

ANNEX 5A



National Progress Report in Cambodia

**ESTABLISHMENT AND OPERATION OF A REGIONAL SYSTEM OF FISHERIES REFUGIA IN THE SOUTH CHINA SEA
AND GULF OF THAILAND**

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Fisheries Administration of Cambodia and
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Supported by Fisheries *Refugia* SEAFDEC/UNEP/GEF

21-23 May 2019

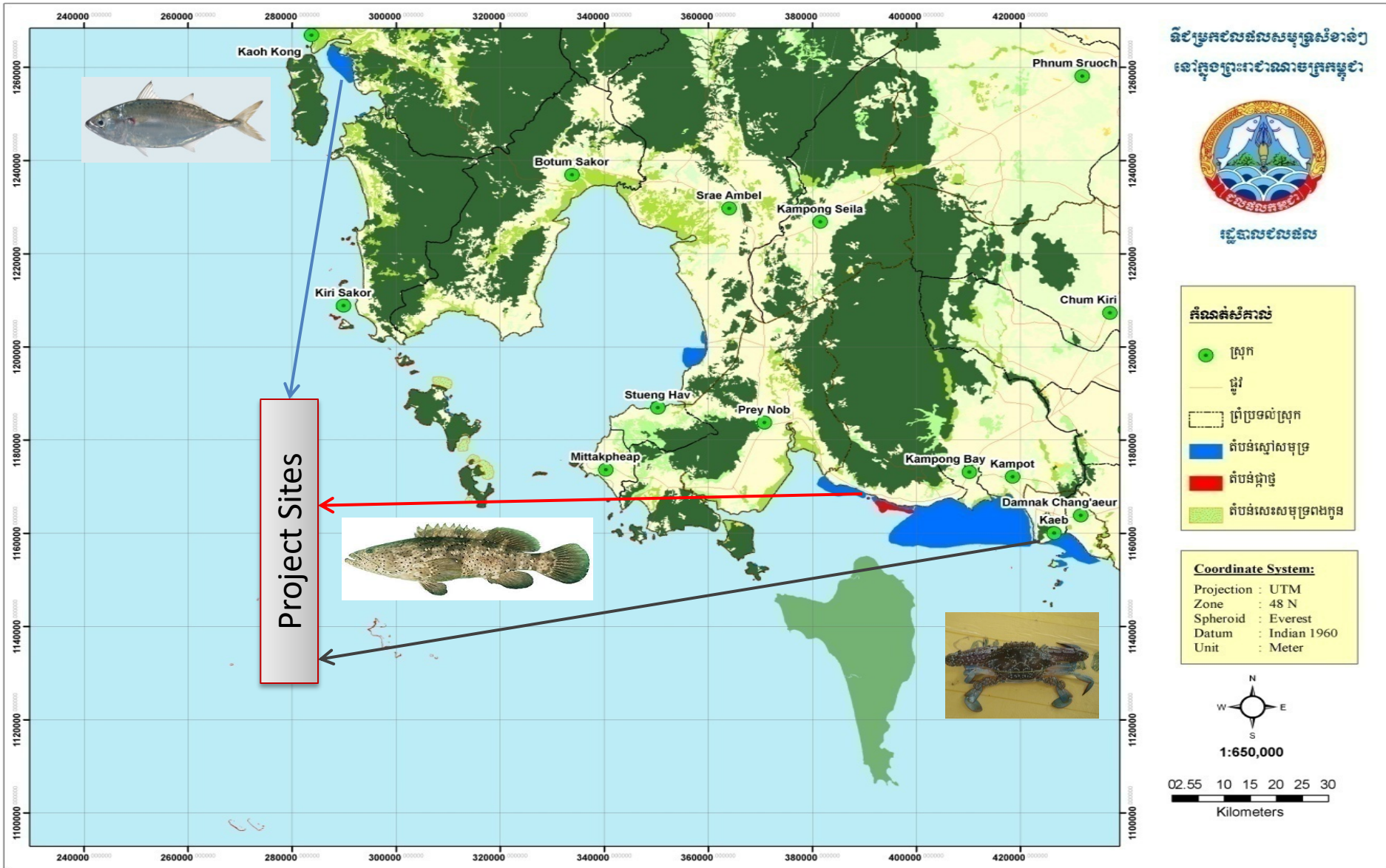
Thansur Sokha Hotel, Kampot Province, Cambodia



