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Asia-Pacific Network for Sustainable Forest Management and Rehabilitation

COMPLETION REPORT

Integrated Forest Ecosystem Management Planning and Demonstration Project in Greater Mekong Sub-region (Cambodia) [2017P2-CAM]

January to December, 2021

June 2017 – June 2022

Forestry Administration (FA)

Institute of Forest and Wildlife Research and Development (IRD)

26 August 2022

Project Title(ID)	Integrated Forest Ecosystem Management Planning and Demonstration Project in Greater Mekong Sub-region [2017P2-CAM]		
Supervisory Agency	Forestry Administration		
Executing Agency	Institute of Forest and Wildlife Research and Development (IRD)		
Implementing Agency	Institute of Forest and Wildlife Research and Development (IRD)		
Date of Project Agreement: 27/June/2017			
Duration of implementation: June/2017-26/2021, 6 months(extended by June 2022			
Total project budget(in USD)	1,515,465.60	APFNet assured Grant (in USD)	51,747.76
Actual project cost(in USD)	607,515.60	APFNet disbursed Grant(in USD)	502,524.55
Disbursement Status		Date of disbursement	Amount (in USD)
Initial disbursement		01/18	296,977.75
Second disbursement		12/20	105,708.00
Third disbursement		09/21	99,838.80
Balance to be disbursed: 10,423.93			
Reporting Status		Schedule [1]Implementation	Project progress status[2]
First reporting (period covered: 06/17-12/18)		Behind schedule	Moderately Satisfactory
Second reporting (period covered: 01/19 – 12/19		On-Track	Satisfactory
Third reporting (period covered: 01/20 – 12/20		On-Track	Satisfactory
Fourth reporting (period covered: 01/21 – 12/21		On-Track	Satisfactory

BASIC INFORMATION

List of Project Steering Committee and Project Team

Name	Role with PSC	Role	Office
Dr. Keo Omaliss	Chair	Director General of FA	Forestry Administration

[1] Schedule [1]implementation status could be on track/behind/ahead of schedule

[2] Project progress status could be ranked as satisfactory, dissatisfactory, moderately satisfactory, moderately dissatisfactory

Name	Role with PSC	Role	Office
Dr. Sokh Heng	Member	Director of IRD	Forestry Administration
A. Prof. Von Monin	Member	Dean of Faculty of Forestry	Royal University of Agriculture (RUA)
Mr. Van Sokha	Member	Chief of Inter-Sector Office	Provincial governor of Kampong Speu Province
Mr. Ouch Choung	Member	Environmental Researcher	Cambodia Development Resource Institute, NGO

Executive Summary

The project site is located in Damrey Chakthlork Community Forestry (CF). Damrey Chakthlork, Phnom Srouch District, Kampong Speu province aimed to demonstrate the different techniques for restoring degraded forests. The project aims to improve the ecological services and provisioning services of forests in Cambodia through the improvement of community forest management and strengthening state-owned forest conservation, so as to contribute to sustainable forest management in Greater Mekong Sub-region. Moreover, the project also aims to test the Forest Watcher System, a state-of-the-art technology that can monitor the forest cover. The Forest Watcher System is expected to provide continuous monitoring and surveillance of the surrounding of the pilot state-owned forests and provide reference for decision-making on forest fire prevention, forest resources reservation, and biodiversity conservation in the country. Among the objectives of the project include:

1. To develop a model for community forest management by strengthening CF management and testing appropriate restoration and silviculture technology;
2. To mitigate the dependence of the communities to forests by improving household farming systems;
3. To enhance forest protection through adopting an advanced forest monitoring system (Forest Watcher); and
4. To extend achievements and related techniques in Cambodia and GMS by demonstration and experiences sharing.

The project has following outputs:

- Output 1. CF Management Plan formulated
- Output 2. CF boundary demarcated and patrolled
- Output 3. A FA Triage nursery improved
- Output 4. Restoration and silviculture models established
- Output 5. Village water supply system established
- Output 6. Agroforestry farming system established
- Output 7. Home garden farming system established
- Output 8. Forest watcher system and auxiliary facilities installed and maintained
- Output 9. An integrated forest management technology assembled and a technical handbook formulated
- Output 10. Experience and technology demonstrated and disseminated

Achievements. Most of the indicators of the outputs of the project have been achieved except for some activities that need to be canceled. The project got approval from APFNet for the revision of the activities. Among the adjustments made to the target include:

1. The replacement of the site of home gardens from Krang Deivay to Krang Seri after the two farmers in Krang Deivay became disinterested to maintain their farms (Activity 1.7.2.3). The farm of the farmer cooperator in the new site was very productive after testing the home garden technology introduced by the project.
2. The Forest Watcher system did not perform as expected (Activity 1.8.4). The Forest Watcher system in Tamao Zoo did not operate for quite a long time due to the broken gadget which needs to be bought from China and the absence of competent

technicians who can repair the forest watcher system. After it was repaired, the system again broke down.

3. Participating of conference to present the APFNet's project experiences (Activity 1.10.4) was canceled. The project staff was not able to attend any conferences to present the experience of the GMS project due to the travel restrictions imposed by the government at the height of COVID 19 pandemic.

There are few activities that were delayed, like the holding of the training and workshops. These are likewise covered by the request for Project Change by deferring the activity which was approved by APFNet. There were additional activities that were requested by the project due to the unexpected needs in the field. These include the putting up of water system for the watering of the planted seedlings, and establishment of fence around the restoration plot due to the threat of stray livestock grazing in the area.

A modification of the species planted and design of the restoration area, agroforestry and home gardens was made after the species that were planted did not perform well. The exotic species in particular, showed poor performance in the site, and has to be replaced. The success of the project was partly contributed by the Chinese Experts from Yunnan Academy of Forestry and Grasslands, who helped in developing the publications. Some of the requested additional activities, such as the construction of CF nursery and training of the CF members on seedling production were done in made in compliance to the recommendation of the External Evaluator.

Impacts. The project has contributed to the improvement of the vegetative condition of the area. The area that serve as demonstration forest were adequately produced and allows the natural seedlings to grow in addition to the planted seedlings. The billboards and boundary posts has effectively preventing the outsiders from going to the area. The support of the project to the patrol operations of the CF also provide a significant help in controlling encroachment and forest violations. The project helped in building the technical skills of the community members and the local FA. The farming technology (Agroforestry, Woodlot and Home Garden) has demonstrated the potential of improving the small piece of land of the farmers. The famer cooperators who participated on testing the agroforestry and home garden technologies experienced better yield. One of the major impacts of the project is the availability of water to the community members. The households no longer buy water from the seller of water. The community was able to plant vegetables in their backyards after they were able to connect from the water system put up by the project.

Sustainability. The implementation of the project has contributed to the food production of the farmers. The home garden technology has improved the productivity of the farms which can ultimately improve the soil condition. The production of farmers also improved resulting to reducing the dependence and pressure to the forest. The training provided to the farmers and the CF members will impart a lasting skill particularly on sustainable farming and in restoring the forests. The nursery that was established at the CF will help the CF in producing seedlings that will be needed in the planting activities. The CF can now produce seedlings in

the constructed nursery that can be sold by the CF members. This can provide an alternate income to the CF.

Conclusion. Except for activity 10.4 (Participate in APFNet experience sharing activities), all the targets have been achieved. There are also some additional activities that need to be implemented due to unexpected needs in the field such as digging of 2 ponds, establishing tree nursery for community forestry at Dopor village, fencing around the forest restoration plots and watering of the seedlings. Even though, the project faced difficulties in the last 2 years due to the COVID 19 pandemic, the project was able to achieve its main goals and targets.

The implementation of the project has brought several noteworthy lessons in site restoration:

1. The introduction of water distribution system has provided significant economic impacts to the households. The households were able to improve their food security since they were able to grow some vegetables in their backyard.
2. The support of APFNet is necessary particularly on the needs of the field. During the implementation, there were unexpected needs that needs support from APFNet, for instance, the farmer cooperators became disinterested on working with their home garden. The project needs to look for alternate site to test the home garden technology. The new farmer cooperators were very cooperative and experienced higher production when they tested the home garden technology. The support from APFNet to approve the request of the field staff to implement the additional activities has contributed to the success of the project.
3. The Forest Watcher System showed a very promising technology. However, the company who provided the technology was not able to provide prompt aftersales support when part of the gadget broke down. The current alternate technology that can collect information from the field like drones can offer an alternate technology for field monitoring.
4. The online meetings proved to be a new and cost-effective modality of coordinating and holding meetings. This was experienced during the pandemic especially in holding meetings between the field staff and Management in Phnom Penh. A closer coordination can now be done with APFNet and IRD.
5. There is a need to refer to the local knowledge of the community and Local Foresters in the design of the restoration, particularly in deciding the species to plant. It was noted that there was a low survival of the planted trees since some of the species were not suitable to the site. In the case of Agroforestry and Home Garden, exotic species macadamia and pomelo did not grow well.
6. The home garden technology proved to be effective in the increasing the production of farmers. The new spatial arrangement has optimized the canopy layer and could effectively utilize the space.
7. Intermediate income can be produced underneath the canopy of woodlots by planting appropriate shade tolerant cash crops. The initial result revealed that galangal can be grown under the woodlot by modifying the canopy.

In the implementing similar project in the future, it is recommended the following:

1. A monitoring on the vegetable changes should be conducted using state of the art technologies such as UAV/drones.
2. A forest restoration project should include the welfare of stakeholders. Addressing their economic needs will motivate them to support the project.
3. Closer coordination can be made through frequent meetings using online meetings. This provide an inexpensive way of consulting the different actors remotely thereby minimizing the disturbance of the field staff from their works.
4. Designing restorations should consider the local knowledge of local experts. The community also need to be consulted on the appropriate species to plant in the area.
5. A home garden can potentially improve the condition of the farmers. The experience of the project has shown improvement of the farm lot of famer cooperators who adopted the home garden technology. This should be promoted as a practical approach in addressing poverty.
6. The partially degraded forests can be interplanted with shade-tolerant crops, such as galangal to increase intermediate income Other shade tolerant crops such as mushrooms (Ear Mushrooms), cardamom, arrow roots and other crops should be explored or tested.

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1.0 BACKGROUND AND INTRODUCTION

1.1 Project Context

The project site is located in Damrey Chakthlork Community Forestry (CF). Damrey Chak Thlork, Phnom Srouch District, Kampong Speu province. The site is a permanent national reserved forest within Prek Thnot Watershed, one of the tributaries of the Lancang-Mekong basin. Poverty is prevalent in the northernmost part of Prek Thnot watershed. The downstream part is in the southeastern part of the watershed where most of the residential areas are located. This downstream part is highly urbanized and most are vulnerable to erosion and flooding. The risk of flooding increases due to deforestation in the upland areas. The other sites of the project are in Khun Ream (Siem Reap) and in Tamao Zoo (Takeo province) where the two Forest Watcher systems were installed.

Problems/Issues to be Addressed. Prek Thnot is one of the watersheds that have a high risk of impairment of its watershed function (Hou et al., 2004). Most of the forest cover in Prek Thnot watershed is found in the northwestern part although few patches of forests could still be found in downstream part. Prek Thnot faces threats from: (1) Unabated illegal cutting of the forest areas, particularly those adjacent or within the Cardamom Mountains; (2) Fuel wood and charcoal industry. The forests in Prek Thnot watershed are major source of wood energy for Phnom Penh and nearby provincial towns; (3) Expansion of farms and agro-industries. The poor soil conditions of many smallholder farmers and Economic Land Concession (ELC) contribute to soil erosion; and (4) Migrating settlers from nearby districts within Kampong Speu province and from other provinces.

The State-owned Forests are facing problems of forest fires, illegal logging and hunting, land encroachment, grazing, and pests and diseases. The Forest Watcher System is expected to provide continuous monitoring and surveillance of the surrounding of the pilot state-owned forests, and provide reference for decision-making on forest fire prevention, forest resources reservation, and biodiversity conservation in the country.

1.2 Project Goals and Objectives

The goal of this project is to rehabilitate ecological services and provisioning services of forests in Cambodia through the improvement of community forest management and strengthening state-owned forest conservation, so as to contribute to sustainable forest management in Greater Mekong Sub-region.

Project Objectives:

1. To develop a model for community forest management by strengthening CF management and testing appropriate restoration and silviculture technology;
2. To mitigate the dependence of the communities to forests by improving household farming systems;
3. To enhance forest protection through adopting an advanced forest monitoring system (Forest Watcher); and
4. To extend achievements and related techniques in Cambodia and GMS by demonstration and experiences sharing.

