

Quarterly Project Progress Report

Maximizing carbon sink capacity and conservation biodiversity through sustainable conservation, restoration, and management of peat swamps ecosystems Project in Thailand

15 April 2020

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Acronyms and Abbreviations

CF	community forest(ry)
CDNA	capacity development needs assessment
DNP	Department of National Parks, Wildlife and Plant Conservation
EPA	environmental protection area
GC	gas chromatography
GEF	Global Environment Facility
GIS	Geographic Information System
KKL	Kuan Kreng Landscape
MONRE	Ministry of Natural Resources and Environment
NHA	Non Hunting Area
ONEP	Office of Natural Resources and Environment Policy and Planning
PARO	Protect Area Regional Office
PB	Project Board
R & R	reforestation and restoration
RID	Royal Irrigation Department
RECOFTC	Regional Community Forestry Training Center for Asia and the Pacific (also known as The Center for People and Forests)
RP	Responsible Party
RPA	Responsible Party Agreement
ToR	terms of reference
UNDP	United Nations Development Programme

Basic Project Information

Project Title:	
UNDP Award ID	00084475
UNDP Project ID	00092458
Project Duration	26 months
Reporting Period	1 January – 31 March 2020
Total Approved Project Budget	THB 57,213,200
Participating UN agencies	UNDP Thailand
Implementing Partners/ National collaborating agencies	Office of Natural Resources and Environmental Policy and Planning , Ministry of Natural Resources and Environment (MONRE)
International collaborating agencies	Global Environment Facility
Cost-sharing third parties	-
UNDP Contact officer	Ms. Napaporn Yuberk
Project website	http://peatswamps.com/home

Summary

Starting in January 2020, project implementation was changed to a performance based payment schedule.

Under Outcome 1, a consultation workshop was organized on 4 March 2020 to gain views and inputs on Kuan Kreng Landscape Strategy Plan Development from local leaders and local authorities, with 80 attendees in total. Workshop results were fed into a short-term strategy plan in Kuan Kreng Landscape submitted to Nakhon Si Thammarat Provincial Office on 11 March 2020.

The land-use plan and map of Kreng Sub-district were reviewed and agreed upon by the Kreng Sub-district task force. Preliminary business models were developed with identified local resources persons at the community based peat swamp conservation learning centers (in Ban Tul, Kreng and Cha Uad su-districts).

Under Outcome 2, activities are also underway for analysis of GHG emissions in 4,600 ha of peat swamp forest (pilot sites where hydro-technical measures are being implemented) and carbon sequestration through reforestation at 300 ha with native species. Growth and survival rates of seedlings were monitored in the target areas (Ban Kuan Ngoen, Ban Kuan Kreng, Bo Lor Non Hunting Area and Tha Chang Kham National Reserved Forest).

Analysis of GHGs (CO₂, NO₂, and CH₄) using Gas Chromatography (GC) techniques (of 1180 samplings) has been contracted and are being undertaken by the Faculty of Environment and Resources Studies, Mahidol University. The analysis results will be available by the end of June 2020.

In the peat swamp area in the KKL that is under the effective water table management regime, the location for the construction of temporary weir that previously identified from the MIKE SHE model needs to be adjusted due to a change in direction of natural water flow.

Under Outcome 3, a Project Board meeting was organized and chaired by the Deputy Secretary General of ONEP on 13 February 2020. The annual work plan and budget of 2020 were approved in the amount of 17,726,392.57 THB, and recommendations were given to speed up delayed activities.

The peat swamp economic valuation guideline was finalized. Training on Contingent Valuation Method (CMV) for economic valuation was organized on 18 March 2020 at RECOFTC with 21 participants including relevant officers in Bangkok and Kuan Kreng Landscape responsible for applying economic valuation methods in peat forest conservation policy and interventions.

Due to the CoronaVirus COVID-19 outbreak, activities could not be run as planned and some deliverables could not be submitted in March 2020.

Overall progress in the Q4/2019 was on track and considered moderately satisfactory.

1. Project Objectives

The objective of the project is to conserve and restore peatlands to increase their capacities for carbon sinks, habitats for globally important species, and improved local livelihoods through ecosystem services.

2. Key Results

Project Objective: To conserve and restore peatlands to increase their capacities to act as carbon sinks, as habitats for globally important species, and as sources of ecosystem services for improved livelihoods and as sources of ecosystem services for improved livelihoods. The original target area was 154,363 ha (Songkla Lake Basin and Kuan Kreng), which the Project Board agreed in April 2018 to revise after project inception as the project no longer needed to increase the legal protection status of the Songkla Lake Basin (Environmental Protection Area: EPA) due to the policy direction change by the Royal Thai Government after project approval, which made it no longer viable to have the Songkla Lake Basin designated as an EPA. The area can be considered as a benefit area from the project implementation. It is also noted that within the project life period (26 months), having an additional 16,374 ha classified under EPA status is not viable. In this regard, management and protection of peat swamp forests within this area will be improved under an integrated mosaic of various appropriate land categorization and sustainable co-

management regimes, identified through a feasibility study.

