600              | 510             | 1,7             | 3,1                       | 85                | ≥ 60                               |
| 3         | Lot 04                    | 3         | Thuy Xuan Commune  | <i>Kandelia obovata</i>      | 600              | 510             | 1,6             | 3,2                       | 85                | ≥ 60                               |
| <b>II</b> | <b>Tien Hai District</b>  |           |                    |                              |                  |                 |                 |                           |                   |                                    |
| 1         | Lot 01                    | 5         | Dong Hoang Commune | <i>Sonneratia caseolaris</i> | 600              | 552             | 1,7             | 3,2                       | 92                | ≥ 60                               |
| 2         | Lot 02                    | 7         | Dong Long Commune  | <i>Sonneratia caseolaris</i> | 600              | 510             | 1,5             | 3,0                       | 85                | ≥ 60                               |
|           | <b>Total</b>              | <b>30</b> |                    |                              |                  |                 |                 |                           |                   |                                    |

*- Activity 5: Tending and protection of 40ha of mangrove forest planted in 2016*

40ha of mangrove forest planted under the 2016 annual plan, including 20ha of new plantation and 20ha of supplementary plantation, has been well grown, tended and protected. Poor-grown or dead seedlings were already replaced. Moreover, the provincial PMB has frequently checked, supervised and directed the tending and protection of planted mangrove forest.

The growth indicators of forest planted in 2016 are presented in Table 7 below.

**Table 7: Growth indicators of forest planted in 2016**

| No.                                | Planting lot | Area (ha) | Location          | Species                      | Density          |                 | Growth criteria |                           |                   | Ref. Decision No. 1205/QĐ-BNN-TCLN |
|------------------------------------|--------------|-----------|-------------------|------------------------------|------------------|-----------------|-----------------|---------------------------|-------------------|------------------------------------|
|                                    |              |           |                   |                              | Original density | Current density | Height (m)      | Root collar diameter (cm) | Survival rate (%) | Survival rate after 3 years (%)    |
| <b>I New plantation</b>            |              |           |                   |                              |                  |                 |                 |                           |                   |                                    |
| 1                                  | Lot 02       | 10        | Thuy Xuan Commune | <i>Sonneratia caseolaris</i> | 1.667            | 1.416           | 2,10            | 4,70                      | 85,0              | ≥ 50                               |
| 2                                  | Lot 02       | 10        | Dong Long Commune | <i>Sonneratia caseolaris</i> | 1.667            | 1.416           | 2,10            | 4,20                      | 85,0              | ≥ 50                               |
| <b>II Supplementary plantation</b> |              |           |                   |                              |                  |                 |                 |                           |                   |                                    |
| 1                                  | Lot 01       | 10        | Thuy Xuan Commune | <i>Sonneratia caseolaris</i> | 600              | 510             | 2,20            | 4,60                      | 85,0              | ≥ 50                               |
| 2                                  | Lô 01        | 10        | Dong Long Commune | <i>Sonneratia caseolaris</i> | 600              | 516             | 2,00            | 4,50                      | 86,0              | ≥ 50                               |
|                                    | <b>TOTAL</b> | <b>40</b> |                   |                              |                  |                 |                 |                           |                   |                                    |

*- Activity 6: Protection of 800 ha of existing mangrove forests*

Based on the principle contracts on mangrove forest protection between the provincial PMB and 4 communes, 800ha of existing mangrove forests have been continuously protected. The four communes have directed communal forest protection groups to strictly patrol the forests and promptly prevent and detect any violations to the forests. Up to present, 800ha of existing mangrove forests have been well protected without any detected violation cases. The propaganda on the important roles of mangrove forests have also been conducted monthly through communal voice stations and promoted through village and commune meetings in order to raise awareness on mangrove forest protection, promptly detect violations to the forests and report to local authorities. Furthermore, the provincial PMB has regularly checked and technically instructed four communes to complete forest protection task.