1.3 Project Expected Outputs and Outcomes

Objective 1. To develop a model for community forest management by strengthening CF management and testing appropriate restoration and silviculture technology

- Output 1. CF Management Plan formulated
- Output 2. CF boundary demarcated and patrolled
- Output 3. A FA Triage nursery improved
- Output 4. Restoration and silviculture models established

Objective 2. To mitigate the dependence of community to forests by improving household farming systems

- Output 5. Village water supply system established
- Output 6. Agroforestry farming system established
- Output 7. Home garden farming system established

Objective 3, To enhance forest protection through adopting advanced forest monitoring system (Forest Watcher)

- Output 8. Forest watcher system and auxiliary facilities installed and maintained

Objective 4. To extend achievements and related techniques in Cambodia and GMS by demonstration and experiences sharing

- Output 9. An integrated forest management technology assembled and a technical handbook formulated
- Output 10. Experience and technology demonstrated and disseminated

2.0. PROJECT IMPLEMENTATION

2.1. Project Schedule and Implementation Arrangements

To implement the activities according to the work plan, the project team was briefed on the project work plans. The project team was required to develop monthly and quarterly work plans. Regular meetings were conducted with the project staff to reflect on the progress of the project and the challenges encountered in the field. The meeting was held to come up with appropriate solutions.

Despite careful planning, there are some unexpected events in the field that requires some adjustments on the work plan. The budget was also adjusted and reallocated to other activities with the approval of APFNet. Despite the adjustments, all the targets were achieved including the additional targets.

One of the contributory factors to the delay of the activities is the outbreak of COVID 19 pandemic. The Royal Government of Cambodia has imposed a lockdown and travel restrictions in many parts of the country to contain the spread of the virus, constraining the Field Staff to implement the scheduled activities. Moreover, the project is also addressing the other threats such as threats of escaped fires from adjoining agricultural lands, poor soil conditions, threats

from encroachment of stray animals, and scarcity of water during dry season.

The details of the progress of the project is presented in **Annex A.**

2.2 Project Resources and Costs

The utilization of the financial resources is shown in Table 1. An explanation was also provided on the variance between financial utilization and budget. The detailed budget is shown in Annex B.

Table 1. Budget versus Actual Expenses by Category

Category	Budget	Actual Expenses	Variance	Explanation
Project Staff Cost	9,300.00	9,300.00	-	
Consultancy Cost	79,787.00	50,180.00	29,607.00	Due to the Covid-19 pandemic and the restriction the international consultant travel.
Travel and Related Cost	67,297.00	65,278.63	2,018.37	
Meeting and Training Cost	31,900.00	31,823.62	76.38	
Field Activities Cost	208,390.00	208,143.50	246.50	
Publications and Dissemination Cost	48,035.00	41,201.00	6,834.00	
Office Operation Cost	13,120.37	12,095.02	1,025.35	
Procurement	9,600.00	9,530.00	70.00	
Monitoring, Evaluation and Audit Cost	113,571.00	80,441.64	33,129.36	External monitoring costs disallowed to use
Miscellaneous	19,642.45	4,955.07	14,687.38	

2.3 Procurement and consultant recruitment

The project purchased non consumable items (equipment and assets) needed in its operations. All the equipment asset purchased include 2 computers, 2 printers, 3 filing cabinets, 2 cameras, 1 LCD projector, 1 drone, 2 GPS, and 2 water pumps. The assets purchased by the project is listed in **Annex E**.

Six local consultants (2 for Nursery arrangement and seedlings production, 1 for Writing Technical Handbook, 1 for Writing Experience of Restoration Silviculture Management of Community Forestry and Installation of Forest Watcher System, 1 for Writing the Community Forestry Development in Cambodia, 1 for Producing Video Documentary) and 2 International

Consultants to provide technical project implementation and Community Forestry Management Plan and Nursery Improvement were hired by the project. The consultants hired by the projects are shown in the table blow.

Table 2. Consultants hired by the project

Name of Consultant	Nationality	Task	Period of the Contract
Dr. Edward Valencia Maningo	Filipino	International Consultant	2018-2021
Mr. Kourch Nathor		Nursery Arrangement and Seedling Production Training	01 Nov to 31 Dec 2018
Dr. Koy Ra	Khmer	Technical Handbook	01 Sep to 30 Nov 2021
Dr. Koy Ra	Khmer	Writing the Experience of Restoration, Silviculture Management of Community Forestry and Installation of Forest Watcher System	
Mr. Thav Sopheak		Write the Book on Community Forestry Development in Cambodia	01 Sep to 30 Nov 2020
Mr. Zhang Jinfeng	Chinese	International Consultant for Community Forestry Management Plan and Nursery Improvement	01 Jul to 31 Aug 2018
Mr. Kim Soben	Khmer	Nursery Arrangement and Seedling Production Training	01 Nov to 31 Dec 2018
Ms. Voun Soviry	Khmer	Producing Video Documentary	04 Feb to 31 May 2019

2.4 Monitoring and Evaluation and Reporting

The project has conducted regular monitoring for the implementation of the project to ensure that the activities were implemented properly. Advice and instructions were also given to address the issues and challenges encountered in the field. This is made possible due by the regular monitoring conducted by the project team. The early correction of the problems has helped in ensuring that the objectives of the project were achieved.

The project was also evaluated by an external evaluator that was commissioned by APFNet to assess the progress of the project. The External Evaluator provided recommendations to improve the implementation of the project.

The IRD has organized the following:

1. Project Steering Committee. The PSC was composed of the Director General of the FA or his representative, the APFNet representative, and selected representatives from the Academe, NGOs, or local FA. The PSC provided general guidance on the effective implementation of the project. The PSC reviewed and validated the work plan and the progress of

accomplishing the targets. It also reviewed and endorsed the AWP and progress report to the APFNet secretariat.

2. Project Implementation Unit. The unit is led by project coordinator and directly responsible to project director. This unit is composed of Provincial coordinator, administration/ financial officer, GIS staff, central project staffs and field project staff/local forestry administration officials, and international and domestic consultants. The team is responsible for developing monthly and quarterly and budget work plans, keeping the records and budget expenses and financial reports, preparing field activities, monitoring field accomplishments, and providing technical advice in the field.

The project has completed all the approved target activities. There were some activities that were changed (with the approval of APFNet) such as the cancellation of the holding of the International Conference to share the experience of the project due to the outbreak of COVID 19.

The progress of the project is presented in Section 4.1 and in **Annex A.**

During the implementation, the team faced some challenges like the threat of stray animals, low survival due to waterlogging, droughts and poor soil conditions, and threats of forest fires. Due to the unexpected challenges, the project proposed new activities such as the construction of fences, the establishment of ponds, watering of the planted plants, and the construction of firelines around restoration areas.

2.5 Dissemination and Knowledge Sharing

The project regularly conducted dissemination meetings and shared relevant documents about the project with the local forestry administration, local authorities and nearby communities. Furthermore, the project coordinator often participated in and disseminated the progress of the project, output, and experiences, and sought challenges and solutions to the projects under forestry administration or any national and sub-national workshop through virtual or online workshops. In addition, the project also distributed some of the printed documents about the project during special occasions such as National Arbor day and other important events.

3.0 PROJECT PARTNERS' PERFORMANCE

3.1 Performance of Supervisory Agency

The Supervisory Agency (FA) supervised the project through Project Steering Committee (PSC). The SA provided advice and guidance during the PSC meeting. The Project Steering Committee is composed of the Director General of Forestry Administration or his representative, a representative from academe, NGOs, provincial governor or his representative and local FA. The task of the PSC provided general guidance on the effective implementation of the project. The PSC reviewed and validated the work plan and the progress of the targets. Upon reviewing, the AWP endorsed the AWP and progress report to the APFNet secretariat.

3.2 Performance of Executing and Implementing Agency

The Executing and Implementing Agency (IRD) played a crucial role in achieving the targets of the project. The Executing Agency has fully undertaken its activities and responsibilities by ensuring that the target indicators are achieved. The Executing Agency also conducted immediate timely corrective measures resulting to the achievement of the targets. The Executing Agency is composed of project coordinator, provincial coordinator, administrative and project accountant. The task of this unit are responsible for field operations, oversee administrative matters and recorded all expense in accordance with the budget, and prepare the financial report. The role of the members of the EA are:

- Project Director (Part Time). The Project Director was responsible on general supervision of the project and deciding matters referred to him by the Project Coordinator. He served as liaison of the project and to the APFNet secretariat.
- Project Coordinator (Part Time). He is responsible on the day-to-day operation of the project and reports directly to the Project Director on matters involving technical matters, and prepares the budget plan for the project.
- Provincial Coordinator (full time). He is responsible in supervising the actual field work; coordinate the local FA and the communities involved in the project. The Provincial Coordinator worked full time of the project.
- Admin/Financial Officer. She oversees administrative matters, record all expenses in accordance with the budget, prepares the financial report.
- GIS Staff. He is responsible in preparing the GIS data files and other databases
- Central Project Staff. Assist the Project Coordinator in preparing the activity plan, and monitoring of the field accomplishments.
- Field Project Staff/Local FA Staff. Implemented the different activities in accordance with the work plan and upon the directive of the Provincial coordinators.

The different partners of the project positively contributed to the success of the project. The partners include the local authority, the project accountant and the international consultants.

The local authority supported the implementation of the project by encouraging the community to support the project. The local authority also helped in facilitating the resolution of the conflict between the Community Forestry and the ELC over the land. During the meeting, the Local Authority graced the meetings and encouraged the community's support to the project.

The Local FA supported the project in the protection of the CF where the project is located. It joined the patrol operations and admonished those who made minor violations of the CF.

The project has a Finance Specialist who helped in managing the finances and managing the budget of the project. She revised the budget and prepared the monthly, quarterly and annual budget plan, oversee project monthly expenses.

The project is assisted by a Technical advisor who is responsible in consolidating their outputs and editing the documents in English.

3.3 Performance of APFNet

The APFNet has provided support to the project and provided guidance in the preparation of the budget as well as in preparing the progress report. At the end of the first year of operation, there was a brief delay in the disbursement of the project grant. The succeeding operation however have improved and the implementation of the project went smoothly.

There was regular communication between the executing Agency and the partiers. The reports were regularly submitted and some problems were acted upon by APFNet, like in the case of a broken gadget of the Forest Watcher System that needs to be referred to the Chinese company.

The APFNet commissioned an External Evaluator to assess the performance of the project. The External Evaluator found the implementation to be satisfactory and has made recommendations (e.g. establishment of nursery by the CF and providing training to the CF on seedling production.

4.0 PROJECT PERFORMANCE

4.1 Project Achievements

1.0 Outputs and Activities

A. Objective 1: To develop a model for community forest management by strengthening CF management and testing appropriate restoration and silviculture technology

1.1 Output 1.0 Community forest (CF) development action plan formulated

Activity 1.1.1 Survey current conditions of CF and its management
Baseline: 0
Targets/Plan: 1 Survey Conducted
Accomplished

- 1 Survey Conducted
- % Accomplished: 100.0%.
- The project completed the survey led by the Chinese Consultant.

Schedule

- Plan: June 2017
- Actual: June 2017

Figure 1. Meeting conducted by the Chinese expert with the CF members

Activity 1.1.2 Formulate and print CF Development Action Plan

Activity 1.1.2.1 CF Development Action Plan Formulation

Baseline: 0

Targets/Plan: 1 Plan formulated

Accomplished

- 1 Plan formulated
- % Accomplished: **100.0%**
- The project has produced three documents for the project. The three documents were produced by Chinese Consultants.

Schedule

- Plan: Mar 2018
- Actual: Mar 2018

Activity 1.1.2.2 CF Development Action Plan Translation

Baseline: 0

Targets/Plan: 1 Plan Translated

Accomplished

- 1 Plan Translated
- % Accomplished: **100.0%**
- In supporting this activity, the project cooperated with researchers from Yunnan Academe of Forest and Grassland produced 3 types of documents. The first report was developed on current community forestry and its management. The second report is on Technical Guideline on restoration models. The third technical report is on agroforestry. These documents were translated and distributed to CF members, local forestry office, local authority, and distributed during seminars organized by FA. Totally 300 copies were distributed.

Schedule

- Plan: Aug 2018
- Actual: Aug 2018

Figure 2. Publications produced by the Chinese Expert

Activity 1.1.2.3 CF Development Action Plan Printing

Baseline: 0

Targets/Plan: 50 Plans Printed

Accomplished

- 200 copies Printed
- % Accomplished: **100.0%**
- The printed plan was distributed to CF members, local forestry office, local authority, and distributed during seminars organized by FA.

Schedule

- Plan: Aug 2018
- Actual: Aug 2018

Activity 1.1.2.4 CF Development Action Plan Distribution

Baseline: 0

Targets/Plan: 50 printed Plans Distributed

Accomplished

- 200 Plans Distributed
- % Accomplished: **100.0%**
- The CF Development Action Plan was distributed to CF members, local forestry office, local authority, and distributed during seminars organized by FA.

Schedule

- Plan: Aug 2018
- Actual: Jun 2019

Activity 1.1.2.5 Meeting to Disseminate the CFD Action Plan to Community

Baseline: 0

Targets/Plan: 1 Meeting Conducted

Accomplished

- 1 Meeting Conducted
- % Accomplished: **100.0%**
- Meeting was conducted with the CF Committee and CF members, local authority, Local Foresters

Schedule

- Plan: Jul 2019
- Actual: Jul 2019

Figure 3. Distribution with the community and the local FA on the distribution of the CF

Development Action Plan (Annex D).