Q1/2020 showed progress in all three outcomes. However, there were still delays in planned activities due to COVID-19 outbreak starting from December 2019 and government restriction for pandemic control became serious in early March 2020. This section presents key results during the reporting period. In Section 3, detailed progress towards outcomes is presented under the project's indicators. Key results are summarized below:

- “Knowledge management towards sustainable community-based tourism” was identified and recommended for application as a prototype mechanism of sustainable co-management and to support other mechanisms in Kuan kreng Landscape. A forum was held in Ban Sai Khanon Moo 11, Cha-ud district, Nakorn Sri Thammarat, on 17 March 2020 as a preliminary step in testing the prototype mechanism, as the community is located right in the center of Khuan Kreng landscape and its people work collaboratively with research team. However, due to the COVID -19 situation, there was less participation than expected. Hence the research team has requested to extend and revise the work plan until May 2020.
- The participatory land-use map with Kreng Sub-district was finalized and agreed upon with task force group members.
- Three community forest management plans have been completed with reviews and comments from relevant three sub-districts (Ban Tul, Kreng and Cha-uad sub-districts) to support respective plan implementation. It is noted that these Community Forests are not yet formally registered under the new Community Forest Act of 2019.
- Three community-based peat swamp conservation learning centers (in Ban Tul, Kreng, and Cha Uad sub-districts) have been formulated. Key resource persons have also been identified to support and implement the learning centers as well as formulate small and medium peat swamp resource-based enterprises. To gain more experience on best practices, an exchange visit program for ecotourism and community forest management was organized in Nakhon Si Thammarat province during 18-20 February 2020. During the exchange visit, the strategic plan of each small enterprise was shared and reviewed by applying a “Business Model Canvas”. The learning centers will lead in improving local livelihoods that contribute to peat swamp co-management, conservation and value of peat swamps.
- In the peat swamp area in the KKL that is under the effective water table management regime (4600 ha), the location for the construction of temporary weir that previously identified from the MIKE SHE model needs to be adjusted due to a change in direction of natural water flow.
- Activities are underway to analyze GHG emissions in 4,600 ha of peat swamp forest (pilot sites where hydro-technical measures are being implemented) and carbon sequestration through reforestation at 300 ha with native species. Analysis of

GHGs (Co₂, No₂, and CH₄) using Gas Chromatography (GC) techniques (of 1180 samplings) has been contracted and are being undertaken by the Faculty of Environment and Resources Studies, Mahidol University. Due the delay in laboratory operation under COVID-19, the analysis results will be available by the end of June 2020.

- The average survival rates of seedlings planted by the project are 70% in Bo Lor Non-Hunting Area (32 ha) and 93% in Tha Chang Kham National Reserved Forest (24 ha).
- A Task Force for “Improving policies, standards, and enforcement mechanisms for conservation and sustainable use of peat swamp forests” has been established and chaired by the Vice Governor of Nakhon Si Thammarat province. The immediate strategic plan of Kuan Kreng Landscape Strategy has been submitted to the Governor’s office by ONEP to ensure it is included in a fiscal budget year of 2021.
- The peat swamp economic valuation guideline was finalized. Training on Contingent Valuation Method (CMV) for economic valuation was organized on 18 March 2020 at RECOFTC with 21 participants including relevant officers in Bangkok and Kuan Kreng Landscape responsible for applying economic valuation methods in peat forest conservation policy and interventions.

3. Progress towards outcome indicators

Outcome 1: Expanding protection of high conservation value peat swamp forests and demonstrating their sustainable use within the broader landscape

- 1) Indicator: 16,374 ha will be improved under an integrated mosaic of various appropriate land categorization and sustainable co-management*

Management and protection of peat swamp forests within this area will be improved under an integrated mosaic of various appropriate land categorization and sustainable co-management regimes, identified through a feasibility study. Key progress during Q1/2020 includes:

- “Knowledge management towards sustainable community-based tourism” was identified and recommended for application as a prototype mechanism for sustainable co-management and to support other mechanisms in Kuan kreng Landscape. Due to the COVID-19 outbreak, the period for testing this particular co-management mechanism and getting results has been extended until the end of May 2020.
- Nonetheless, some progress has been made. A forum was held in Ban Sai Khanon Moo 11, Cha-aud district, Nakorn Sri Thammarat, on 17 March 2020 as a preliminary research step in testing the prototype mechanism, as the community is located right in the center of Khuan Kreng landscape and its people work

collaboratively with research team. The next task to be completed after this is to test the prototype mechanism using participatory action research (PAR) in collaboration with key stakeholders – including the Royal-initiated Pak Phanang River Basin Development Project, the Tourism Authority of Thailand (Nakhon Si Thammarat), Non Hunting Areas (NHAs), schools, and other stakeholders in the best practice community (e.g. stakeholders involved in ecologically friendly agriculture, local tourism, community forestry, communal museum management, sustainable forest users, bloggers and tourism influencers, and the Ban Sai Khanon community). Furthermore, impact assessment using a review canvas and a coaching canvas will be utilized. Data will be analyzed to create a conclusion report and recommendations to develop planning guidelines to be applied in the Kuan Kreng Landscape. Please refer to Figure 1 below for the process to develop the prototype mechanism.