As a follow-up of the 3<sup>rd</sup> PSC meeting, four communal forest protection groups have been provided with protective uniforms and equipment, such as flashlights, boots, shoes, etc. The protective uniforms and equipment have help communal forest protection groups perform their tasks more effectively.

Payment for forest protection activity was transferred to 4 communes two times, in May and in December 2018 after the check-and-acceptance of forest protection activity, of which 90% was directly transferred to communal protection groups and 10% was kept by communal People’s Committees as management fee to cover regular meetings related to forest protection. Detail of 800ha of mangrove forests for protection is presented in Table 8 below.

**Table 8: Details of 800ha of mangrove forests for protection**

| No.       | Location                  | Area (ha)  |
|-----------|---------------------------|------------|
| <b>I</b>  | <b>Thai Thuy District</b> | <b>450</b> |
| 1         | Thuy Xuan Commune         | 215        |
| 2         | Thuy Hai Commune          | 235        |
| <b>II</b> | <b>Tien Hai District</b>  | <b>350</b> |
| 3         | Dong Long Commune         | 225        |
| 4         | Dong Hoang Commune        | 125        |
|           | <b>Total</b>              | <b>800</b> |



*Protective uniforms of communal forest protection groups*

### **3.2. Objective 2:** Raising capacity and enhancing knowledge through training and communications

The following activities under Objective 2 were conducted in 2018:

*- Activity 1: Organization of study tour to Malaysia exchange experience on mangrove forest protection and development and development of ecotourism in mangrove forests*

Within the framework of the project, there are two study tours to be organized to exchange experience on mangrove forest protection and development as well as ecotourism development in the mangrove forests. The first study tour was organized in Thailand and the second study tour was organized in Malaysia from 4 to 9 September 2019. Attending the study tour, there were 11 participants from VNFOREST, Thai Binh Department of Agriculture and Rural Development, Thai Binh Forest Protection Department, Forest Protection Stations of Thai Thuy and Tien Hai Districts, RIFEE and central PMB. With the support of Forestry Department Peninsular Malaysia, the participants visited and observed the rehabilitation, conservation and development of mangrove forest ecosystem as well as the development of ecotourism inside mangrove forests of some mangrove forests in Malaysia. During the study tour, the participants also had a courtesy call to the Forestry Department Peninsular Malaysia to brief on sustainable forest management in Peninsular Malaysia and mangrove forest protection and development in Viet Nam.

Basically, mangrove forest ecosystem in Peninsular Malaysia is similar to the mangrove forest ecosystem in Viet Nam. However, the area of mangrove forest in Peninsular Malaysia only accounts for 2% of total area of Peninsular Malaysia and there are about 50 mangrove species. Mangrove forests in Peninsular Malaysia have been degraded due to coastal erosion and natural disaster. Since 2006, Forest Research Institute of Malaysia (FRIM) has begun piloting mangrove rehabilitation by using geotube to prevent coastal erosion and applying new plantation techniques to restore degraded mangrove forests.

The participants had chance to visit Larut Matang mangrove forest, the best managed mangrove forest in the world. This is the largest mangrove forest in Malaysia with area of about 40,288 ha stretching over 51.5 km from Kuala Gula in the north to Bagan Panchor in the south of Perak State. The Matang mangrove forest reservation started in 1902 and has been sustainably managed for the purpose of timber harvesting and production. The forest has also been managed based on 10-year working plan which was first prepared in 1930. Based on this plan, subsequent 10-year working plans were revised and updated and up to present, there are 9 working plans prepared and the latest one is until 2019. These working plans regulate in detail the timber harvesting, silvicultural activities, forest protection and conservation. Accordingly, the annual volume of timber harvested is 1,000ha for charcoal production and other using purposes which will help increase income for local communities. Moreover, the Matang mangrove forest also qualifies as ecotourism destination due to the fact that tourists and visitors arrive in the Matang mangrove forest for bird watching, firefly watching, visiting Nature Education Centre, charcoal processing, river cruise, etc. Ecotourism has helped improve the well being of local people and conserve environment.