1.2 Output 2.0 CF Boundary Demarcated and Patrolled

Activity 1.2.1 Make and Install Poles and Billboard

Baseline: Some concrete posts were already installed but no signboards were installed

Targets/Plan

- 100 Concrete Posts Installed
- Signboards Installed: **2**

Accomplished

- 100 Concrete Posts Installed
- Signboards Installed: **2**
- % Accomplished (Concrete Posts): **100.0%**
- % Accomplished (Signboards): **100.0%**
- The project produced and posted one hundred concretes poles and installed in the parts of the CF area that are vulnerable to encroachment. In addition, the project installed 3 billboards in a village and entry to CF areas and 3 agroforestry and home garden signboards. The purpose extended the APFNet goal, objective as well as the integrated forest ecosystem management planning and demonstration project to CF members and people who passed by the project area. The signboard presented the APFNet's goal, objective and project and shown the restoration areas. The CF members or peoples who live nearby or passed project area understand on the project.

Schedule

- Plan: Aug 2017-Oct 2017
- Actual: Aug 2017-Oct 2017

Figure 4. Production and installation of the corner posts

Activity 1.2.2 Patrol the CF

Baseline: The CF

Targets/Plan: 48 Months Conducting Patrol works

Accomplished

- 48 months conducting patrolling
- % Accomplished: **100.0%**

- The CF patrol team conducted regular patrol works throughout the implementation of the project. During the patrol operations, there were only minor disturbances of the CF that were noted, such as occasional cutting of trees for firewood. The regular patrol work enables the CF to take early actions. The patrol operation was conducted in an area that acre accessible, which would likely be the target for poachers. The CF members take turns in conducting patrol work, especially during summer since the CF members are concerned of the forest fires. Most of the forest fires are caused by farmers who burned their rice fields during site preparation or after harvesting season for ease in cultivation. During rainy season, the CF patrol team are more concerned on the stray animals. During the course of implementing the project, there were no significant forest fires that happened. But the patrol team have made three apprehensions at the first and second year of project operation. Among these 2 cases were sent to the local forestry administration. After that, there are no recorded illegal cutting. The CF members now asked permission from CF Management Committee when they need poles or collect dead trees.

Schedule

- Plan: Every month
- Actual: Every month

Figure 5. The CF patrol team

Activity 1.2.2.1 Construct a Guardhouse

Baseline: 0

Targets/Plan

- 2 Guardhouses Constructed
- Description of Indicator

Accomplished

- 2 guardhouses constructed
- % Accomplished: **100.0%**
- The constructed guardhouse measures 5m X 6m made from iron, roof with zinc. The guardhouse serves as shelter of the Patrol Team during rainy season and resting area during patrol operations.

Schedule

- Plan: Mar 2018 and Jun 2019
- Actual: Mar 2018 and Jun 2019

Figure 6. Constructed guard house for the CF Patrol Team

1.3 Output 3.0 FA Division nursery improved and maintained

Activity 1.3.1 Improve FA Division nursery
Baseline: 0
Targets/Plan: 1 Nursery Improved
Accomplished

- 1 nursery improved
- % Accomplished: **100.0%**
- The nursery improved measures 6m X 9m made of metal frames and covered by green net. The seedlings produced are mainly rosewood, Dipterocarp species and bamboo, the nursery may consist around 1,500 seedlings.

Schedule

- Plan: Jun 2017
- Actual: Sep 2017

Activity 1.3.2 Raise seedlings in the nursery
Targets/Plan

- Seedlings Produced: **2,500**
- Description of Indicator

Accomplished

- 40,033 seedlings produced
- % Accomplished: **100.0%**
- The purpose of the production of seedlings are for plantation in CF, for replanting and for distribution. The nursery helped in the seedling dispersal program of the government. The seedlings produced are as follows:

Table 3. Seedlings Produced in FA nursery

Species	No. of Seedlings Produced	How these are Used/ Distributed
Year 1- Year 3		
Dalbergia cochinchinensis	1,500	2,834 seedlings

Species	No. of Seedlings Produced	How these are Used/ Distributed
Pterocarpus marcrocarpus	1,300	2,834 seedlings
Dalbergia oliveri	1,000	1,089 seedling
Sindora cochinchinensis	1,400	
Cassia siamea	7,000	20,000 seedlings
Afzelia xylocarpa	500	Distributed
Anisoptera costata	500	Distributed
Delonix regia	400	Distributed
Lagerstroemia floribunda	500	Distributed
Lemon	50	Planted in AF
Mangoes	50	Planted in AF

Schedule

- Plan: 2017 Jun; 2018 Jun; 2019 Jun
- Actual: 2017 Aug; 2018 Jun; 2019 Jun

Activity 1.3.3 CF Seedling Production

Baseline: 0

Targets/Plan: ad hoc

Accomplished

- 4,095 seedlings produced
- % Accomplished: 100%
- The CF produced 3,800 *Dalbergia cochinchinensis*, 100 *Afzelai xylocarpa*, 120 *Dalbergia bariensis* and 75 bamboos. The purposed is produce seedling for plantation in CF, agroforestry and commercials. 500 seedling plant in CF area (200 *Dalbergia cochinchinensis*, 50 *Afzelia xylocarpa* and 50 *Dalbergia bariensis*. Due to the nursery built lately last year, so the seedling not big enough for plantation and distribution. Originally the production of seedlings in the CF was not in the project document. The seedling production was in compliance to the recommendation of the External Evaluator to strengthen the capacity of the CF to produce seedlings.

Table 4. Seedlings Produced in CF nursery

Species	**No. of Seedlings Produced**	**Use of the Seedlings / Distributed**
Dalbegia cochinchinensis	3,800	Planted at the CF=200 Distributed=3,600
Afzelia xylocarpa	100	Planted at the CF=50 Distributed=50
Dalbergia bariensis	120	Planted at the CF=50 Distributed=70
Bamboos	75	Distributed=75
Total	**4,095**	**Planted at the CF=300**

Species	No. of Seedlings Produced	Use of the Seedlings / Distributed
		Distributed=3,795

Schedule

- Plan: 2021 Jun
- Actual: 2021 Jun

Figure 7. Constructed CF nursery and seedlings produced

Activity 1.3.3.1 Training of CF on Seedling Production

Baseline: 0

Targets/Plan: 1 Training

Accomplished

- 1 training conducted
- % Accomplished: **100.0%**
- The training involved topics on seedling productions, treatment, compost making, nursery arrangement and maintained. The training was conducted for 3 days by IRD staff who have experience on seedling productions, collection and storage involving both theory and hands on. The participants of the training are CF members and local forestry administration officer and was conducted in Dokpor village, Kraing Devai Commune. The training on CF production was recommended by the External Consultant during the evaluation of the project.

Schedule

- Plan: November, 2021
- Actual: November, 2021

Figure 8. Training conducted with the CF members on seedling production

1.4 Output 4.0 Restoration and silviculture models established and maintained

Activity 1.4.1 Design and prepare soil for 3 types of degraded forestlands
Baseline: 0
Targets/Plan: 1 planting design developed for the restoration area
Accomplished

- 1 planting design developed
- % Accomplished: **100.0%**
- The restoration area was classified into 4 zones: (1) Open Area; (2) Seriously Degraded Area; (3) Moderately Degraded Area; and (4). Dense Forest.

Schedule

- Plan: 2017 Aug
- Actual: 2017 Aug

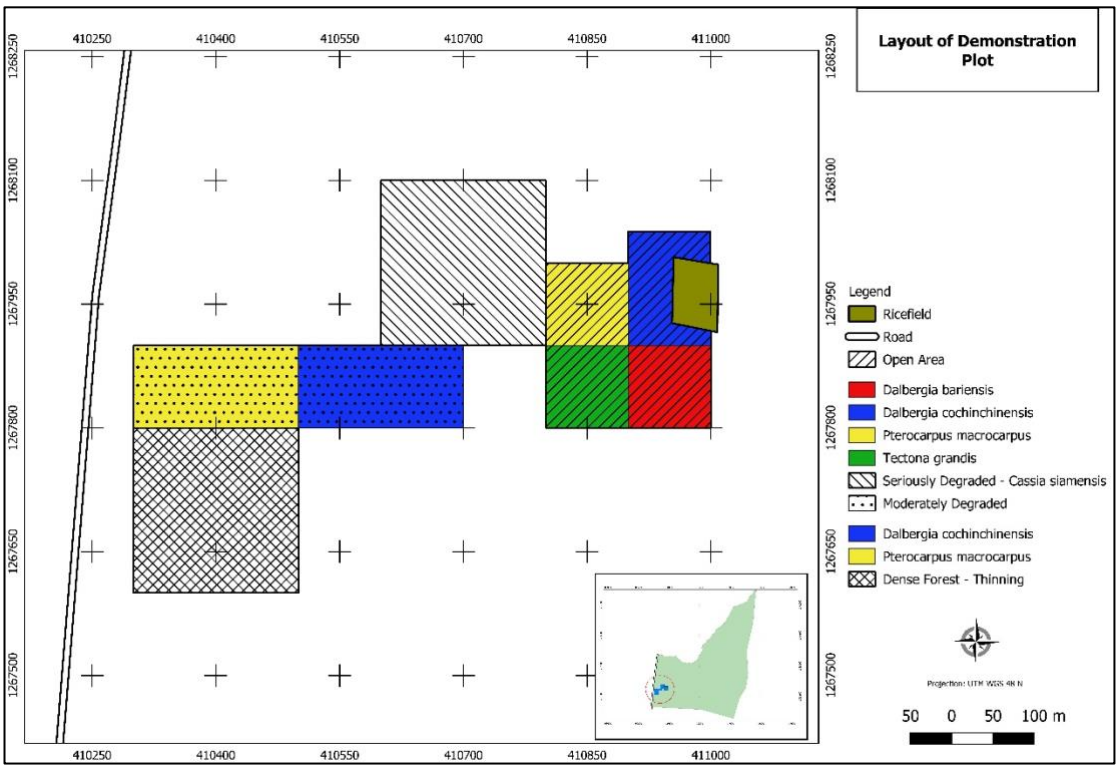


Figure 9. Planned development in the restoration area

Activity 1.4.2 Plant and maintain restored forests

Activity 1.4.2.1 Plant Restoration Area

Baseline: 0

Targets/Plan: 12 hectares Area Planted and Restored and planted with approximately 27,573 seedlings.

Accomplished

- 12 hectares planted with **38,833 seedlings**
- % Area Planted: **100.0%**
- % Seedlings Planted: **100.0%**
- The planted seedlings include *Pterocarpus marcrocarpus*: 2,834 seedlings; *Dalbergia cochinchinensis*: 2,834 seedlings; *Dalbergia oliveri* 1,089 seedlings; *Sindora cochinchinensis*: 900 seedlings; *Cassia siamea* and *Albizia lebbeck* 16,500 seedlings. Currently, the seedlings are being mostly 1.20m to 4m.

Schedule

- Plan: 2017 Nov; 2018 Nov; 2019 Nov
- Actual: 2017 Nov; 2018 Nov; 2019 Nov

Figure 10. CF members planting seedlings in the restoration area

Activity 1.4.2.2 Tending/Weeding of Plants in Open, Moderately and Severely Degraded Plots (Maintenance of Replanted Areas)

Baseline: 0

Targets/Plan: 12 hectares (3 blocks) maintained

Accomplished

- 12 hectares were maintained throughout the duration of the project
- % Accomplished: **100.0%**
- About 2,000 seedlings were planted in the dense forest, included 1,000 *Dalbergia cochinchinensis*, 500 *Pterocarpus macrocarpus*, and 500 *Dipterocapus intricatus*. The planted seedlings are now approximately 1m to 2.5m.

Schedule

- Plan: 2017 Nov; 2018 Sep; 2019 Jun; 2020 Aug
- Actual: 2017 Nov; 2018 Sep; 2019 Jun; 2020 Aug

Figure 11. CF members conducting silvicultrual treatment to the plots with dense trees

Activity 1.4.2.3 Replanting of Degraded/Open, Moderately and Severely Degraded Plots

Activity 1.4.2.3.1 Replanting of Degraded/Open, Moderately and Severely Degraded Plots - Using Ordinary Seedling Method

Baseline: 0

Targets/Plan

- 12 Hectares Replanted
- 9,624 Seedlings Replanted

Accomplished

- 12 Hectares Planted/Replanted
- 9,624 Seedlings planted/Replanted
- % Accomplished Hectares Replanted: **100.0%**
- % Accomplished Seedlings Replanted: **100.0%**
- There were 6 species were planted in restoration areas and 24,157 seedlings were planted. The seedlings are now 1m to 4 meters with survival of approximately 56 percent.