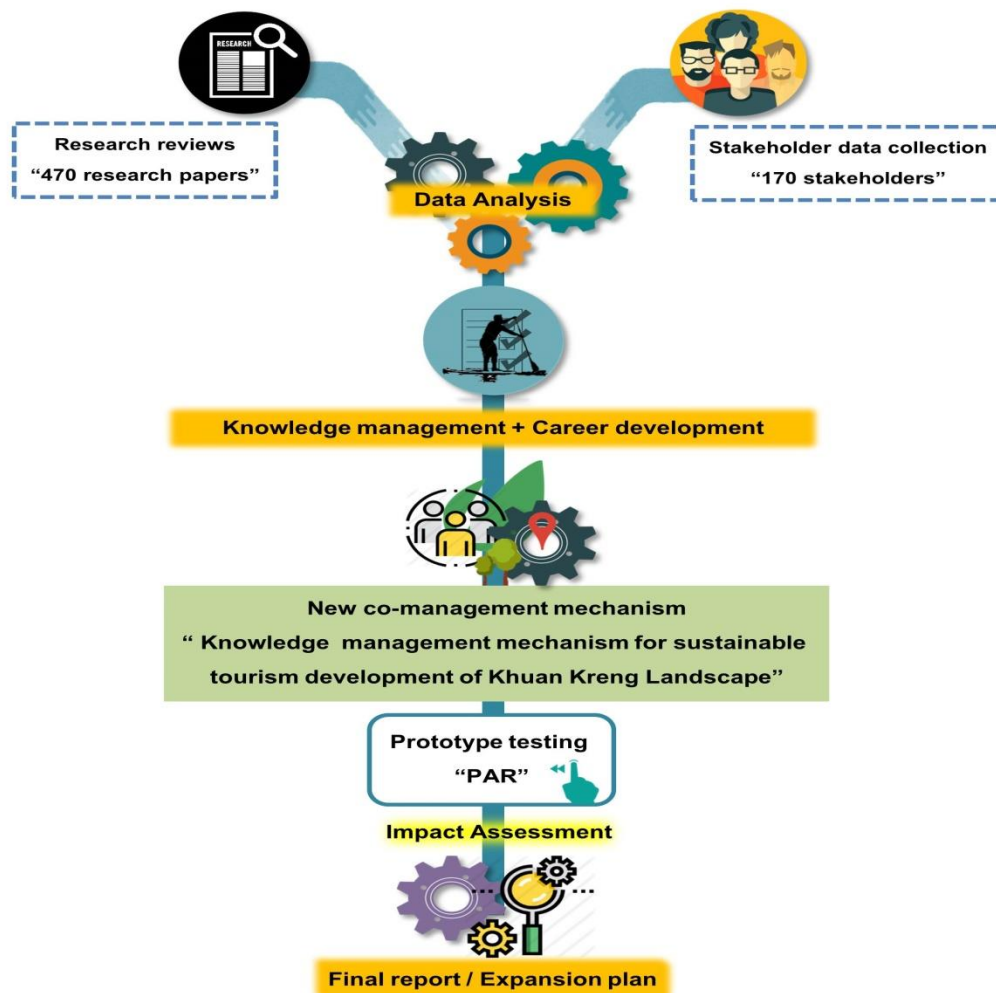


Figure 1: Process to develop the prototype mechanism “Knowledge management towards sustainable community-based tourism”

- The semi-final draft version of the Kuan Kreng Landscape Strategy, covering a total area of 74,363 ha (48% of the original target area which Kuan Kreng and Sathingpra peninsular is 154,363 ha), has been developed with support from local authorities and local community representatives in the KKL. The strategy consists of 6 main strategic foci and 12 main objectives:
 - *Strategic focus 1: Peat swamp forest fire management and carbon balance, with 2 main objectives:*
 1. Maximizing carbon sink capacity and reducing carbon emissions in the Kuan Kreng Landscape.
 2. Reducing forest fires in the Kuan Kreng Landscape.
 - *Strategic focus 2: Integrated water management, with 3 main objectives:*
 3. Maintaining water balance in Kuan Kreng Landscape
 4. Balancing water use for agriculture and public utility
 5. Using peat swamp for natural disaster risk reduction
 - *Strategic focus 3: Forest and ecosystems restoration, within the Kuan Kreng Landscape with 2 main objectives:*
 6. Restoring peat swamp areas within the Kuan Kreng Landscape
 7. Managing peat swamp areas for economic development.
 - *Strategic focus 4: Awareness raising of peat swamp forest through youth and local people in the Kuan Kreng Landscape*
 - *Strategic focus 5: Local livelihoods improvement within the Kuan Kreng Landscape with 2 main objectives:*
 8. Sustainable production
 9. Occupational promotion
 - *Strategic focus 6: Policy and law enforcement within the Kuan Kreng Landscape with 3 main objectives:*
 10. Planning and policy in accordance with law enforcement
 11. Local authority operational planning
 12. Law enforcement

The Kuan Kreng Landscape Strategy Task Force could not organize the final meeting to endorse the Strategy due to government restriction measures over the COVID-19 outbreak. The project team in consultation with the Provincial Natural Resource and Environment Director, as the Task Force secretary, is planning to organize a virtual meeting in April. The Landscape Strategy document will be shared with Task Force members in advance for final comments. ONEP already shared the draft of Short Term Plan for the Landscape Strategy with Nakhon Si Thammarat Provincial Office on 13 March 2020.

2) *Indicator : Enhanced management effectiveness at existing PAs (NHAs) and new PAs (EPA Songkhla and EPA Kuan Kreng peat swamp landscapes) as measured by METT*

- From project implementation during 2018-2019, the METT scores are as follows:

Baseline	Target 2020	Result in 2019
Thale Noi NHA: 64	Thale Noi NHA: 75	Thale Noi NHA : 69
Bor Lor NHA: 42	Bor Lor NHA: 70	Bor Lor NHA : 57
(EPA) Kuan Kreng: 12	(EPA) Kuan Kreng: 20	(EPA) Kuan Kreng: 18
(EPA) Songkhla: 19	(EPA) Songkhla: 30	(EPA) Songkhla: 14

The next METT scoring is postponed to Q2/2020 due to the COVID-19 outbreak.

- The development process for three community-based peat swamp conservation learning centers (Ban Tul, Kreng, and Cha Uad) has been undertaken with inputs from representatives of community-based enterprises in the landscape. Thirty-four (20 male, 14 female) resource persons were selected. The design for three learning centers has been completed. These learning centers will support the development of small and medium peat swamp resource-based enterprises and strengthen peat swamp co-management mechanisms. Representatives from peat swamp-based enterprises, who will run the learning centers, got an opportunity to participate in an exchange program during 18-20 February 2020 to gain more experience on ecotourism business and community forest management. During the exchange program, a “Business Model Canvas” was introduced to this group.

3) *Indicator: Incidence of violations of NHA regulations*

NHA	Baseline number of violations		Target
	2013	2014 (up to Sept.)	
Bor Lor	2 (1 cutting tree, 1 invasion)	1 (invasion)	0
Thale Noi	21 (4 cutting tree, 17 burning forest for land)	15 (1 cutting tree, 14 burning forest for land)	No tree cutting, Less than 6 invasions

- Participatory land-use mapping with Kreng Sub-district was finalized and agreed by the task force group.

