



**Establishment and Operation of a Regional System of Fisheries *Refugia*
in the South China Sea and Gulf of Thailand**

REPORT

STUDY VISIT AT FISHERIES REFUGIA SITES IN CAMBODIA

12-14 SEPTEMBER 2022

Prepared by

Department of Fisheries Thailand



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REPORT OF THE STUDY VISIT

INTRODUCTION

Study visit at fisheries *refugia* sites in Cambodia was an activity in the training component of the implementation plan in Thailand for the project on Establishment and Operation of a Regional System of Fisheries *Refugia* in the South China Sea and Gulf of Thailand. The study visit to Cambodia was coordinately organized by Department of Fisheries, Ministry of Agriculture and Cooperatives of Thailand and Fisheries Administration, Ministry of Agriculture, Forestry and Fisheries of Cambodia, taking place on 12th – 14th September 2022 in Phnom Penh, Kampot Province, and Kep Province of Cambodia. There were seven officers of the Department of Fisheries of Thailand participating in the study visit which hosted by governmental and private professionals involved in fisheries *refugia* and ecosystem-based coastal and environmental sustainable management in Cambodia. Program of study visit and list of participants are shown in ANNEX 1 and ANNEX 2, respectively.

The visit was arranged for the government officers involved in establishment and operation of the two fisheries *refugia* sites in Thailand, namely Trat Site and Surat Thani Site, aimed at providing them the knowledge generated and experiences from establishing and operating fisheries *refugia* in neighboring country, as well as to enhance the opportunities for experience exchange between relating personnel in the two countries on coastal and environmental sustainable management and the community acceptance of ecosystem-based approaches to fisheries management. In addition, the study visit was an opportunity for participants to visit specific sites and directly interact with the different stakeholders involved.

The study visit was thoroughly accompanied and taken care of by **Mr. Sy Vann Leng**, Deputy Director of Fisheries Conservation Department, and National Scientific Focal Point for Fisheries *Refugia* Project in Cambodia.

DAY 1 VISIT KAMPOT FISHERIES REFUGIA SITE, 12TH SEPTEMBER 2022

On the first day, participants from Thailand arrived at Phnom Penh in the morning and headed to Kampot Province afterwards. They reached Kampot in the afternoon and went to Bokor National Park on Bokor Mountain to observe the panorama of the coastal seas of Kampot including Kampot fisheries *refugia* site for groupers. The first day ended up with participants observing fishing villages and fishing activities along the river mount of Kampot River.



Participants on day 1

DAY 2 VISIT KEP FISHERIES REFUGIA SITE AND FISHERIES COMMUNITY AT KAMPOT, 13TH SEPTEMBER 2022

The second day started with travelling to Kep Province to make a visit to Marine Conservation of Cambodia (MCC), a non-governmental organization, at Koh Arch Ses. Travel to the island (Koh) was done on the patrol boat of Kep Fisheries Administration Cantonment, controlled by **Mr. Pheun Phalla**, Deputy Director of Kep Fisheries Administration Cantonment. Afterwards, the boat took participants to blue swimming crab fisheries *refugia* at Koh Po, Kep Province. In the second half of the day, participants observed crab market in Kep Province and ended with a visit to Tropaing Sangke Fisheries Community in Kampot Province.

2.1 Marine Conservation of Cambodia (MCC)

Mr. Sy Vann Leng gave an introduction speech on the behalf of Fisheries Conservation Department of Cambodia and Department of Fisheries of Thailand that the visit to MCC would be a great opportunity for sharing the experience and knowledge of ecosystem and fisheries management as well as fisheries *refugia* in Cambodia and Thailand. **Mr. Vann** introduced the delegation of the Department of Fisheries of Thailand, then staff of MCC introduced themselves to the meeting.

Ms. Prulai Nootmorn, Executive Advisor for Fisheries Management, Department of Fisheries of Thailand, expressed her appreciation on the warm welcome from MCC. She explained about fisheries *refugia* and their sites in Thailand. She wished that this was a good opportunity for Thailand and Cambodia to exchange the experience on both fisheries *refugia* and ecosystem-based fisheries management between the two countries.