Schedule

- Plan: 2018 Nov; 2019 Nov
- Actual: 2018 Nov; 2019 Nov

Figure 12. CF members conducting replanting in the restoration plots

Activity 1.4.2.3.2 Replanting Open Areas Using Miyawaki Method (Seedlings)

Baseline: 0

Targets/Plan: 3,000 sq.m. (30 x 100 m) planted for the Miyawaki Method

Accomplished

- 1,350 seedlings planted in a 3,000 plot
- % Area Planted: **100.0%**

Schedule

- Plan: 2019 Nov
- Actual: 2019 Nov

Figure 13. The community developing the Miyawaki Plots

Activity 1.4.2.3.3 Apply Water Retaining Agent

Baseline: 0

Targets/Plan: 8 blocks Maintained and Restored

Accomplished

- 8 blocks Accomplished
- % Accomplished: **100.0%**
- The water retaining agent was brought from China and provided by Chinese experts

Schedule

- Plan: 2018 Nov
- Actual: 2018 Nov

Activity 1.4.2.4 Installation of water tank standing supporter and irrigation system

Baseline: 0

Targets/Plan: 1 Water Tank Installed

Accomplished

- 1 water tank installed
- % Accomplished: **100.0%**

Schedule

- Plan: 2018 Jun
- Actual: 2018 Jun
- The water tank has a capacity of 1,000 liters.

Figure 14. Water tank installed

Activity 1.4.2.5 Watering of Seedlings

Baseline: 0

Targets/Plan: 12 Hectares Watered

Accomplished

- 12 Hectares Watered
- No. of Times Watered: **8**
- % Accomplished: **100.0%**
- Watering was conducted in 12 ha, however the watering applied only during summer for open or degraded areas. Around 45 percent of seedlings were watered. The watering was conducted twice a day from February to May. Due to regular watering during summer, the seedling survival have increased.

Schedule

- Plan: 2018 Jun; 2019 Aug;
- Actual: 2018 Jun; 2019 Aug;

Figure 15. The staff of IRD conducting watering of the planted seedlings

Activity 1.4.2.6 Purchase and Apply Fertilizers

Baseline: 0

Targets/Plan: 16 Hectares Applied with Fertilizers

Accomplished

- 16 hectares applied with fertilizers
- % Accomplished: **100.0%**
- The project applied NPK (20-20-15TE) and (18-46-0) to the 12 hectares. Each plant was applied with approximately 100-200 g of mixed fertilizers.

Schedule

- Plan: 2018 Nov; 2019 Jul
- Actual: 2018 Nov; 2019 Jul

Figure 16. The CF members applying fertilizers

Activity 1.4.2.7 Construction of Pond
Baseline: 0
Targets/Plan: 2 Ponds Constructed
Accomplished

- 2 ponds constructed
- % Accomplished: **100.0%**
- Two ponds were constructed in the second year and in the third year. Each pond has a capacity to sore water of around 500 m3.

Schedule

- Plan: 2018 Aug; 2019 Jun
- Actual: 2018 Aug; 2019 Jun

Figure 17. Pond constructed

Activity 1.4.2.8 Construction of Drainage Canal

Baseline: 0

Targets/Plan: 1 km Drainage Canal Constructed (kms)

Accomplished

- 1 km drainage canal constructed
- % Accomplished: **100.0%**

Schedule

- Plan: 2018 Jul
- Actual: 2018 Jul

Figure 18. Drainage canal constructed in the restoration site

Activity 1.4.2.9 Construction/Maintenance of Fireline/Firebreak

Baseline: 0

Targets/Plan: 9 Kms. Fireline/Firebreak Constructed/Maintained

Accomplished

- 12 kms constructed/maintained
- % Accomplished: **100.0%**
- The width of the fireline is 5m. The fireline was constructed around restoration areas.

Schedule

- Plan: 2017 Jun; 2018 Jun; 2019 Oct;
- Actual: 2017 Jun; 2018 Jun; 2019 Oct;

Figure 19. Fireline constructed around the project site

Activity 1.4.2.10 Maintenance/Repair of Restoration Fence

Baseline: 0

Targets/Plan: 1 Km. of fence Repaired

Accomplished

- 1 km fence repaired
- % Accomplished: **100.0%**

Schedule

- Plan: 2017 Oct; 2018 Jun; 2019 Jun
- Actual: 2017 Oct; 2018 Jun; 2019 Jun

Figure 20. CF members repairing the fence

Activity 1.4.3 Clear, plant and tend in dense forest

Activity 1.4.3.1 Clear and tend in dense forest

Baseline: 0

Targets/Plan: 4 hectare maintained

Accomplished

- 4 hectare maintained
- % Accomplished: **100.0%**

Schedule

- Plan: 2018 Jan; 2018 Sep; 2019 Jul
- Actual: 2018 Jan; 2018 Sep; 2019 Jul
- The project conducted thinning and tending activities by removing poor quality tree species (crooked, damaged or non-commercial species and grasses) to improve the tree quality and encourage the potential crop trees to grow.

Figure 21. The CF members conducting maintaining the dense forest

Activity 1.4.3.2 Enrichment Planting in dense forest

Baseline: 0

Targets/Plan

- 4-hectare dense forest was Planted and Restored
- 4,000 Seedlings Planted/Replanted

Accomplished

- 4 Area Planted and Restored
- 5,567 Seedlings Planted/Replanted
- % Area Planted: **100.0%**
- % Seedlings Replanted: **100.0%**
- About 2,000 seedlings were planted in the dense forest. These include 1,000 *Dalbergia cochinchinensis*, 500 *Pterocarpus macrocarpus*, and 500 *Dipterocapus intricatus*. The plants are now approximately 0.60m to 2.0m with a survival rate of 56 percent.

Schedule

- Plan: 2018 Jan; 2018 Sep
- Actual: 2018 Jan; 2018 Sep

Objective 2 To mitigate the dependence of community to forests by improving household farming systems

1.5 Output 5.0 Village water supply system established

Activity 1.5.1 Stabilize pond dike and install pumping facilities

Activity 1.5.1.1 install pumping facilities

Baseline: 0

Targets/Plan: 2 Pumping Facilities installed

Accomplished

- 2 Pumping Facilities installed
- % Accomplished: **100.0%**
- The project installed a 14HP water pump engine.

Schedule

- Plan: 2017 Sep; 2019 Jun
- Actual: **2017 Dec; 2019 Jun**

Figure 22. Machine used to run the water pump

Activity 1.5.1.2 Stabilize pond dike

Baseline: 0

Targets/Plan: 1 Pond Stabilized

Accomplished

- 1 pond stabilized
- % Accomplished: **100.0%**
- The project used grasses and Cassia siamea in stabilizing the pod dike.

Schedule

- Plan: 2018 Nov
- Actual: 2018 Nov

Figure 23. CF members stabilizing the dikes of the water pump

Activity 1.5.2 Lay out main water pipe from the pond to the village
Baseline: 0
Targets/Plan: 1 Pipes Installed
Accomplished

- 1 Pipes Installed
- % Accomplished: **100.0%**
- There are 51 HHs who got connected by the water system. The pipes are approximately 2,000m of main pipes (100 mm diameter). After constructing the water tank and pipes, the project organized the water user group. The members elected their officers and formulated their internal rules. The water user group have implanted the work by themselves in coordination with the CF Management Committee.

Schedule

- Plan: 2017 Jul
- Actual: 2017 Aug

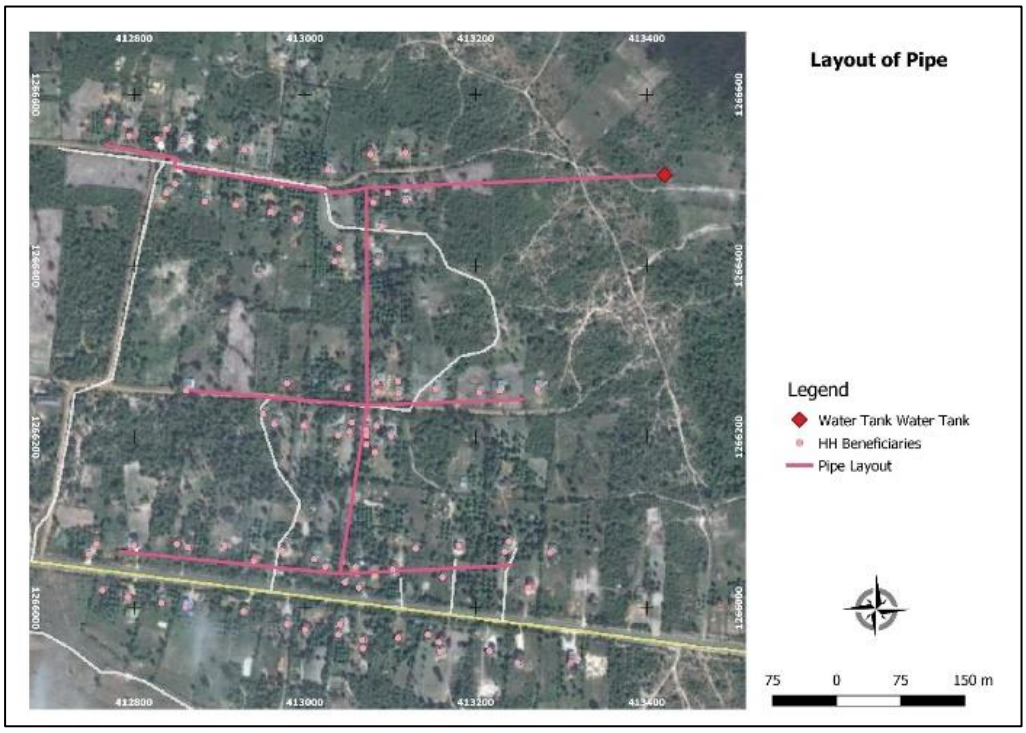


Figure 24. Layout of the water pipe

Figure 25. CF members laying out the water pipes

Activity 1.5.2.1 Maintain the water pipe/Water distribution system

Baseline: 0

Targets/Plan: 1 Pipes Maintained

Accomplished

- The existing piping system was accomplished
- % Accomplished: **100.0%**

Schedule

- Plan: Regular/As the need arises
- Actual: Throughout the project


Figure 26. The CF members conducting repair of the pipe system

1.6 Output 6.0 Agroforestry farming system established

Activity 1.6.1 Prepare soil, irrigation facilities and seedlings (including import)
Baseline: 0
Targets/Plan: 1 site prepared
Accomplished

- 1 Irrigation Facilities Installed
- % Accomplished: **100.0%**

Schedule

- Plan: 2017 Sep
- Actual: 2017 Sep

Activity 1.6.2 Plant and maintain cash trees and vegetables in Agroforestry Site

Activity 1.6.2.1 Plant Cash trees and vegetables in Agroforestry site
Baseline: 0
Targets/Plan: 1 Agroforestry Site (1.2 Ha.) Planted
Accomplished

- 1 AF site developed
- % Accomplished: **100.0%**
- The planted trees in AF include exotic species from China (Macadamia and Pomelos) and other native cash trees such: mangoes, cashews, limes, bananas, bamboos and other cash crops. The total area of the AF is 1.2 ha. In the last 2 years, cashew start to bear fruit and expected to increase the fruits by next year. Currently price of cashew nut around $1.5 per kilo in village. Since the AF technology was conducted, the soil erosion decreases

Schedule

- Plan: 2017 Sep
- Actual: 2017 Sep

Figure 27. Site of agroforestry site developed

Activity 1.6.2.2 Maintain cash trees and vegetables in Agroforestry site (1.2 Ha.)
Baseline: 0
Targets/Plan: 1 site (1.2 Ha.) Maintained
Accomplished

- 1 site (1.2 Ha.) maintained
- % Accomplished: **100.0%**

Schedule

- Plan: Throughout the project
- Actual: Throughout the project

1.7 Output 7.0 Home garden farming system established and maintained

Activity 1.7.1 Prepare soil, irrigation facilities and seedlings
Baseline: 0
Targets/Plan: 1 Site Developed
Accomplished

- 1 site developed
- % Accomplished: **100.0%**

Schedule

- Plan: 2017 Sep
- Actual: 2017 Sep

Activity 1.7.2 Plant and Maintain Cash Trees and Peppers

Activity 1.7.2.1 Woodlot established and Maintained

Activity 1.7.2.1.1 Development/Planting of Woodlot
Baseline: 0
Targets/Plan: 1 Site Developed
Accomplished

- 1 site developed
- % Accomplished: **100.0%**
- The woodlot is established in the farm of Mr. Neang Nem who is a CF member. The woodlot is approximately 7,433 m2. Seven strip lines were established, where the undesirable trees were thinning and interplanted with galangal, turmeric, and Chinese ginger.