Besides, the participants visited Penang Inshore Fisherman Welfare Association (PIFWA) to learn about mangrove-based community activities. PIFWA was established

in 1994, including 50 members who are fishermen or people working in fishing-related jobs in Penang State. The objective of PIFWA is to promote solidarity among inshore fishermen to help convey their issues to the State government and relevant authorities in order to find solutions. PIFWA also commits to protecting and preserving coastal ecosystem. Activities of PIFWA include supporting fishermen in issues that are directly or indirectly related to them such as coastal erosion, seashell exploitation affecting their activities or affecting mangrove forest plantation, etc. Moreover, PIFWA helps introduce and promote products made from mangroves (leaves, flowers), such as teas, cakes, jam, etc.

The study tour is a good opportunity for the State management authorities at central and local authorities to develop policies on sustainable mangrove forest management in order to create livelihoods for local communities and ensure the harmony of interests among organizations and individuals involving mangrove forest management, protection and development. Besides, it is important to strengthen propaganda activities and raise awareness of local communities on the roles of mangrove forests in responding climate change, protecting production and livelihoods aiming at mobilize local people to voluntarily participate in forest restoration. Moreover, the project can initiate a pilot ecotourism model in the mangrove forest after the project completion in order to inherit and promote the project achievements.



*Visiting a pilot model of rehabilitation of degraded mangrove forest*



*Visiting Larut Matang mangrove forest*



*Products from mangrove forest*

*- Activity 2: Thematic workshop on mangrove forest and ecotourism*

The thematic workshop on mangrove forest and ecotourism was planned to be organized in Xuan Thuy National Park of Nam Dinh province. However, this activity has not yet been implemented. As agreed at the 4<sup>th</sup> PSC meeting held on 30 November 2018, this activity will be moved to 2019 and the workshop will be organized in Thai Binh province. The central and provincial PMB will jointly organize this workshop with technical consultant from RIFEE.

*- Activity 3: Organization of training courses*

Two training courses on community-based mangrove forest protection and mangrove-based livelihood improvement for 4 communes were organized in November 2018. There are around 60 participants to these training courses in total, including communal leaders, communal forest protection groups, communal forest plantation groups and local communities. The percentage of femal participants was 10%, including communal voice station staff, communal forestry-fishery officers, communal women union and women directly involved in forest plantation. Training materials were

composed by RIFEE based on the project technical guidelines approved by VNFOREST in 2016.



*Participants to training course organized in Thuy Xuan commune*

*Opinion sharing by a female participant*

#### *- Activity 4: Communications*

Similarly to 2016 and 2017, communication activity has continued to be promoted by the project in 2018.

- News on plantation activities was produced and broadcasted on Thai Binh Television. Additionally, there were articles relating to the project on some newspapers whose links are as follows:

<https://dantri.com.vn/xa-hoi/phuc-hoi-va-phat-trien-rung-ngap-man-voi-kinh-phi-2-trieu-usd-20181007102212142.htm> (Annex-1);

[http://thaibinh tourism.com.vn/Tin-Tuc/TTSK/1264\\_Phuc-hoi-va-phat-trien-ben-vung-he-sinh-thai-rung-ngap-man](http://thaibinh tourism.com.vn/Tin-Tuc/TTSK/1264_Phuc-hoi-va-phat-trien-ben-vung-he-sinh-thai-rung-ngap-man) (Annex-2);

<https://baotainguyenmoitruong.vn/moi-truong/thai-binh-trong-moi-trong-bo-sung-dien-tich-rung-ngap-man-1259254.html> (Annex-3)

- Communication products, such as New Year calendar, manual on mangrove forest plantation, tending and protection, have been produced and distributed to stakeholders at central and provincial levels.