4) *Indicator: Incidence of fires Wildfires burning on average 408 ha per year KKL*

- Based on the MIKE SHE model and information gathering as well as desk review,

peat swamp deterioration has two main causes: 1) forest invasion for agriculture and 2) wildfire. Both are related to the water management of the area. A study has been undertaken to measure the water balance in relation to the inflow and outflow from the peat swamp, the groundwater and then the overland flow. Study results will be applied in the landscape water management plan to slow down peat swamp deterioration.

Necessary data has been collected for modeling. Calibration and verification processes were undertaken together with water level data around the peat swamp area. The results showed the normal water flow to peat swamp is not enough for reducing chances of wildfire in the long-term. It is recommended that environmental flow principles need to be applied to provide adequate water for a river, wetland or coastal zone in order to maintain ecosystems and their benefits where there are competing water uses and where flows are regulated. The way to propose the quantity and quality of environmental flow are 1) estimating flow requirements for restoring or maintaining the natural habitat, 2) mimicking the natural flow regime, and 3) determining a suitable flow regime on the basis of living things. Community data must be applied for better integrated management.

However, it is noted that water development projects in the future (such as for cultivation and consumption, for electricity generation, for water drainage from low lying areas and for relief of flooding through construction of dykes and floodwalls) may become a main cause to accelerate peat swamp deterioration.

In this regard, the integrated management plan for wildfire prevention and water management has been developed and submitted to Nakhon Si Thammarat Province.

5) Indicator 11 units (6 units in Thale Noi NHA, 2 Units in Bor Lor NHA and 3 units in Kreng, Cha-uad and Bann Tul sub-district) trained for patrolling, managing water levels, fire protection, and enforcement of regulations

- A training curriculum on SMART patrolling for peat swamps has been in progress and will be finalized and adopted by the Non-Hunting Areas (Bor Lor and Ta Lae Noi NHAs) in Q2/2020.
- A training curriculum on the participatory forest fire and encroachment prevention has been in progress and will be finalized and adopted by sub-district administrative offices, local agencies and local leaders.

6) Indicator Area of 430 ha in Kuan Kreng landscape under participatory community forestry management plans and or co-management (Kuan Ngoen CF: 90 ha, Suan Somdej Chao Fa Chulabhorn: 240 ha, Ban Sai Kanoon: 100 ha)

- The three community forest management plans (for Sai Kanoon, Kuan Ngoen, and

Suan Somdej) have been completed and fully supported by sub-district offices. These three communities will integrate community forest management plans in their respective regulations and annual development plans.

7) *Indicator: Ecosystem Health Index (EHI) monitoring system for monitoring peatland health is developed and in place for 2 NHAs in order to ensure good quality habitat for Yellow-headed Tortoise, Fishing Cat*

- The Ecosystem Health Index (EHI) questionnaire and scorecard will be conducted in Q2/2020 if the government measure on COVID-19 allows.

Key challenges

- Under COVID- 19 situation and Emergency Decree Announcements by national and provincial governments (until 30 April 2020), any face to face meeting in KKL is not allowed. This has resulted in delays in all stakeholder consultation processes.

Outcome 2: Implementing technologies to avoid peat swamp forest degradation and restore degraded peat swamp forests

8) *Indicator: Peat swamp area in KKL(4600 ha) that is under effective water table management regime*

- A second draft of the water management guideline has been reviewed and developed.
- The short-term water management plan was submitted to the NST provincial office. The office incorporated this plan into the budget plan for 2021. The water strategic plan comprises 46 projects (33 as immediate priority , 11 as medium priority and 13 long-term priority) covering three main objectives:
 - Maintaining water balance in Kuan Kreng Landscape
 - Balancing water use for agriculture and public utility
 - Using peat swamp for natural disaster risk reduction

9) *Indicator: At least for 25% of the area (1,150 ha) the water level will never drop more than 20 cm below surface.*

- According to the water management analysis and MIKE SHE application, the research team found that the location for the temporary weir construction must be adjusted. The results from a previous study done by the Prince of Songkhla University were used in producing this recommendation.
- The second draft of an integrated water management strategy was developed with local stakeholders and relevant government agencies using information and analysis results from MIKE SHE. The project anticipates having the final draft completed in Q2/2020.

10) *Indicator: GHG emissions at 4,600 ha of peat swamp forest (pilot sites where hydro-technical measures are to be implemented (from 2,793 MtCO₂e to 1,959 MtCO₂e)*

- The Faculty of Environment and Resources Studies at Mahidol University has been contracted to run analysis of GHGs (Co₂, No₂, and CH₄) using Gas Chromatography (GC) techniques (1180 samples). Samples have been delivered to the laboratory. Due to COVID-19 measures, the laboratory cannot operate. If government measures become more flexible after mid-April, the research team will have analysis results by the end of April. The second round of data analysis will be completed by June 2020. In addition, carbon data collection has not been undertaken since February 2020 due to travel restrictions in the landscape. The research team has had to rely on existing data to make up for the missing data from February and March 2020.
- Based on spatial information, the carbon research team estimates that there are 185,517,421.67 tons of Co₂ within KKL.

11) Indicator: Carbon sequestration through reforestation at 300 ha with native species (projected over 20 years) The MTR team recommended changes from the original indicator and target under this Output from “Carbon sequestration through reforestation at 300 ha with native species” to “the development of guidelines”

- The second draft of community-based peat swamp restoration guidelines is complete. It will be reviewed by local forest restoration experts and finalized during Q2/2020. The research team plans to organize a workshop to introduce the guidelines to local communities and line agencies in May 2020. However, the research team has to review this plan under the current COVID-19 situation.
- The average survival rates of seedlings planted by the project are 70% in Bo Lor Non-Hunting Area (32 ha) and 93% in Tha Chang Kham National Reserved Forest (24 ha).