Schedule

- Plan: 2018 Jun
- Actual: 2018 Jun

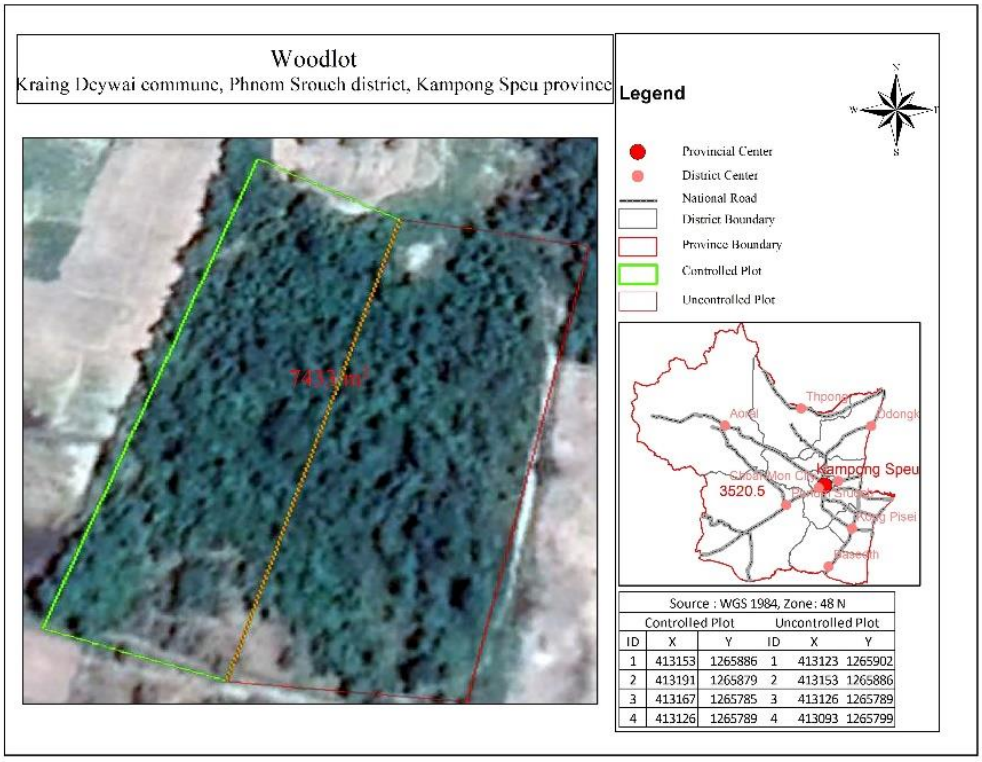


Figure 28. The aerial view of the woodlot

Figure 29. Galangal planted under the woodlot

Activity 1.7.2.1.2 Maintenance of Woodlot
Baseline: 0
Targets/Plan: 1 woodlot maintained
Accomplished

- 1 Woodlot Site Maintained
- % Accomplished: **100.0%**
- Currently crops grow well, even if poorly maintained by land owner. Due to lack of market, the farmer did not harvest the crops for marketing but only used it for home consumption. In the thinned plot, the remaining indigenous trees are growing well compared to the non-thinned plots.

Schedule

- Plan: Year 2018 - 2022
- Actual: Year 2018 – 2022

Figure 30. The owner maintained the galangal under the woodlot.

Activity 1.7.2.2 Plant cash trees and peppers for Home Garden

There were 2 HHs that cooperated with the project. Their combined farmlot is 6,152.5m2. The crops planted were Pomelo, Macadamia, oranges, bananas, and cash crops.

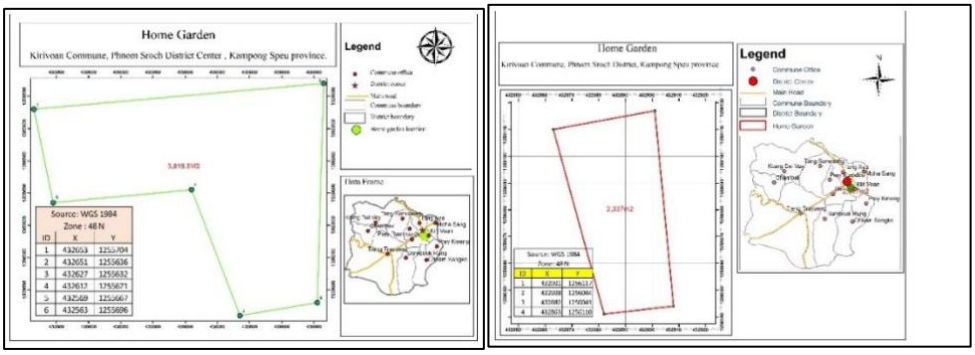


Figure 31. Configuration of the home garden lot in Krang Deivay CF.

Activity 1.7.2.2.1 Plant cash trees and peppers for Home Garden 1st Site (Krang Deivay)
Baseline: 0
Targets/Plan: 2 sites developed
Accomplished

- 2 sites developed
- % Accomplished: **100.0%**
- In the first site, the farmer did not tend his home garden because he became busy working in a private company outside their village.

Schedule

- Plan: 2018 Jan
- Actual: 2018 Jan

Activity 1.7.2.2.2 Plant cash trees and peppers for Home Garden 2nd Site
Baseline: 0
Targets/Plan: 1 garden site
Accomplished

- 1 garden site
- % Accomplished: **100.0%**

Schedule

- Plan: 2018 Jan
- Actual: 2018 Jan

Activity 1.7.2.2.3 Plant cash trees and peppers for Home Garden 3rd Site (Krang Serie)
Baseline: 0
Targets/Plan: 3rd home garden site (with 2 farmers) developed
Accomplished

- 2 farmers who developed their farms for Home Garden
- % Accomplished: **100.0%**
- There are 2 farmer cooperators who developed their farms for home garden: (1) Mr. Long Him with an area of 3,815.5 sq.m. and (2) Mr. Prak Koun with an area of 2,337

sq.m. Their lot were planted with cucumber, celery, string bean, lettuce, water melon, tomato etc. The planting materials were provided by the project. The farmer cooperators were able to harvest 400 kg- 700 kg/month and they can earn income $350 to $750/per month.

Schedule

- Plan: 2019 Mar
- Actual: 2019 Mar

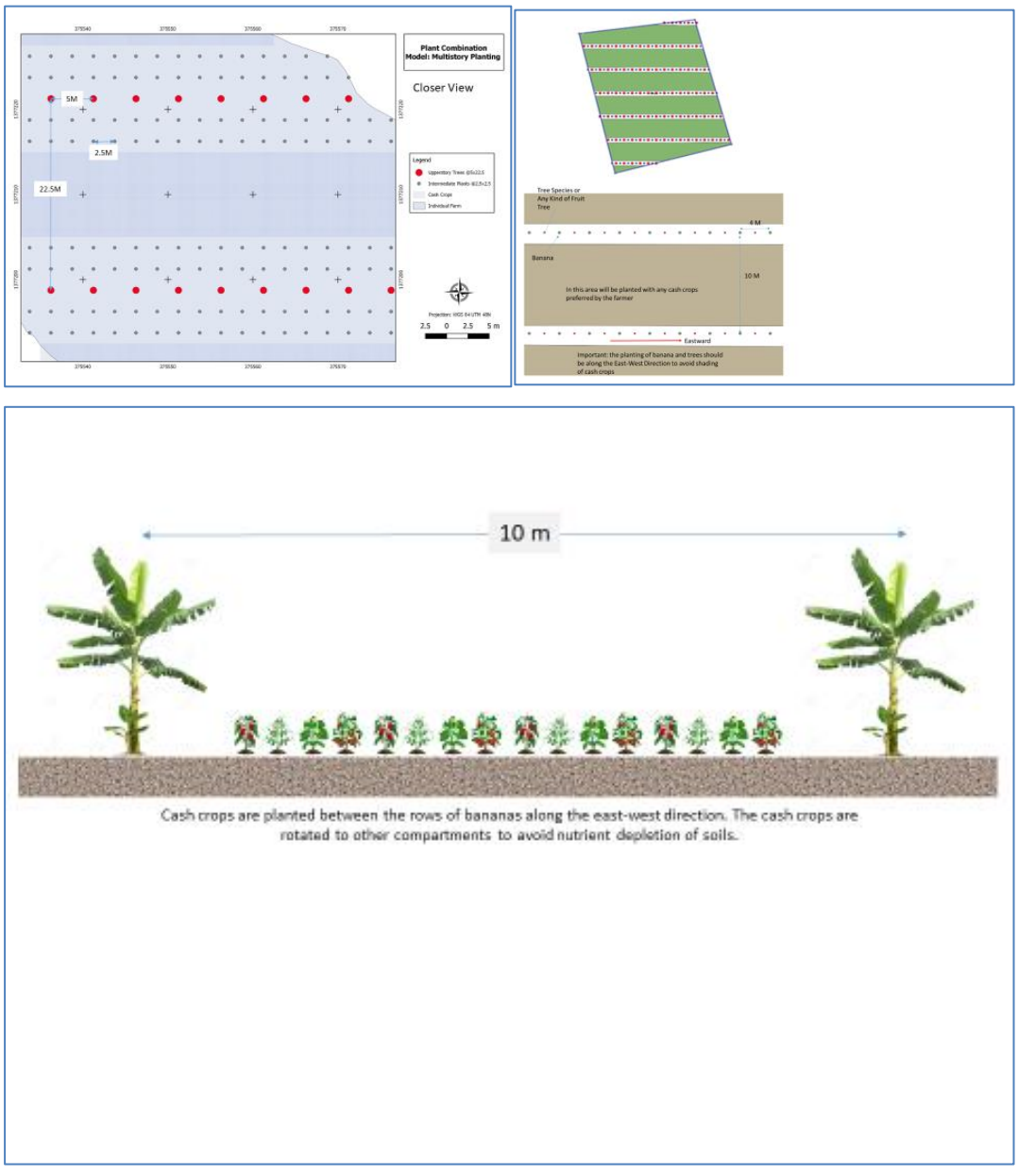


Figure 32. Design of home garden in Krang Serie CF

Figure 33. The crops raised in the home gardens in Krang Serie CF

Activity 1.7.2.3 Maintain cash trees and peppers in Home Garden

Activity 1.7.2.3.1 Maintain cash trees and peppers for home garden in first Site
Baseline: 0
Targets/Plan: 1 home garden site (with 2 farmers) Developed/Maintained
Accomplished

- 1 home garden (with 2 farmers) developed
- % Accomplished: **100.0%**
- The maintenance of the first site was discontinued after the farmer expressed disinterest to maintain his farm.

Schedule

- Plan: Until 2018 only
- Actual: Until 2018 only

Activity 1.7.2.3.2 Maintain cash trees and peppers for home garden in Second Site
Baseline: 0
Targets/Plan: 1 site developed
Accomplished

- 1 home garden site developed.
- % Accomplished: **100.0%**
- The maintenance of the farm was discontinued after the farmer changed his career/focus on business.

Schedule

- Plan: Until 2018 only

- Actual: Until 2018 only

Activity 1.7.2.3.3 Maintain cash trees and peppers for home garden in Third Site
Baseline: 0
Targets/Plan: 1 site developed (with 2 farmers)
Accomplished

- 1 site (with 2 farmers) developed for home garden
- % Accomplished: **100.0%**

Schedule

- Plan: Throughout the project
- Actual: Throughout the project

Objective 3 To enhance forest protection through adopting advanced forest monitoring system (Forest Watcher)

1.8 Output 8.0 Forest watcher system and auxiliary facilities installed and maintained

Activity 1.8.1 Survey, design and construct auxiliary facilities
Baseline: 0
Targets/Plan: 2 Forest Watcher sites surveyed
Accomplished

- 2 forest watcher sites identified and located
- % Accomplished: **100.0%**
- There are two sites for the Forest Watcher System: (1) Tamao zoo; and in (2) Khun Ream, Siem Reap.

Schedule

- Plan: 2018 Jan
- Actual: 2018 Jan

Activity 1.8.2 Deliver and install forest watcher system
Baseline: 0
Targets/Plan: 2 Forest Watchers Installed
Accomplished

- 2 Forest Watchers installed
- % Accomplished: **100.0%**

Schedule

- Plan: 2018 Feb
- Actual: 2018 Feb.

Activity 1.8.3 Test system, train personnel, and process data/images
Baseline: 0
Targets/Plan: 2 Forest Watchers initiated
Accomplished

- 2 Forest Watchers initiated
- % Accomplished: **100.0%**

- Four forestry administration were trained in China for forest watcher system management: 2 from IRD (Mr. Seab Kimsrim, Mr. Sreng Sineath), and 2 from Tamao zoo (Mr. Preap Socheat and Mr. Ok Kroy). The forest watcher system management trained by the forest watcher company.

Schedule

- Plan: 2018 Feb
- Actual: 2018 Feb

Activity 1.8.4 Maintain and repair the watcher system

Baseline: 0

Targets/Plan: 2 repair watcher systems maintained

Accomplished

- 2 forest watcher systems.
- The forest watcher was not properly operated since the forest watcher systems breaks down.