## **IV. CONCLUSION**

### **1. General conclusion**

Overall, the 2018 activities have been conducted in a timely manner and achieved targeted criteria, especially plantation, tending and protection activities.

### **2. Advantages**

- Local people's awareness on roles of mangrove forest is improved, they are actively participating in forest plantation, tending and protection.
- Local people have more experience in forest plantation and tending.
- Provided protective uniforms and equipment have helped communal protection groups to effectively carry out forest patrol and protection.

- The provincial PMB has strengthened capacity in project implementation and management.
- Favourable weather in 2018 compared to that in 2017 has helped plantation activities to be carried out in accordance with schedule. Moreover, favourable weather has also helped forest planted in 2017 in Thuy Hai commune which was damaged by storms growing well.

### **3. Disadvantages**

- In 2018, there is no budget for participating in conferences, workshops on mangrove forest in country and abroad, so the project has little chance to learn about experience and exchange information with other mangrove-related projects and programs.
- The budget for communications is limited, so not many communications activities relating to the project have been done.
- Other objectives such as shipworm, rubbish, change of natural flow (for example, in new planting plot 2017 in Dong Long commune) have partly affected the growth and survival of young seedlings.
- The 3ha of *Kandelia candel* supplementary planting plot in Thuy Xuan commune can not well grow and survive after 3 months of plantation. It is necessary to conduct a research on this issue to find out appropriate silvicultural measures for this species.



**Restoration and development of mangrove forests with a cost of US \$ 2 million**

*(Dan Tri) - With the goal of restoring, planting and sustainably managing the mangrove forest ecosystem (coastal mangrove) in Thai Binh province ... The Korean government has funded US \$ 1.9 million; Vietnam's counterpart fund is US \$ 150,000, to implement the restoration and sustainable development project of mangrove ecosystems.*

With the goal of restoring, planting and sustainable management of mangrove ecosystems in Thai Binh province, raising awareness and capacity on sustainable rehabilitation, protection and development of mangroves, biodiversity conservation and responding to climate change, improving livelihoods for local people, a sustainable restoration and development project of mangrove ecosystem in Thai Binh province funded by the Korean Government through the ASEAN Forestry Cooperation Agreement - Korea (AFoCo) was implemented from 2015 to 2024 in 4 communes: Thuy Xuan, Thuy Hai (Thai Thuy), Dong Hoang, Dong Long (Tien Hai).



*The area of mangrove forests in Thuy Xuan and Thuy Hai communes, Thai Thuy district, Thai Binh province*

The total cost of implementing the project is over 2 million USD, of which the Korean Government funding is 1.9 million USD; Vietnam's counterpart fund is USD 150,000. The project to restore and sustainably develop mangrove ecosystems will create a solid mangrove belt to protect about 54km of sea dikes along Tien Hai and Thai Thuy districts.

This project will consist of 2 components: Component 1 will be implemented in the first 3 years (2016-2018), 80ha new planting, 80ha additional planting, protection of 960ha forest including newly planted forest, additional planting and existing forest area; Component 2 is implemented from 2019 to 2024, focusing on training, training, capacity building and communication.

Expected, 2018 will complete the items. The project enhances the awareness and capacity of local officials and people on new planting, restoration and protection of mangrove forests and sustainable livelihood development for the people.

**Duc Van**

Content link: <https://dantri.com.vn/xa-hoi/phuc-hoi-va-phat-trien-rung-ngap-man-voi-kinh-phi-2-trieu-usd-20181007102212142.htm>

## Annex-2 (This is translated into English from the original article written in Vietnamese)

### NEWS - EVENTS

#### Restoration and sustainable development of mangrove ecosystems

08/10/2018

*The project of restoring and developing sustainable mangrove ecosystems (mangroves) in Thai Binh province funded by the Korean Government has been evaluated with great significance for our province in responding to climate change, creating To be firmly protected by the mangrove belt of about 54km of sea dikes along Tien Hai and Thai Thuy districts.*