Key Challenges

- Water development projects in future have high potential impacts to accelerate the peat swamp deterioration if comprehensive study has not been done properly.
- The analysis of GHGs (CO₂, NO₂, and CH₄) using Gas Chromatography (GC) techniques (1180 samples) with the Faculty of Environment and Resources Studies at Mahidol University is time consuming and a long process to analyze. In addition, COVID-19 Outbreak and Emergency Decree Announce closed all educational facilities in Thailand, disallowing the research team access to the laboratory room at Mahidol University as well as Kasetsart University to analyze data from the KKL.

Outcome 3: Improving policies, standards, and enforcement mechanisms for conservation and sustainable use of peat swamp forests

12) Indicator Cross-sectoral WG for promoting a landscape approach to peatlands conservation and sustainable use

- A Task Force to “Improving policies, standards, and enforcement mechanisms for conservation and sustainable use of peat swamp forests” has been established and chaired by the Vice Governor of Nakhon Si Thammarat province. The short-term strategic plan of Kuan Kreng Landscape Strategy has been submitted to the Governor’s office by ONEP to ensure it is included in a fiscal budget year of 2021.
- The peat swamp economic valuation guideline was finalized. Training on Contingent Valuation Method (CMV) for economic valuation was organized on 18 March 2020 at RECOFTC with 21 participants including relevant officers in Bangkok and Kuan Kreng Landscape responsible for applying economic valuation methods in peat forest conservation policy and interventions.

Key challenges

Due to the COVID- 19 situation, the face to face task force meeting was postponed to Q2/2020 and a virtual meeting is being considered.

4. Project Management and Oversight

During Q1/2020, the Responsible Party has followed a deliverable-based payment schedule for project delivery. The Responsible Party received the planned budget for January and February 2020 and continued to submit deliverables as of March 2020. In addition, UNDP informed the Project Board that there will be additional activities involving a youth network for climate action and impact investment, and that a Terminal Evaluation is planned for June 2020. The Financial mechanism under deliverable-based payment under COVID-19 situation has been raised and discussed with UNDP representatives on 30 March 2020.

5. Implementation Status

As described in the Key Results section, during Q1/2020 the project was unable to complete all activities as planned. These delays were partially due to the government measures in preventing COVID-19 pandemic, which significantly affected project efforts to organize a face-to-face workshops and other activities in the Kuan Kreng Landscape.

Nevertheless, some significant progress was made during the quarter, particularly in formulating the Kuan Kreng Landscape Integrated Management Strategy framework approach and the completion of the Economic Valuation guideline and the three community forest management plans.

6. Risks/Constraints and Mitigation Measures

Identified risks in the Q1/2020 are summarized as follows:

<u>Risk/Constraints</u>	<u>Mitigation measures</u>
1) COVID-19 situation in Kuan Kreng Landscape and Thailand	Adjust the work plan while following the government's pandemic control measures
2) Travel restrictions to Nakhon Si Thammarat province due to Emergency Decree Announcement of COVID-19 pandemic	Organize virtual meetings.

7. Communication and Advocacy

PMU is promoting the peat swamp project on the corporate website <https://www.recoftc.org/thailand>, which is linked to <http://peatswamps.com/home>. In addition, knowledge products such as VDO clips have been submitted to UNDP for the Youth Engagement on Peat Swamp and Climate Action program.

8. Monitoring and Evaluation

The PMU does not have budget for regular project monitoring and evaluation.

9. Financial Management

Budget Summary (THB) As of [26 Sept 2019 – 30 Dec 2019]		
Total approved project budget	GEF	THB 57,213,200
	Other UN agencies	0
	Counterpart funding	0
	Cost-sharing third parties	0
	Total	THB 57,213,200
2020 Budget Utilization	Total 2020 approved budget	THB 17,726,392
	Q1-2020	THB 10,815,038
	Q2-2020	THB 6,053,156
	Q3-2020	THB 314,672
	Q4-2020	
	Estimated total 2020 budget utilization (Q1/2020)	THB 10,815,038

10. Key expected results in the next quarter

Key expected results for Q2/2020 include:

Outcome1:

- Strategic plan on participatory peat swamps management in KKL is endorsed by provincial task forces
- Final curriculum (TH) SMART Patrol for peat swamps and final local curriculum produced and submitted to ONEP and UNDP
- The implementation of pilot business plans with community-based peat swamp conservation learning centers

Outcome2:

- MIKE SHE model with adjustment of the river flow and the final draft of the integrated peat swamps water management guideline
- Final drafts of guidelines for participatory peat swamps restoration and community-based seedling production management.
- Final draft of the carbon monitoring guideline and a preliminary database

Outcome 3:

- Final strategic plan on participatory peat swamps management in KKL is reviewed and agreed by provincial task forces
- Second progress report in peat swamp inventory developed by Prince of Songkhla University and in process for consideration by ONEP and agreement by the Project Board.
- National Strategy developed by Prince of Songkhla University and in process for consideration by ONEP and agreement by relevant committees

11.Conclusion

The Q1/2020 performance, which was adjusted and continued from the Q4/2019 work plan and results, aimed to bring actions concurrent with the project plan and showed progress in all three Outcomes. However, there were still some delays in planned activities due to the COVID-19 outbreak. As such, the overall performance for the Q1/2020 can be considered as moderate satisfactory. During the next quarter Q2/2020, the Responsible Party will put forward a strong effort to implement those delayed activities and close the project.

Quarterly Operational Report (1 Jan – 31 Mar 2020)

PIM # 4951 / Project ID 00092458

Maximizing carbon sink capacity and conservation biodiversity through sustainable conservation, restoration, and management of peat swamps ecosystems Project in Thailand

Key Output Milestones of Q1/2020 were:

Outcome 1

- A. Participatory land-use mapping with Kreng Sub-district was finalized and agreed upon with task force group members
- B. Preliminary business models developed with three community-based peat swamp conservation learning centers (Ban Tul, Kreng, Cha Uad)
- C. Three community forest management plans were reviewed which identified potential ongoing and future support from three sub-districts.