Schedule

- Plan: 2018 May - Throughout the project; expect in 2019 May where only one system worked
- Actual: 2018 May - Throughout the project; expect in 2019 May where only one system worked

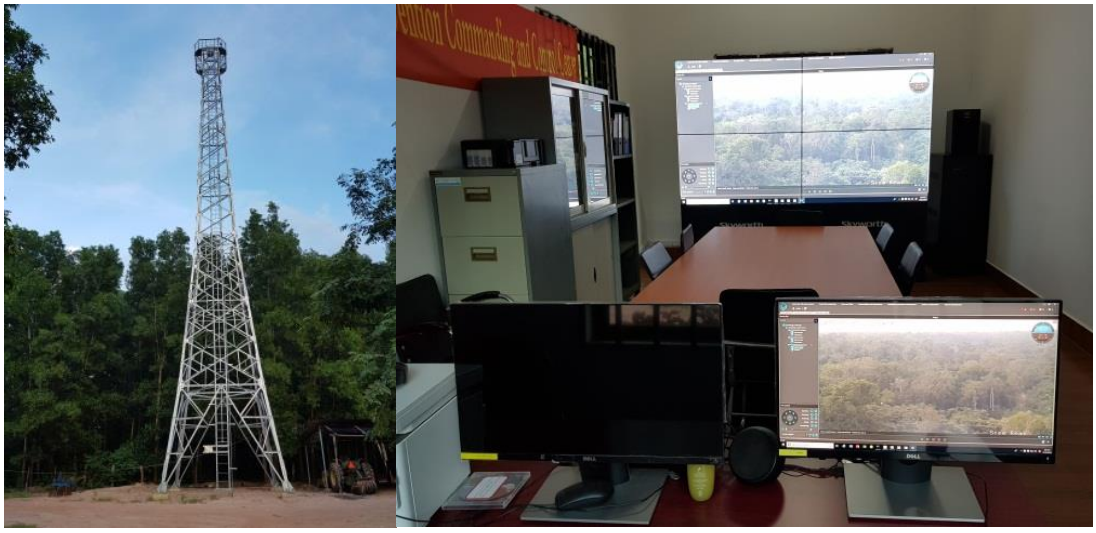


Figure 34. Forest Watcher tower (left) and the monitors in the office

Objective 4 To extend achievements and related techniques in Cambodia and GMS by demonstration and experiences sharing

1.9 Output 9.0 An integrated forest management technology assembled and a technical handbook formulated

Activity 1.9.1 Summarize technologies of CF restoration and silviculture and experiences of forest watcher construction

Baseline: 0

Targets/Plan: 1 CF restoration and silviculture and experience of forest watcher construction handbook published

Accomplished

- 1 technologies published
- % Accomplished: **100.0%**
- The project printed 50 copies each based on project work plan. Some of the hand books some were distributed to participant during any workshop organize by FA.

Schedule

- Plan: 2020 Nov
- Actual: 2021 Jun

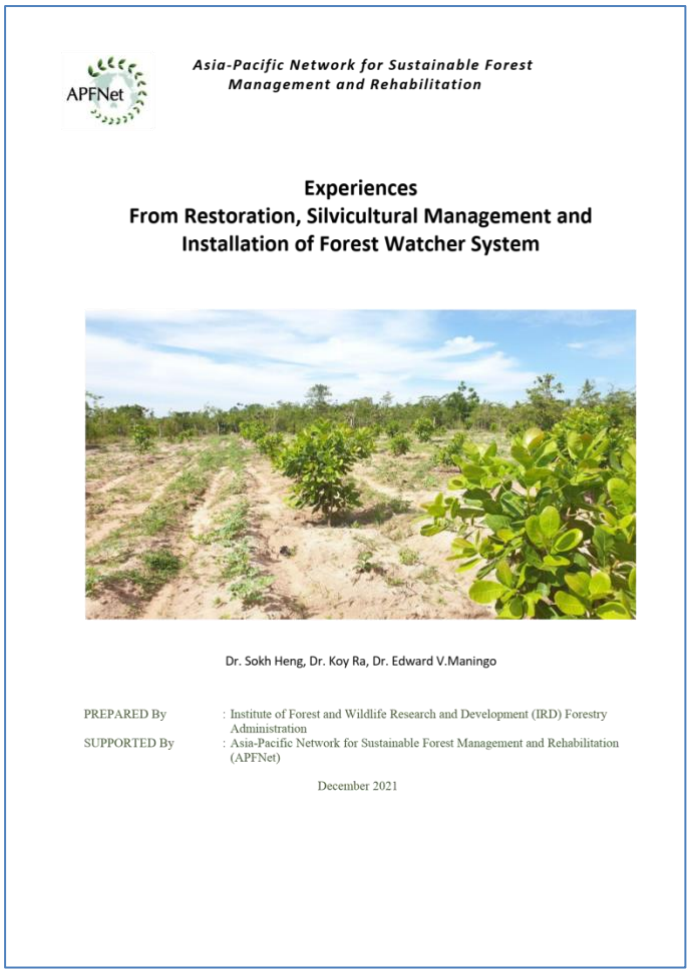


Figure 35. Publication of the experience on the restoration technologies

Activity 1.9.2 Formulate technical handbooks for integrated CF management and for the watcher operation

Baseline: 1 Handbook Produced

Targets/Plan

- Handbook Produced: **1 handbook produced**
- Copies Produced: **150 copies produced**

Accomplished

- 1 Handbook Produced

- 150 Copies Produced

% Accomplished

- Handbook Produced: **100%**
- Copies Produced: **100%**
- The project printed 60 copies (20 copies each) of the handbook. These were distributed to the FA official and stakeholders.

Schedule

- Plan: 2021 Apr
- Actual: 2021 Jun

1.10 Output 10.0 Experience and technology demonstrated and disseminated

Activity 1.10.1 Organize workshops and field visits of domestic foresters

Activity 1.10.1.1 Organize a Workshop

Baseline: 0

Targets/Plan: 2 Workshops Conducted

Accomplished

- 1 workshop conducted
- % Accomplished: **100.0%**

- The project workshop was participated by National and sub-national FA, community forestry committees, university professor and students and NGOs who involve in project areas.

Schedule

- Plan: 2019 May
- Actual: 2022 May 2022

Figure 36. Workshops conducted by the project

Activity 1.10.1.2 Organize a Field Visit

Baseline: 0

Targets/Plan: 1 visit conducted

Accomplished

- 1 field visit conducted
- % Accomplished: **100.0%**
- The participants were brought to Khun Ream Research Station in Siem Reap to observe the application of the Forest Watcher System.
- A field visit was organized by the project for the participants (Forestry Administration officials, university professors and students) visited in restoration areas and home gardens in Siem Reap. Among the lessons learned from the field visit is the need to learn the customs of the people, the weather as well as the soil properties and suitable crops before developing the site for home garden. The project could consider plants or crops that suitable to drought-prone areas.

Schedule

- Plan: 2020 Jun

- Actual: 2022 May

Figure 37. The participants of the field visit

Figure 38. Field visits conducted by the trainees in Khun Ream Research Station

Activity 1.10.2 Publish a Book of CF Development in Cambodia

Baseline: 0

Targets/Plan: 1 Book developed

Accomplished

- 1 Book Published
- % Accomplished: **100.0%**
- The book was written and published by Yunnan Academy of Forestry and Grasslands

Schedule

- Plan: 2019 Mar
- Actual: 2021 Jun

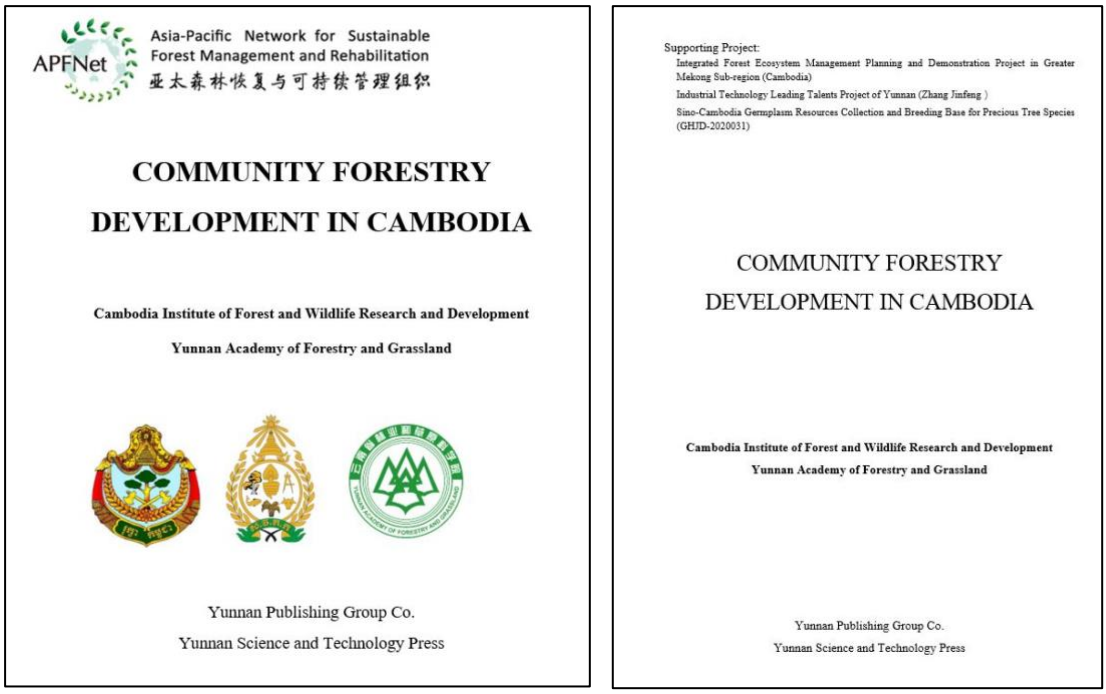


Figure 39. Book cover of publication of the CF Development in Cambodia

Activity 1.10.3 Draft and submit a policy initiative of CF management to FA

Baseline: 0

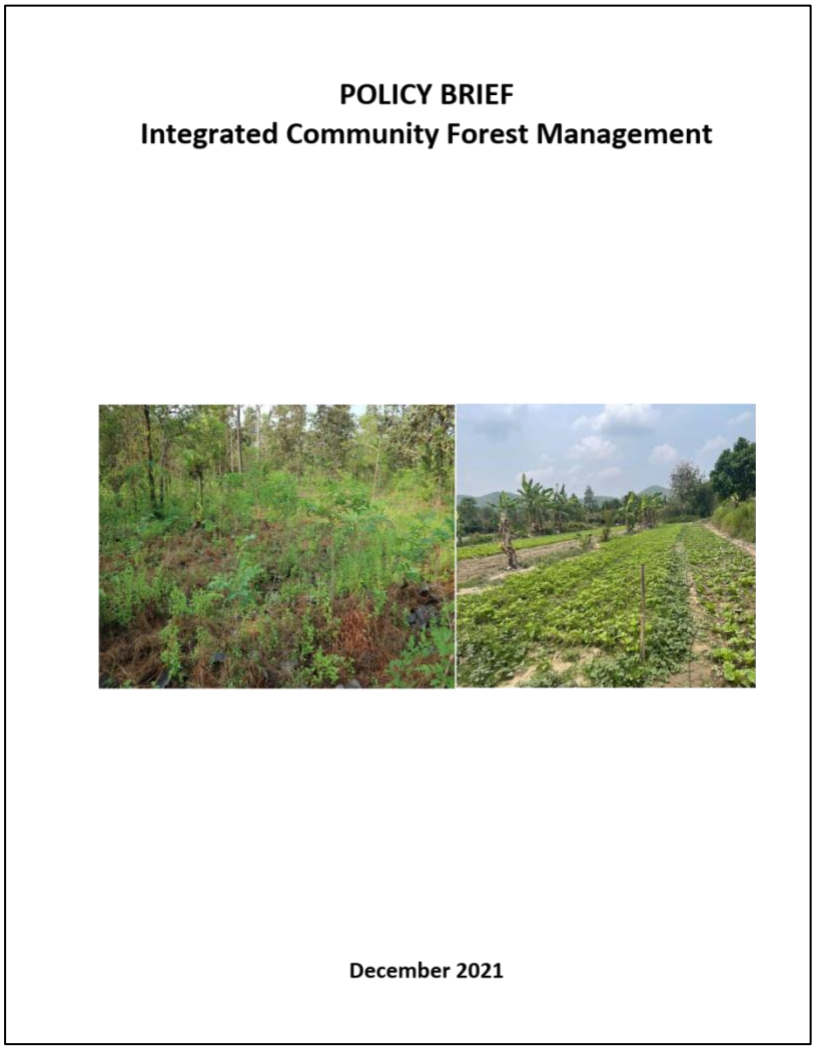
Targets/Plan: 1 Policy Brief Produced

Accomplished

- 1 Policy brief published
- % Accomplished: **100.0%**
- Based on the budget plan, the project produced 50 copies for each, or a total of 150 copies. A total of 90 copies were distributed to participants during workshop. These document were distributed to FA official and university students.