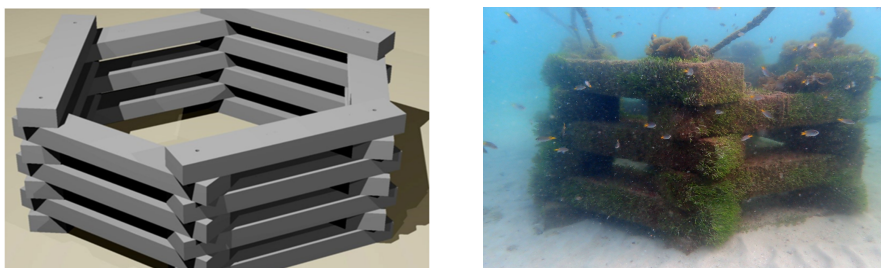
2.1.1 Cambodian's Marine Ecosystem Challenges and Solutions: A Case Study of Marine Fisheries Management Area in Kep Province

Mr. Amick Haissoune, MCC General Coordinator, presented about marine fisheries management area in Kep Province. According to his presentation, the area around Kep Archipelago had been an extremely rich ecosystem and a vast array of endangered marine lives, as well as one of the most extensive seagrass meadows in South-East Asia. **Mr. Haissoune** showed the participants the threats to Kep's marine ecosystems which included pollution, sedimentation, and acidification mostly caused by poor land uses and run-off. Regarding fishing threats, he emphasized IUU fishing, electric gears, and destructive fishing methods like trawling. He presented MCC approaches for the solution which composed of four components, namely, on the ground conservation actions, scientific researches, government advocacy, and collaboration with coastal communities. In case of scientific researches, there were five main projects employed, namely, the Cambodian marine mammal observation project, studying Kep Archipelago seahorses populations, Studying Kep Archipelago coral reefs, the seagrass project, and seaweed project. **Mr. Haissoune** finally showed the map illustrating legislation implementation areas around Kep Archipelago, where Kep fisheries *refugia* for blue swimming crab was included.

2.1.2 Conservation and Anti-trawling structures

Mr. David Ideler, IUU Project Assistant, introduced marine resources conservation by installing anti-trawling structures. He noted that it had been the new improved design by MCC through over 12 years of "on the ground marine conservation" which provided practical solutions to inter-linked problem of marine species disappearance, reef destruction, decreasing water qualities, collapsing local fisheries, and increasingly improve rich communities. According to his presentation, the structure was robust, cost effective multiple purpose concrete block unit, which snagged and entangled bottom trawling boards and nets; with high strength and considerable weight, the unit effectively damaged valuable illegal fishing assets, imposing a strong economic disincentive to illegally fish in protected areas. Regarding its modular design, the unit could be built to different heights at various depths, thus avoiding impacts on regular and legal navigation. Moreover, it acted as a marine aggregating device particularly for bivalves which were proved as the

excellent filters for improving water quality and keeping marine ecosystem healthy. **Mr. Ideler** noted that the structures had won the first National Geographic Marine Protection Prize.



Conservation and anti-trawling structures

2.1.3 Important Marine Mammals in Kep Province

Ms. Rose Ellis, Coordinator of the Cambodian Marine Mammal Conservation Project, MCC, presented on the important marine mammals existed in Kep's waters. She noted that the largest group of Irrawaddy dolphins ever officially recorded in Cambodian coastal waters was recorded. Through both passive acoustic monitoring and visual survey methods, dolphins have been recorded in Kep Archipelago every month since September 2017. The most frequent behaviour seen in the Archipelago was foraging, with groups often observed eating squid, suggesting the Kep Archipelago provided an important feeding ground for the species. **Ms. Ellis** mentioned that dolphins were still seen regularly and their population was bouncing back; moreover, dugong and whale sharks were seen and pictured by fishermen. She mentioned that at least 6 dead marine mammals were found in the Kep Archipelago in less than 18 months, some still with entangled fishing gears, red marks on neck and rope still on fins. **Ms. Ellis** conveyed her hope that upon fighting of IUU fishing, no more pictures of injured/dead marine mammals existed.