Outcome 2

- A. Second draft of guideline for integrated peat swamps water management was reviewed by technical experts
- B. Second draft of participatory peat swamps restoration guideline and second draft of community based seedling production management were reviewed by technical experts
- C. Second draft of carbon monitoring guideline and database were reviewed by local people representatives and technical experts

Outcome 3

- A. First draft of the strategic plan on participatory peat swamp management in KKL was reviewed and agreed upon by provincial task forces.
- B. Peat swamp economic valuation guideline was finalized and a training on Contingent Valuation Method (CMV) was organized on 18 March 2020 at RECOFTC with 21 participants including relevant officers in Bangkok and Kuan Kreng Landscape responsible for applying economic valuation methods in peat forest conservation policy and interventions.
- C. Development of peat swamp inventory and National Strategy developed by Prince of Songkhla University continued and is currently in the process for consideration by ONEP and agreement by the Project Board.

Annex Q1/2020 – 1

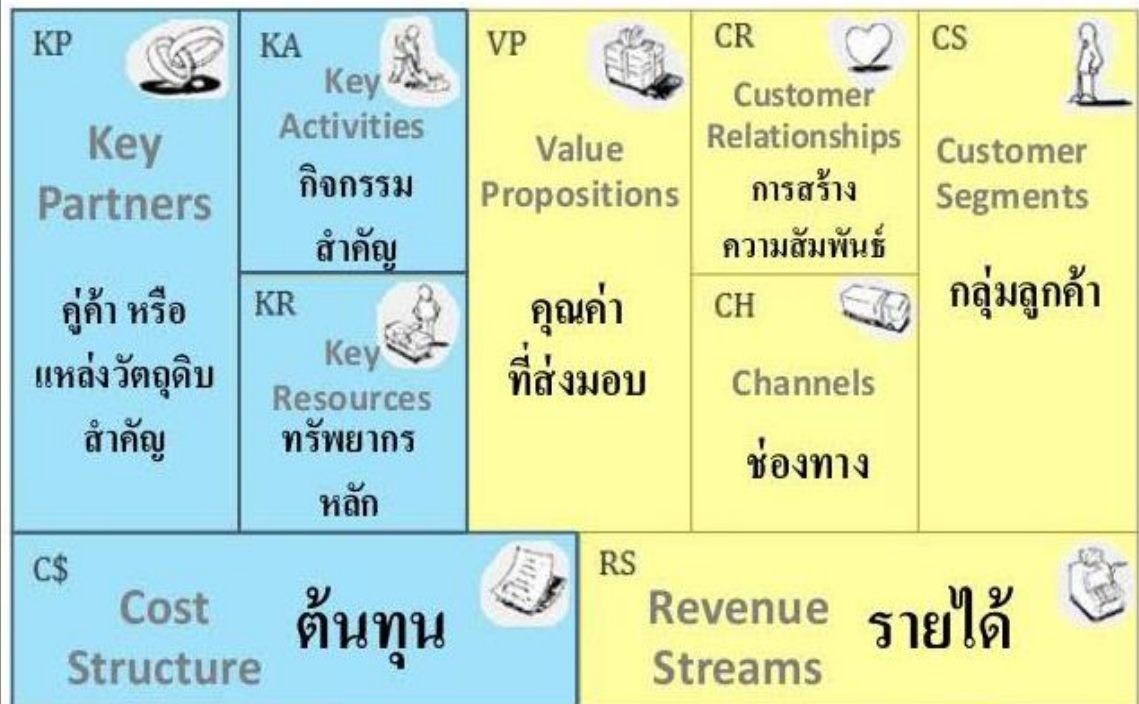
Under Outcome 1, the project organized capacity development activities on local learning center development and community forest management at Ban Khao Wang, Ron Phibon District, and Ban Laem Homestay, Tha Sala District, Nakhon Si Thammarat during 18-20 February 2020.



Photo 1.1 A study visit and group discussion for local learning center development

Source: Pratya Youngpattana , 2020

Business Model Canvas



BUSINESSMODEL
RECIPE

Source : businessmodelgeneration

Clear your view ...Fulfill your vision
www.businessmodelrecipe.com

Photo 1.2 Business Model Canvas

Source: Praty Youngpattana , 2020

Annex Q1/2020- 2

Under Outcome 2 – Output 2.1, relevant data were collected for the MIKE SHE model, and the calibration and verification processes were carried out by collecting data measuring water levels and distribution in the peat swamp area.