Schedule

- Plan: 2020 Jun
- Actual: 2021 Jun



Activity 1.10.4 Participate APFNet's project experience sharing conferences
Baseline: 0
Targets/Plan: 1 Conferences Participated
Accomplished: This target was requested no longer implanted due to the restriction of the Royal Government of Cambodia to travel in the height of the COVID 19 pandemic. A permission was approved by APFNet to revise the target.

2.0 Meetings and trainings

Activity 2.1 Inception meeting
Baseline: 0
Targets/Plan: 1 Inception Meeting conducted
Accomplished

- 1 Inception Meeting conducted
- % Accomplished: **100.0%**
- The inception meeting participated by national and sub national FA, local authorities and community forestry committee within and nearby project areas.

Schedule

- Plan: 2017 Jul
- Actual: 2017 Jul

Activity 2.2 PSC meetings

Baseline: 0

Targets/Plan: 1 PSC meeting

Accomplished

- 1 PSC Meetings Organized
- % Accomplished: **100.0%**
- The meeting participated by PSC chief, and members.

Schedule

- Plan: 2018 Jan
- Actual: 2018 Jan

Figure 40. PSC meeting conducted

Activity 2.3 Mid-evaluation meeting

Baseline: 0

Targets/Plan: 1 Mid Evaluation Meeting conducted

Accomplished

- 1 Mid Evaluation Meeting conducted
- % Accomplished: **100.0%**

Schedule

- Plan: 2019 Jun
- Actual: 2020 Feb

Activity 2.4 Project Completion Meeting

Baseline: 0

Targets/Plan: 1 Completion Meeting

Accomplished

- 1 completion meeting conducted
- % Accomplished: 10**0.0%**

- The workshop was conducted in Kampong Speu town. It was participated by National and sub-national FA officials, university students, local authorities and community forestry committees.

Schedule

- Plan: 2022 Jun
- Actual: 2022 May

Activity 2.5 Coordination Meetings

Baseline: 0

Targets/Plan: 12 Meetings conducted

Accomplished

- 13 Coordination Meetings Held
- % Accomplished: **100.0%**
- The coordination meeting conducted quarterly. The meeting purpose is to review field progress activities, budget plan and find out the challenges and solutions. The meeting organized by project director or project coordinator and participated by project team. The meeting also reviewed the progress activities in the field, the challenges and the propose planned activities, as well as the budgetary requirement to carry out the plan. during the meeting, solutions on some issues in the field were also tackled and were given solution.

Schedule

- Plan: Throughout the project
- Actual: Throughout the project

4.0 Communication and Dissemination

For the communication and dissemination, the project produced booklets, posters and video materials for distribution.

Targets/Plan

- Booklets designed: **Annex** 4 Booklets designed
- Booklets published/distributed: **50**
- Posters designed: **Annex 3** Posters designed
- Posters published/distributed: **25**

- Video Clip Production Produced: **1 Annex** Video Clip Production Produced

Accomplished

- **Booklets designed (100% accomplished).** There were 5 booklets that were developed and published including the (1) Opportunities and Challenges of Intercropping Shade-Tolerant Crops in Woodlots: the GMS Experience; (2) Integrated Forest Ecosystem Management Planning and Demonstration Project in Greater Mekong Sub-region (Cambodia); (3) Project Fact sheet; (4) Design and Establishment of Home Garden: The Experience of the GMS Project in Cambodia; and (5) Community forestry livelihood improvement through restoration and home garden development.
- **Booklets published/distributed (100.0% accomplished).** The booklets were published and distributed to community forestry members, local authorities and displayed in special event such workshops, national Arbor day.
- **Posters designed (100% Accomplished).** Four posters were developed and published: (1) woodlot development, (2) forest restoration activity, (3) water distribution system, and (4) Food security: Agroforestry and home garden development system.
- **Posters published/distributed (100.0% Accomplished).** The posters were published and displayed in special event such project workshop meeting, FA annual meeting or national workshops organized by forestry administration.
- **Video Clip Production Produced (100.0% accomplished).** The project was able to produce a video clip for the project.

Figure 41. Posters developed by the project

The site also serves as learning site to some visitors who want to observe the restoration activities.

Figure 42. Project staff explaining to the visitors the restoration activities in the site

8.0 Audit
Targets/Plan: 5 Audits conducted
Accomplished

- Accomplished: **5**
- % Accomplished: **100.0%**

9.0 Pre-Study and Project Design Cost
Targets/Plan: 1 Study Conducted
Accomplished

- 1 field study conducted
- % Accomplished: **100.0%**

Schedule

- Plan: 2017 Jun
- Actual: 2017 Jun

10.0 Monitoring and evaluation

Activity 10.1 Internal Monitoring including measurement of seedlings
Baseline: 0
Targets/Plan: 5 Monitoring and Evaluation Conducted
Accomplished

- 20 monitoring conducted
- % Accomplished: **100.0%**
- The internal monitoring was conducted every quarter.

Schedule

- Plan: Throughout the project
- Actual: Throughout the project

Figure 43. IRD staff conducting morning of the site

Activity 10.2 External Monitoring and evaluation

Baseline: 0

Targets/Plan: 1 Monitoring and Evaluation Conducted

Accomplished

- 1 monitoring and evaluation conducted
- % Accomplished: 10**0.0%**
- The external monitoring was conducted by the independent consultant commissioned by the donor (APFNet). The evaluator was conducted by RUA, to find out for CF sustainable management the project should strengthening the capacities to farmers, on forest management, seed production, agroforestry and home garden as well as should has own nursery.

Schedule

- Plan: 2018 Feb
- Actual: 2018 Feb

Figure 44. External evaluator visiting the site

4.2 Project Impacts

The members of the community forestry are mainly benefited by the project. The support of the project on the patrol operations and the installation of the boundary posts and billboards increased the awareness of the community on the boundary of the CF thereby reducing the encroachment and forest violation. The project likewise benefited the academic institutions and the students in Forestry who visited and learned the actual implementation of the project. The project likewise helped in building the knowledge and technical skills of the local FA staff through trainings organized by the project. The project has directly contributed to the increase of the forest cover through its restoration activities as the forests recovered due to the protection interventions of the project. Seedlings were able to grow in the plots that were protected from fires and from stray animals. The extension activities of the project increased the understanding of the CF members on the restoration techniques. The farmer cooperators who participated on testing the agroforestry and home garden technologies experienced better yield. The project has been presented to policy makers. The Forest Watcher also drew interest to higher officials from the FA and MAFF who observed how the Forest Watcher technology works. The importance of technologies in monitoring the forest conditions has

been acknowledged by the policy makers. One of the major impact of the project is the availability of water to the community members. The households no longer buy water from the seller of water. The community was able to plant vegetables in their backyards after they were able to connect from the water system put up by the project.

4.3 Sustainability

The implementation of the project has contributed to the food production of the farmers. The home garden technology has improved the productivity of the farms which can ultimately improve the soil condition. The production of farmers also improved resulting to reducing the dependence and pressure to the forest. The training provided to the farmers and the CF members will impart a lasting skill particularly on sustainable farming and in restoring the forests. The nursery that was established at the CF will help the CF in producing seedlings that will be needed in the planting activities. The CF can now produce seedlings in the constructed nursery that can be sold by the CF members. This can provide an alternate income to the CF.

5.0 CONCLUSION, LESSONS LEARNED AND RECOMMENDATIONS

5.1 Conclusion

Except for activity 10.4 (Participate in APFNet experience sharing activities), all the targets have been achieved. There are also some additional activities that need to be implemented due to unexpected needs in the field such as digging of 2 ponds, establishing tree nursery for community forestry at Dopor village, fencing around the forest restoration plots and watering of the seedlings. Even though, the project faced difficulties in the last 2 years due to the COVID 19 pandemic, the project was able to achieve its main goals and targets.

5.2 Lessons Learned and Recommendations

The implementation of the project has brought several noteworthy lessons in site restoration:

8. The introduction of water distribution system has provided significant economic impacts to the households. The households were able to improve their food security since they were able to grow some vegetables in their backyard.
9. The support of APFNet is necessary particularly on the needs of the field. During the implementation, there were unexpected needs that needs support from APFNet, for instance, the farmer cooperators became disinterested on working with their home garden. The project needs to look for alternate site to test the home garden technology. The new farmer cooperators were very cooperative and experienced higher production when they tested the home garden technology. The support from APFNet to approve the request of the field staff to implement the additional activities has contributed to the success of the project.
10. The Forest Watcher System showed a very promising technology. However, the company who provided the technology was not able to provide prompt aftersales support when part of the gadget broke down. The current alternate technology that can collect information from the field like drones can offer an alternate technology for field monitoring.
11. The online meetings proved to be a new and cost-effective modality of coordinating and holding meetings. This was experienced during the pandemic especially in holding

meetings between the field staff and Management in Phnom Penh. A closer coordination can now be done with APFNet and IRD.

12. There is a need to refer to the local knowledge of the community and Local Foresters in the design of the restoration, particularly in deciding the species to plant. It was noted that there was a low survival of the planted trees since some of the species were not suitable to the site. In the case of Agroforestry and Home Garden, exotic species macadamia and pomelo did not grow well.
13. The home garden technology proved to be effective in the increasing the production of farmers. The new spatial arrangement has optimized the canopy layer and could effectively utilize the space.
14. Intermediate income can be produced underneath the canopy of woodlots by planting appropriate shade tolerant cash crops. The initial result revealed that galangal can be grown under the woodlot by modifying the canopy.

In the implementing similar project in the future, it is recommended the following:

1. A monitoring on the vegetable changes should be conducted using state of the art technologies such as UAV/drones.

2. A forest restoration project should include the welfare of stakeholders. Addressing their economic needs will motivate them to support the project.

Closer coordination can be made through frequent meetings using online meetings. 3. This provide an inexpensive way of consulting the different actors remotely thereby minimizing the disturbance of the field staff from their works.

4. Designing restorations should consider the local knowledge of local experts. The community also need to be consulted on the appropriate species to plant in the area.

5. A home garden can potentially improve the condition of the farmers. The experience of the project has shown improvement of the farmlot of famer cooperators who adopted the home garden technology. This should be promoted as a practical approach in addressing poverty.

6. The partially degraded forests can be interplanted with shade-tolerant crops, such as galangal to increase intermediate income Other shade tolerant crops such as mushrooms (Ear Mushrooms), cardamom, arrow roots and other crops should be explored or tested.

Annexes

Annex A. Implementation status (scheduled versus actual)

Outputs / Key Activities and Indicators	Baseline	% Completion of Activities	Description	Appraisal Time	Actual Time
1.0 Outputs and Activities					
A. Objective 1: To develop a model for community forest management by strengthening CF management and testing appropriate restoration and silviculture technology					
1.1 Output 1.0 Community forest (CF) development action plan formulated					
▪ Activity 1.1.1 Survey current conditions of CF and its management	0	100%	1 Survey conducted	June 2017	June 2017
▪ Activity 1.1.2 Formulate and print CF Development Action Plan					
▪ Activity 1.1.2.1 CF Development Action Plan Formulation	0	100.0%	1 Plan formulated	Mar 2018	Mar 2018
▪ Activity 1.1.2.2 CF Development Action Plan Translation	0	100.0%	1 plan translated	Aug 2018	Aug 2018
▪ Activity 1.1.2.3 CF Development Action Plan Printing	0	100.0%	200 plans printed	Aug 2018	Aug 2018
▪ Activity 1.1.2.4 CF Development Action Plan Distribution	0	100.0%	200 Plan distributed	Aug 2018	Jun 2019

Outputs / Key Activities and Indicators	Baseline	% Completion of Activities	Description	Appraisal Time	Actual Time
▪ Activity 1.1.2.5 Meeting to Disseminate the CFD Action Plan to Community	0	100.0%	1 Meeting conducted	Jul 2019	Jul 2019
1.2 Output 2.0 CF boundary demarcated and patrolled					
▪ Activity 1.2.1 Make and install poles and billboard	0	100.0%	80 concrete poles installed and signboards installed	Aug 2017-Oct 2017	Aug 2017-Oct 2017
▪ Activity 1.2.2 Patrol the CF	Occasional	100.0%	48 months regularly conducting regular patrol	Every month	Every month
▪ Activity 1.2.2.1 Construct a Guardhouse	0	100.0%	2 Guardhouses constructed	Mar 2018 and Jun 2019	Mar 2018 and Jun 2019
1.3 Output 3.0 FA Division nursery improved and maintained					
▪ Activity 1.3.1 Improve FA Division nursery	0	100.0%	1 FA Nursery Improved	Jun 2017	Sep 2017
▪ Activity 1.3.2 Raise seedlings in the nursery	0	100.0%	40,033 seedlings produced	2017 Jun; 2018 Jun; 2019 Jun	2017 Aug; 2018 Jun; 2019 Jun
▪ Activity 1.3.3 CF Seedling Production	0	100%	4,095	2021 Jun	2021 Jun
▪ Activity 1.3.3.1 Training of CF on Seedling Production	0	100%	1 training conducted	2021 Nov	2021 Nov
1.4 Output 4.0 Restoration and silviculture models established and maintained					
▪ Activity 1.4.1 Design and prepare soil for 3 types of degraded forestlands	0	100.0%	The plan for the restoration area has been completed	2017 Aug	2017 Aug