Irrawaddy dolphins in Kep Province



Illegal fishing impacts on marine mammals



Activities at MCC

2.2 Blue Swimming Crab Fisheries *Refugia* at Koh Po

Mr. Sy Vann Leng accompanied the participants from Thailand on board of patrol boat of Kep Fisheries Administration Cantonment to look around Kep fisheries *refugia* site near Koh Po. According to the information from **Mr. Vann**, Kep fisheries *refugia*, with the area of 417 hectares, was established for spawning and juvenile rearing of blue swimming crab in the area, with the measures that all fishing gears of less than 1.5 cm in mesh size were prohibited from fishing in fisheries *refugia* site during May-July every year.

Mr. Vann explained the processes of fisheries *refugia* establishment in Kep Province that it was initiated with collecting data/information from MCC and Kep Provincial Fisheries Office prior to consultation with fishers in Kep Province about fisheries *refugia* site. Provincial Fisheries Office and Department of Agriculture, Forestry and Fisheries made a decision on site selection which subsequently approved by Provincial Administration. After that, research works were done on spawning period of blue swimming crab, the results of which were reported to Provincial Administration. Stakeholder consultations for approval of critical period and fisheries *refugia* boundary were conducted by relevant Provincial Department under Provincial Administration. Proclamation for blue swimming crab fisheries *refugia* in Kep Province was prepared and eventually signed by Minister of Agriculture, Forestry and Fisheries. Dissemination of the proclamation to the communities on social media and local media was done by Provincial Administration and Provincial Governor Office. Patrol in fisheries *refugia* site was carried out by Provincial Fisheries Office.



Observation of Kep fisheries *refugia*

2.3 Tropaing Sangke Fisheries Community in Kampot Province

Mr. Sim Him, Head of Tropaing Sangke Fisheries Community, welcomed all participants to the community and introduced that the community was established in 2009 by local NGO and conducted ecotourism activities since 2014, while fishing by small-scale fishing gears was allowed for the community members. Small-scale fishing gears employed in the area were hand push nets, mullet gill nets, rabbit fish gill nets, crab traps of 4 cm in mesh size, etc. Regarding ecotourism, 57 families with 16 tourist boats involved in the activities which mainly on mangrove planting, boating, homestay, and seafood-services.

There followed a conversation between participants and community members regarding fisheries resources status, ecotourism management, and problems encountered. It was told that by using only small-scale fishing gears in the area, fisheries resources increased, but the fishers and demand of fish products likewise increased. Income from ecotourism activities was shared to community members and contributed to local people; at the same time some amount was kept for disadvantaged people in the area. Main impact on ecotourism in the community was the garbage from outside which had to be collected and burned. In this regard, **Ms. Tum Sopheap**,

Deputy Director of Kampot Fisheries Administration, noted that Kampot Provincial Government had the policy to reduce plastic bags and the Administration always enhanced the awareness of reducing plastic garbage to the local people in the province.



Visit Tropaing Sangke Fisheries Community at Kampot Province

DAY 3 VISIT LANDING SITE AT KAMPOT PROVINCE AND FISHERIES ADMINISTRATION IN PHNOM PENH, 14TH SEPTEMBER 2022

3.1 Landing Site at Kampot Province

Mr. Sy Vann Leng and participants from Thailand visited fish landing site at Kampot in the early morning of day 3. The landing site is own and supported by Kampot Provincial Government; its active hour is around 5:00 am – 8.00 am. A group of trawlers of approximately 20

gross tons each and a few gill netters of about 30 gross tons each were found landed at site. The landed marine resources were in fresh condition, composed of benthic and pelagic aquatic animals, e.g. crabs, shrimps, and fish, the sizes of which were medium. From observation, blue swimming crabs were found a lot at the landing site, indicating the richness of these resources in the area.