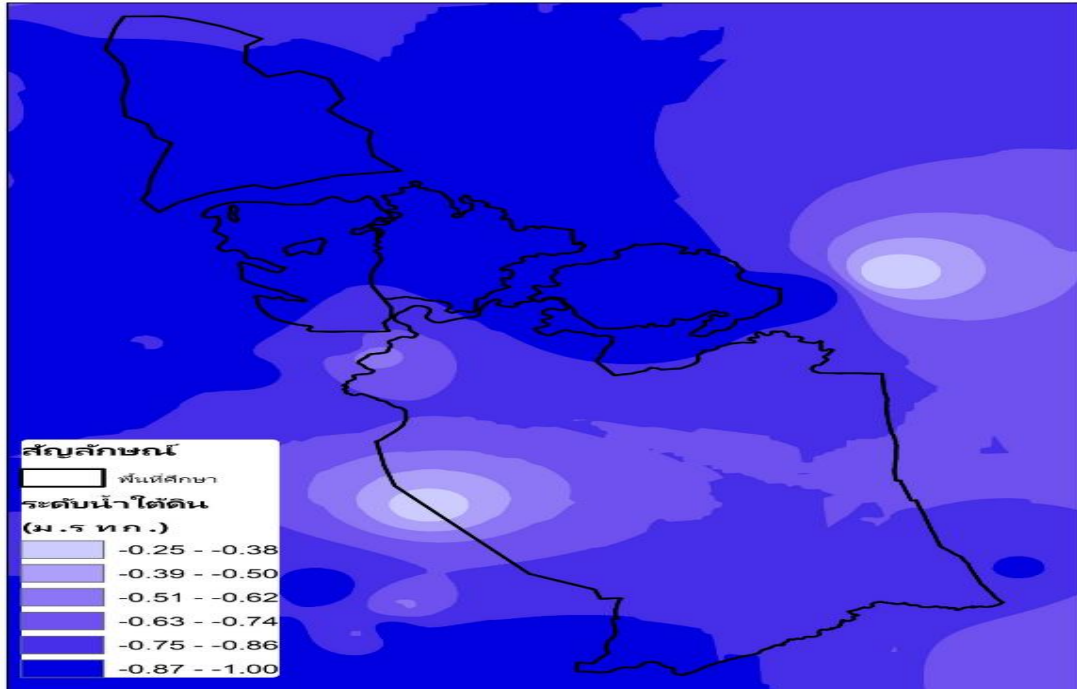


Photo 2.1: Underground water level

Source: Somruthai Tasaduak and Cholawat Panya 2020

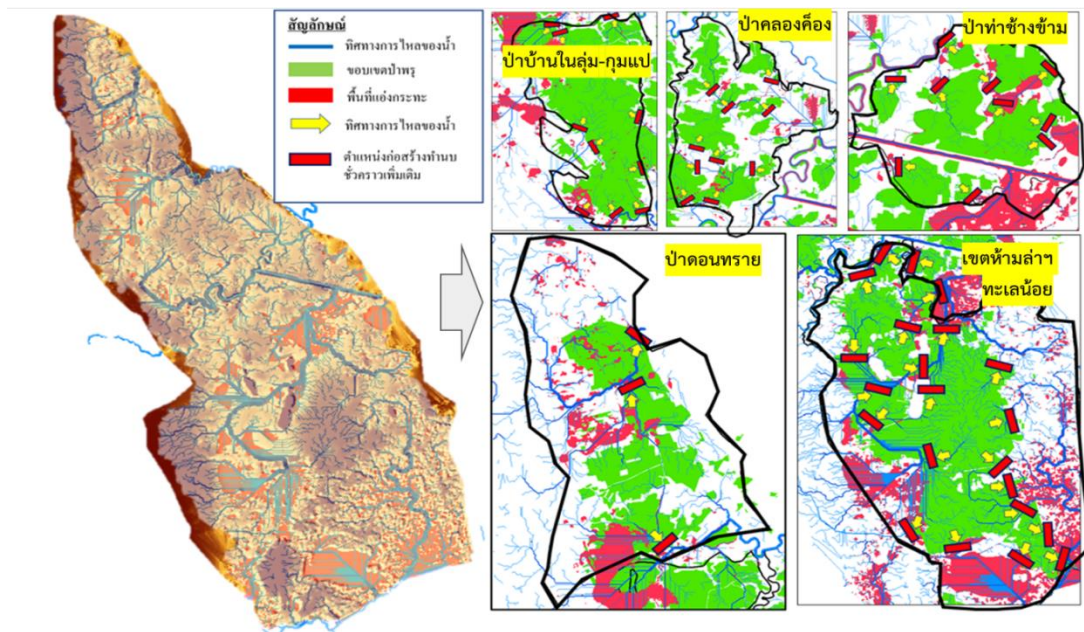


Photo 2.2: The lower area and temporary dike Constructions in Khuan kreg Peat swamp landscape