Outputs / Key Activities and Indicators	Baseline	% Completion of Activities	Description	Appraisal Time	Actual Time
▪ Activity 1.4.2 Plant and maintain restored forests					
▪ Activity 1.4.2.1 Plant Restoration Area	0	100.0%	All the 12 hectares has been planted	2017 Nov; 2018 Nov; 2019 Nov	2017 Nov; 2018 Nov; 2019 Nov
▪ Activity 1.4.2.2 Tending/Weeding of Plants in Open, Moderately and Severely Degraded Plots (Maintenance of Replanted Areas)	0	100.0%	All the restoration areas has been maintained	2017 Nov; 2018 Sep; 2019 Jun; 2020 Aug	2017 Nov; 2018 Sep; 2019 Jun; 2020 Aug
▪ Activity 1.4.2.3 Replanting of Degraded/Open, Moderately and Severely Degraded Plots					
▪ Activity 1.4.2.3.1 Replanting of Degraded/Open, Moderately and Severely Degraded Plots - Using Ordinary Seedling Method	0	100.0%	All the dead seedlings in the 12 Hectare restoration area has been replanted	2018 Nov; 2019 Nov	2018 Nov; 2019 Nov
▪ Activity 1.4.2.3.2 Replanting Open Areas Using Miyawaki Method (Seedlings)	0	100.0%	Completed the planting of the 30 x 100 Miyawaki plot	2019 Nov	2019 Nov
▪ Activity 1.4.2.3.3 Apply Water Retaining Agent	0	100.0%	Completed the application of water retaining agent t to selected plots	2018 Nov	2018 Nov
▪ Activity 1.4.2.4 Installation of water tank standing supporter and irrigation system	0	100.0%	Completed the installation of 2 water tanks	2018 Jun	2018 Jun
▪ Activity 1.4.2.5 Watering of Seedlings	0	100.0%	Completed the watering of the seedlings planted in the `12 hectare restoration plots	2018 Jun; 2019 Aug;	2018 Jun; 2019 Aug;

Outputs / Key Activities and Indicators	Baseline	% Completion of Activities	Description	Appraisal Time	Actual Time
▪ Activity 1.4.2.6 Purchase and Apply Fertilizers	0	100.0%	Completed the application of fertilizers to plants in the 12 Ha.	2018 Nov; 2019 Jul	2018 Nov; 2019 Jul
▪ Activity 1.4.2.7 Construction of Pond	0	100.0%	Completed the construction of 2 ponds	2018 Aug; 2019 Jun	2018 Aug; 2019 Jun
▪ Activity 1.4.2.8 Construction of Drainage Canal	0	100.0%	Completed the construction of the drainage canal	2018 Jul	2018 Jul
▪ Activity 1.4.2.9 Construction/Maintenance of Fireline/Firebreak	0	100.0%	Completed the maintenance of the 9 km fireline	2017 Jun; 2018 Jun; 2019 Oct;	2017 Jun; 2018 Jun; 2019 Oct;
▪ Activity 1.4.2.10 Maintenance/Repair of Restoration Fence	0	100.0%	Completed the repair and maintenance of 1 km fence	2017 Oct; 2018 Jun; 2019 Jun	2017 Oct; 2018 Jun; 2019 Jun
▪ Activity 1.4.3 Clear, plant and tend in dense forest					
▪ Activity 1.4.3.1 Clear and tend in dense forest	0	100.0%	Completed the tending and maintenance of eh 4 hectares dense forest	2018 Jan; 2018 Sep; 2019 Jul	2018 Jan; 2018 Sep; 2019 Jul
▪ Activity 1.4.3.2 Enrichment Planting in dense forest	0	100.0%	Completed the enrichment planting of the 4 hectare dense forest	2018 Jan; 2018 Sep	2018 Jan; 2018 Sep
Objective 2 To mitigate the dependence of community to forests by improving household farming systems					
1.5 Output 5.0 Village water supply system established					

Outputs / Key Activities and Indicators	Baseline	% Completion of Activities	Description	Appraisal Time	Actual Time
▪ Activity 1.5.1 Stabilize pond dike and install pumping facilities					
▪ Activity 1.5.1.1 install pumping facilities	0	100.0%	Completed the installation of water pumping facility for the community	2017 Sep; 2019 Jun	2017 Dec; 2019 Jun
▪ Activity 1.5.1.2 Stabilize pond dike	0	100.0%	Completed the stabilization of the dike of the pond	2018 Nov	2018 Nov
▪ Activity 1.5.2 Lay out main water pipe from the pond to the village	0	100.0%	Installation of pipes were completed	2017 Jul	2017 Aug
▪ Activity 1.5.2.1 Maintain the water pipe/Water distribution system	0	100.0%	Maintenance of installed pipes were completed	Regular/As the need arises	Throughout the project
1.6 Output 6.0 Agroforestry farming system established					
▪ Activity 1.6.1 Prepare soil, irrigation facilities and seedlings	0	100.0%	All the sites were prepared	2017 Sep	2017 Sep
▪ Activity 1.6.2 Plant and maintain cash trees and vegetables in Agroforestry Site					
▪ Activity 1.6.2.1 Plant cash trees and vegetables in Agroforestry site	0	100.0%	The agroforestry site was developed and planted	2017 Sep	2017 Sep
▪ Activity 1.6.2.2 Maintain cash trees and vegetables in Agroforestry site (1.2 Ha.)	0	100.0%	The agroforestry site (1.2 Ha.) was maintained	throughout the project	throughout the project

Outputs / Key Activities and Indicators	Baseline	% Completion of Activities	Description	Appraisal Time	Actual Time
1.7 Output 7.0 Home garden farming system established and maintained					
▪ Activity 1.7.1 Prepare soil, irrigation facilities and seedlings	0	100.0%	The home garden was developed	2017 Sep	2017 Sep
▪ Activity 1.7.2 Plant and Maintain Cash Trees and Peppers					
▪ Activity 1.7.2.1 Woodlot established and Maintained					
▪ Activity 1.7.2.1.1 Development/Planting of Woodlot	0	100.0%	The development of woodlot was completed	2018 Jun	2018 Jun
▪ Activity 1.7.2.1.2 Maintenance of Woodlot	0	100.0%	The maintenance of woodlot was completed	Year 2018 - 2022	Year 2018 - 2022
▪ Activity 1.7.2.2 Plant cash trees and peppers for Home Garden					
▪ Activity 1.7.2.2.1 Plant cash trees and peppers for Home Garden 1st Site (Krang Deivay)	0	100.0%	The development of the first home garden site was completed	2018 Jan	2018 Jan
▪ Activity 1.7.2.2.2 Plant cash trees and peppers for Home Garden 2nd Site	0	100.0%	The development of the second home garden site was developed	2018 Jan	2018 Jan
▪ Activity 1.7.2.2.3 Plant cash trees and peppers for Home Garden 3rd Site (Krang Serie)	0	100.0%	The project developed the 2 sites on home garden in the	2019 Mar	2019 Mar

Outputs / Key Activities and Indicators	Baseline	% Completion of Activities	Description	Appraisal Time	Actual Time
			new site as replacement of the 1st and 2nd sites.		
▪ Activity 1.7.2.3 Maintain cash trees and peppers in Home Garden					
▪ Activity 1.7.2.3.1 Maintain cash trees and peppers for home garden in first Site	0	-	The maintenance of the 1st site was abandoned and replaced because the farmer became disinterested.	Until 2018 only	Until 2018 only
▪ Activity 1.7.2.3.2 Maintain cash trees and peppers for home garden in Second Site	0	-	The maintenance of the 2nd site was abandoned and replaced because the farmer became disinterested.	Until 2018 only	Until 2018 only
▪ Activity 1.7.2.3.3 Maintain cash trees and peppers for home garden in Third Site	0	100.0%	The replacement of the home garden site was completed	Throughout the project	Throughout the project
Objective 3 To enhance forest protection through adopting advanced forest monitoring system (Forest Watcher)					
1.8 Output 8.0 Forest watcher system and auxiliary facilities installed and maintained					

Outputs / Key Activities and Indicators	Baseline	% Completion of Activities	Description	Appraisal Time	Actual Time
▪ Activity 1.8.1 Survey, design and construct auxiliary facilities	0	100.0%	Completed the survey and design of forest watcher system in 2 sites	2018 Jan	2018 Jan
▪ Activity 1.8.2 Deliver and install forest watcher system	0	100.0%	Completed the installation of 2 forest watcher systems	2018 Feb	2018 Feb.
▪ Activity 1.8.3 Test system, train personnel, and process data/images	0	100.0%	Completed the testing of the forest watcher system and training of FA personnel	2018 Feb	2018 Feb
▪ Activity 1.8.4 Maintain and repair the watcher system	0	-	The operation and maintenance of the forest watcher was intermittent because the forest watcher system broke down	2018 May - Throughout the project; expect in 2019 May where only one system worked	2018 May - Throughout the project; expect in 2019 May where only one system worked
Objective 4 To extend achievements and related techniques in Cambodia and GMS by demonstration and experiences sharing					
1.9 Output 9.0 An integrated forest management technology assembled and a technical handbook formulated					

Outputs / Key Activities and Indicators	Baseline	% Completion of Activities	Description	Appraisal Time	Actual Time
▪ Activity 1.9.1 Summarize technologies of CF restoration and silviculture and experiences of forest watcher construction	0	100%	The regular reporting of the forest watcher system intermittently operated since the forest watcher system broke down	2020 Nov	2021 Jun
▪ Activity 1.9.2 Formulate technical handbooks for integrated CF management and for the watcher operation	0	100.0%	The handbook was completed	100%	100%
1.10 Output 10.0 Experience and technology demonstrated and disseminated					
▪ Activity 1.10.1 Organize workshops and field visits of domestic foresters					
▪ Activity 1.10.1.1 Organize a Workshop	0	100.0%	Completed the holding of workshop conducted	2019 Oct	2022 May 2022
▪ Activity 1.10.1.2 Organize a Field Visit	0	100.0%	Completed the field visit	2020 Jun	2022 May
▪ Activity 1.10.2 Publish a Book of CF Development Plan in Cambodia	0	100.0%	Completed the CF Development Plan	2019 Mar	2021 Jun
▪ Activity 1.10.3 Draft and submit a policy initiative of CF management to FA	0	100.0%	Completed the Policy Brief	2020 Jun	2021 Jun
▪ Activity 1.10.4 Participate APFNet's project experience sharing conferences	0	-	The APFNet project experience was not conducted due to COVID 19	-	-
2.0 Meetings and trainings					

Outputs / Key Activities and Indicators	Baseline	% Completion of Activities	Description	Appraisal Time	Actual Time
▪ Activity 2.1 Inception meeting	0	100.0%	Inception meeting was conducted	2017 Jul	2017 Jul
▪ Activity 2.2 PSC meetings	0	100.0%	1 PSC meeting was conducted	2018 Jan	2018 Jan
▪ Activity 2.3 Mid-evaluation meeting	0	100.0%	Mid evaluation meeting was conducted	2019 Jun	2020 Feb
▪ Activity 2.4 Project completion meeting.	0	100.0%	Completion meeting was conducted	2020 Jun	2022 May
▪ Activity 2.5 Coordination meetings	0	100.0%	The project conducted meetings on ad hoc (as the need arises)	Throughout the project	Throughout the project
8.0 Audit	**0**	50.0%	The audit will be completed at the end of the project		
9.0 Pre-study and project design cost	**0**	100.0%	The project design was completed	2017 Jun	2017 Jun
10.0 Monitoring and evaluation					
▪ Activity 10.1 Internal Monitoring including measurement of seedlings	0	100.0%	The project regularly conducted internal monitoring of the project	Throughout the project	Throughout the project
▪ Activity 10.2 External Monitoring and evaluation	0	100.0%	Conducted external monitoring and evaluation of the project	2018 Feb	2018 Feb.

Annex C**. Project Audit Report**


Audit report 2018


Audit report 2019


Audit report 2020


Audit report 2021

Annex D. Project outputs, such as technical reports, key project documents (workshops, field visits, technical visits, trainings etc.), publications, brochures, webpages, etc.

Annex E. 2-3 Feature stories from the project for promotion

Annex F. Photos, media clips and other materials used/available for project outreach

Annex D. Documents produced by the Chinese Experts

Annex E. List of equipment purchased by the project

Equipment and Technical Specification/Model	No. of Units	Date of Purchase
Laptop Computer: Macbook & Lenovo	2	28 February 2018
Printer HP LaserJet ProMFPM26a	2	28 February 2018
Filling cabinet	3	28 February 2018
Camera Nikon	2	28 February 2018
LCD Projector	1	28 February 2018
Drone	1	28 February 2018
GPS Garmin 64s	2	23 February 2018
Water Pump	2	08 May 2019