Fish landing site at Kampot Province

3.2 Fisheries Administration in Phnom Penh

Participants from Thailand visited Fisheries Administration of Cambodia in Phnom Penh in the afternoon of day 3. Fisheries Administration is the government agency under the Ministry of Agriculture, Forestry and Fisheries responsible for contribution of fisheries to the achievement of national development objectives, especially those related to improving rural livelihoods of the poor, enhancing food security, and the sustainable development and equitable use of fisheries resources base. At the Fisheries Administration Office, participants had a chance to meet with **Mr. Ing Try**, Deputy Director-General of Fisheries Administration. **Mr. Ing** talked about the responsibilities taken by his office which included coastal fisheries, coastal communities, international policies, IUU, CITES, and IWC.

Participants also visited Department of Fisheries Conservation which is under Fisheries Administration. At this office, **Ms. Prulai Nootmorn**, Executive Advisor for Fisheries Management, Department of Fisheries of Thailand, on the behalf of Thai participants, expressed her deep gratitude to **Mr. Sy Vann Leng**, Deputy Director of Fisheries Conservation Department, and National Scientific Focal Point for Fisheries *Refugia* Project in Cambodia for his kind supports as a host coordinator and his excellent facilitation throughout the visit, as well as his provision of substantial information on fisheries *refugia* in Cambodia. **Ms. Prulai** invited Cambodian fisheries officers to visit fisheries *refugia* site in Thailand, and expressed her hope that Thailand and Cambodia would work together on transboundary resources management in fisheries *refugia* sites of both countries in near future.



Visit Fisheries Administration in Phnom Penh

FINDINGS AND CONCLUSIONS

This study visit has enhanced opportunity for fisheries officers of Thailand who involved in establishing fisheries *refugia* to get the experiences of fisheries *refugia* establishment and management in Cambodia, the bordering country of Thailand and one of the six participating countries implementing Fisheries *Refugia* Project in the South China Sea and Gulf of Thailand. Participants have learned that both Cambodia and Thailand succeeded in establishing fisheries *refugia* via the mechanisms of integrated fisheries *refugia* management committees/boards, both in national and site-based level, where multi-stakeholders involvement was the vital factor for success. Participants from fisheries research centers and fisheries provincial offices of Thailand acknowledged that technical data and information was the basic tool for identification of priority species and site boundary of fisheries *refugia* as they learned from blue swimming crab fisheries *refugia* at Koh Po in Kep Province.

Participants have gained a lot of information from MCC at Koh Arch Ses regarding ecosystem concerns. They acknowledged the roles of NGO in Cambodia in cooperation with government sectors to provide research data of the rich marine resources in the area, and promoting the practical approach to protect coastal resources, particularly endangered species like marine mammals, from IUU fishing. Participants were interested in the anti-trawling structures which could be the new idea on creating artificial reefs in the coastal waters in Thailand. From discussion and conversations, participants realized that NGOs had played the important roles in ecosystem and fisheries resources conservation; and they had the opinion that MCC could be the best practice of synergy between private and government sectors for ecosystem-based fisheries management in the coastal seas.

Upon meeting with fisheries community in Kampot Province, participants had the opportunity to exchange their experiences with the community members about the promotion of community-based fisheries management and alternative activities for support communities, of which the ecotourism was the practical approach in the community. Participants also acknowledged the concern of community about mangrove forest conservation and their providing mangrove planting activity to the visitors.

Lastly, participants from the Department of Fisheries of Thailand had a chance to visit the Fisheries Administration of Cambodia in Phnom Penh and meet with the Deputy Director-General. It was good for bilateral meeting between the fisheries officers of the two countries and for exchange of their views on the tasks of fisheries managements in their respective countries. The study visit ended with pleasure and satisfaction.