Source: Somruthai Tasaduak and Cholawat Panya 2020

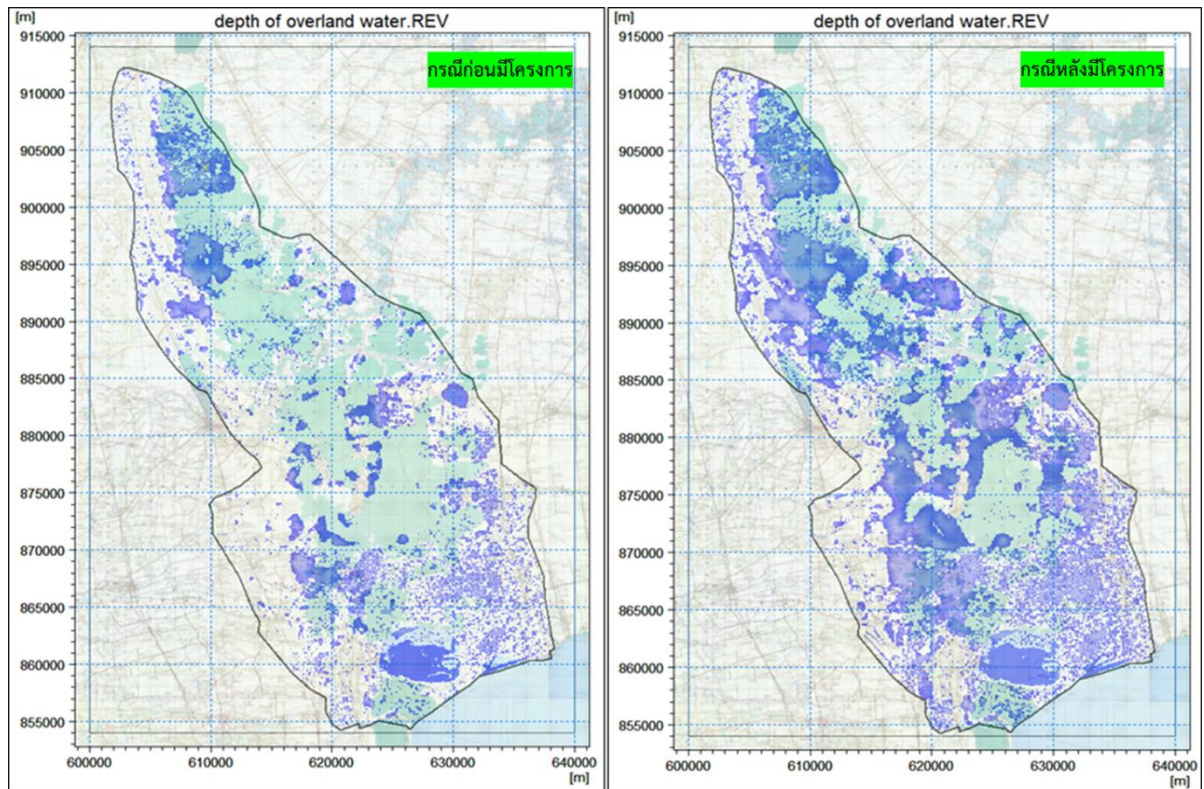


Photo 2.3: Water level (before and after dike construction)

Source: Somruthai Tasaduak and Cholawat Panya 2020

Output 2.2

The project aims to rehabilitate the Kuan Kreng peat ecosystem by planting both peat and non-peat plant species. Target areas are those with peat forest located in the Bo Lor Non Hunting Area, and preserved forest areas surrounding and in village areas including oil palm and rubber plantation. All four forest nurseries under the project have brought swamp seedlings from Narathiwat province in nursery bags to use to promote restoration activities in the Kuan Kreng peat swamp area. In addition, on the 8-10 February 2020, the project team went to Ban Kuan Ngoen, Ban Kuan Kreng, Bo Lor Non Hunting Area and Tha Chang Kham National Reserved Forest to monitor data collection activities, growth and survival rates of seedlings, and inspect project signage installation in the restoration area.



Photo 2.2: The growth of seedling monitoring at Kuan Ngoen and Kuan Pom Villages
Source: Kobsak Wanthonchai and team 2020



Photo 2.2: The growth of seedling monitoring at Bor Lor NHA and Tha Chang Kham Reserved Forest

Source: Kobsak Wanthonchai and team 2019

Annex Q1/2020 – 3

The study aims at setting up a carbon measurement and monitoring system in three land use types: undisturbed peat swamp forest, disturbed or degraded peat swamp forest and converted peatlands. Monthly measurement of CO₂ emissions is being taken at Melaleuca plant community as disturbed peat swamp forest, and at oil palm plantations as converted peatlands using LI-8100. An Automated Soil CO₂ Flux System started in June 2019. On the other hand, measurement of CO₂ emissions at the Panangtung Botanical Garden as undisturbed peat swamp forest could not be done because of inconsistent ground surface. Consequently, gas samples were collected at three study sites for greenhouse gas emissions analysis through gas chromatography (GC) in the laboratory. Floating chambers for gas sample collection were applied during the flooding period. In addition, the first draft of the manual of forest carbon measurement was written and will be later revised accordingly.



Photo 3.1: CO₂ Emission measurement in the sampling plot area(Panang Tung Botanical Graden) during January - February 2020

Source: Sapit Diloksampan and team, 2020

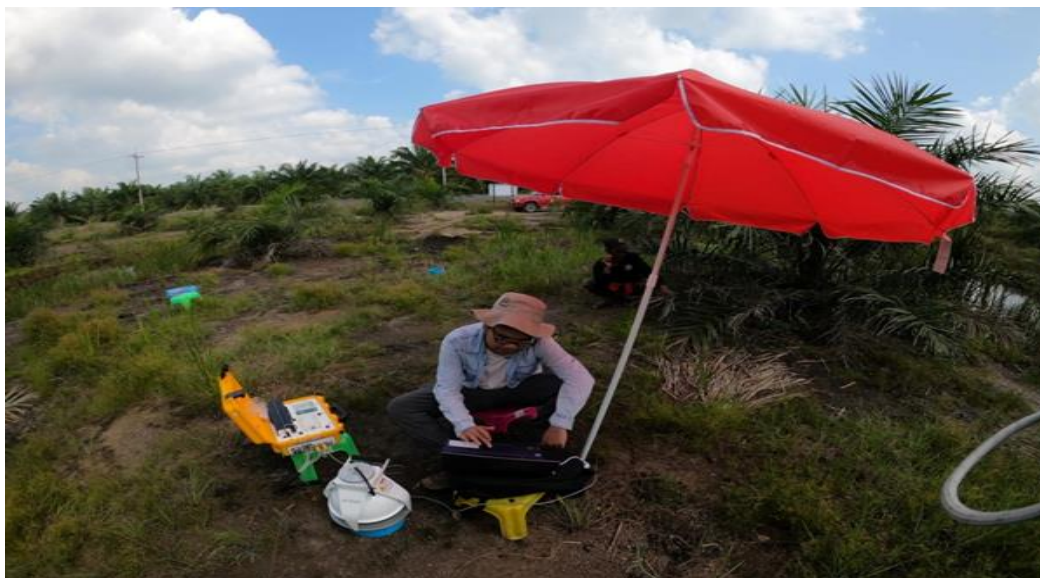


Photo 3.1: CO₂ Emission measurement in the sampling plot area (Palm Oil)
Source: Sapit Diloksampan and team, 2020

Annex Q3/2019 – 4

A Project Board meeting (Q1/2020) and site visit was held during 13-14 February 2020 at Nakhon Si Thammarat Province.



Photo 3.1: The Project Board Meeting at Nakhon Si Thammarat (1/2020)

Source: Public relation Division, ONEP 2020



Photo 3.2: Peat Swamp Economic Valuation: Contingent Valuation Method (CMV) workshop at RECOFTC on 18 March 2020
Source: RECOFTC, 2020