*Planting mangroves in Thuy Xuan commune (Thai Thuy).*

With the goal of restoring, planting and sustainable management of mangrove ecosystems in Thai Binh province, raising awareness and capacity on sustainable rehabilitation, protection and development of mangroves, biodiversity conservation and responding to climate change, improving livelihoods for local people, a sustainable restoration and development project of mangrove ecosystem in Thai Binh province funded by the Korean Government through the ASEAN Forestry Cooperation Agreement - Korea (AFoCo) was implemented from 2015 to 2024 in 4 communes: Thuy Xuan, Thuy Hai (Thai Thuy), Dong Hoang, Dong Long (Tien Hai). The total cost of implementing the project is over 2 million USD, of which the Korean Government funding is 1.9 million USD; Vietnam's counterpart fund is USD 150,000.

The project consists of 2 components: Component 1 is implemented in the first 3 years (2016-2018), 80ha new planting, 80ha additional planting, protection of 960ha forest including newly planted, supplemented and forested areas now available; Component 2 is implemented from 2019 to 2024, focusing on training, training, capacity building and communication.


Mr. Luu Tien Dat, Project Coordinator in Vietnam said: This is the only project of AFoCo about mangroves currently sponsoring 10 ASEAN countries, so is a good opportunity to introduce the model. Successful planting of mangroves for all AFoCo member countries, while promoting images, attracting tourists, contributing to local economic development. In Thai Binh, 60 hectares have been planted so far, 60 hectares of additional planting have been planted while protecting the planted forest area and 800 hectares of existing forests, ensuring the planned progress. Through inspection, the whole area of newly planted trees grows well and meets the requirements.

Mr. Nguyen Trong Pha, the leader of Thuy Xuan cooperative team, said: For the project to be effectively implemented in the locality, Thuy Xuan commune has actively propagated to the people about the effectiveness of the forest, the protection of the talent, forest; organizing training courses on disaster risk management and climate change; build articles broadcast on the commune radio system ... to raise community awareness about the benefits of forests. Through propaganda, people understand the effectiveness of afforestation, join hands to protect and develop forests, so that the activities of the project are implemented actively and effectively. Increasing forest cover not only helps to cope with climate change but also enriches mangrove organisms, creates short-term and long-term income for

local people. The process of project implementation has also built a number of conventions for management,

In order to continue maintaining the effectiveness and sustainability of the project, it is necessary to continue training and capacity building for managers, implementing units and people; promote propaganda to raise awareness for people, especially people in the project area to see the immediate and long-term benefits of afforestation, thereby actively joining hands to protect forests.

**Note**

 Print this article

Thai Binh newspaper

Environment - News

## Thai Binh: New planting, additional planting of mangrove forests

Friday - September 28, 2018 18:43

*(TN&MT) - Currently, localities implementing the project "Restoration and sustainable development of mangrove ecosystem in Thai Binh province" have newly planted 60 hectares of mangrove forest, additionally planted 60 hectares, protected Safety for 800 ha of existing forests.*



People plant mangroves.

Project "Restoration and sustainable development of mangrove ecosystem in Thai Binh province" funded by the Korean Government, implemented in 10 years (2015-2024) in 4 communes: Thuy Xuan, Thuy Hai (district Thai Thuy); Dong Long, Dong Hoang (Tien Hai district) Thai Binh province.

Project implementation cost is over 2 million USD. In particular, the Korean Government financed 1.9 million USD, counterpart fund of the Government of Vietnam is 150,000 USD. Items of the project: protecting 800 ha of existing mangrove forests; New planting, additional planting of 160 ha.

Up to now, localities in the project of planting 60 hectares have added 60 hectares to plant and protect 800 hectares of existing forests safely.

Expected, in 2018 will complete the project items. The project enhances the awareness and capacity of local officials and people on new planting, restoration and protection of mangrove forests and sustainable livelihood development for the people.

Author: **Dang Hung**