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ANNEX 1
PROGRAM OF STUDY VISIT

TIME	ACTIVITIES
DAY 1: 12TH SEPTEMBER 2022	
08:00-09:30	Travel to Phnom Penh, Cambodia
09:30-13:30	Travel to Kampot Province
13:30-14:30	Check in at Boutique Kampot Hotel
14:30-16:30	Visit Bokor National Park on Bokor Mountain and observing Kampot Fisheries <i>Refugia</i> Site for groupers
16:30-18:30	Observing fishing villages and fishing activities along the river mouth of Kampot River
18:30-20:00	Dinner at Kampot Town
DAY 2: 13TH SEPTEMBER 2022	
08:00-08:30	Travel from Kampot Province to Kep Province
08:30-11:00	Visit Marine Conservation of Cambodia (MCC) at Koh Arch Ses
11:00-12:00	Visit blue swimming crab fisheries <i>refugia</i> at koh Po
12:00-13:30	Lunch at Kep Town
13:30-14:30	Observing crab market at Kep Province
14:30-16:30	Visit Tropaing Sangke Fisheries Community in Kampot Province
18:30-20:00	Dinner at Kampot Town
DAY 3: 14TH SEPTEMBER 2022	
06:00-07:30	Visit fish landing site at Kampot Town
07:30-08:30	Breakfast at Boutique Kampot Hotel
08:30-12:00	Travel from Kampot Province to Phnom Penh
12:00-13:30	Lunch at restaurant in Phnom Penh
14:00-15:30	Visit Fisheries Administration in Phnom Penh
15:30-17:30	Travel to Phnom Penh Airport
19:25-20:40	Travel back to Thailand

ANNEX 2
LIST OF PARTICIPANTS

Department of Fisheries of Thailand

1. Ms. Praulai Nootmorn Executive Advisor for Fisheries Management
2. Mr. Itthiphon Kwathai Director of Surat Thani Fisheries Provincial Office
3. Mr. Pavarot Noranarttragoon, Ph.D. Head of Fisheries Resources Assessment Group, Marine Fisheries Research and Development Division, and National Focal Point for Fisheries *Refugia* Project in Thailand
4. Mr. Udom Khrueniam Senior Fisheries Technical Officer, Rayong Marine Fisheries Research and Development Center
5. Mr. Akanit Kuapuag Senior Fisheries Technical Officer, Chumphon Marine Fisheries Research and Development Center
6. Ms. Kanjana Ongpao Senior Fisheries Officer, Fisheries Administration and Management Group, Trat Fisheries Provincial Office
7. Ms. Ratana Munprasit Assistant for Fisheries *Refugia* Project

Fisheries Administration of Cambodia

1. Mr. Ing Try Deputy Director-General of Fisheries Administration

Host Coordinator of Study Visit

1. Mr. Sy Vann Leng Deputy Director of Fisheries Conservation Department, Fisheries Administration of Cambodia, and National Scientific and Technical Focal Point for Fisheries *Refugia* Project in Cambodia

Kep Province

1. Mr. Pheun Phalla Deputy Director of Kep Fisheries Administration Cantonment

Marine Conservation of Cambodia (MCC)

1. Ms. Rachana Thap Executive Director of MCC
2. Mr. Amick Haissoune General Coordinator of MCC
3. Ms. Samphors Lor Assistant Coordinator of MCC
4. Ms. Rose Ellis Coordinator of the Cambodian Marine Mammal Conservation Project
5. Mr. David Ideler IUU Project Assistant
6. Ms. Camee Knop Intern of the Cambodian Marine Mammal Conservation Project
7. Mr. Chhayhy Heng Intern of the Cambodian Marine Mammal Conservation Project

Tropaing Sangke Fisheries Community in Kampot Province

1. Mr. Sim Him Head of Tropaing Sangke Fisheries Community
2. Ms. Tum Sopheap Deputy Director of Kampot Fisheries Administration
3. Ms. Vorn Sakda Member of Tropaing Sangke Fisheries Community

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