Content of Presentation

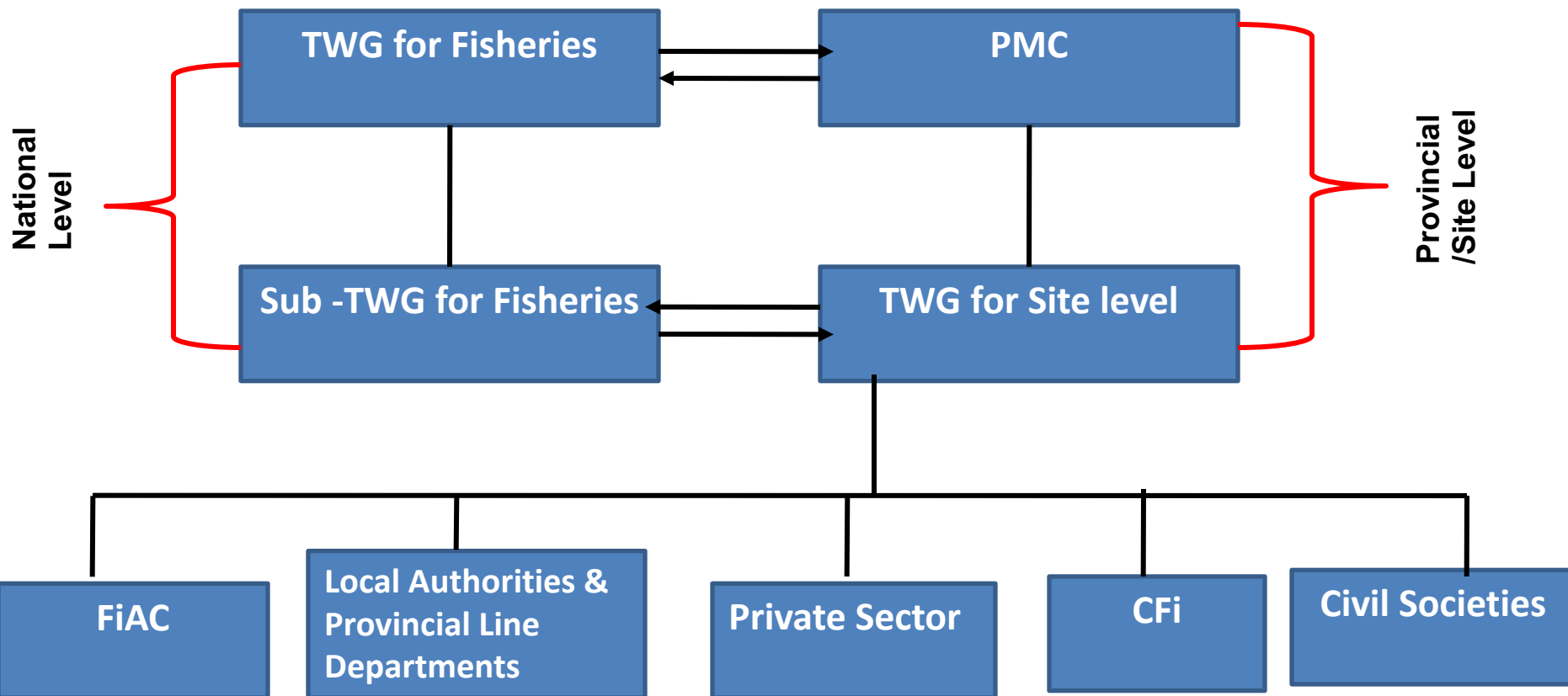
1. General Aspect of Fisheries Refugia Project
2. Management and Coordination Structure
3. Project Progressing Report from September 2018 to May 2019
4. Implementation of Activities in Fisheries *Refugia* Sites
5. Baseline Survey of Short mackerel (*Rastrelliger brachysoma*) in Koh kong
6. Project Benefit into National Fisheries Framework and Policy
7. Next costed work plan for Q3 and Q4 in 2019

1. PROJECT SITES





2. MANAGEMENT AND COORDINATION STRUCTURE



3. PROJECT PROGRESSING REPORT FROM SEPTEMBER 2018 TO MAY 2019



Activities	Kep Province	Koh Kong Province	Kampot Province
Stakeholder consultation workshop	Done August 2017	Done September 2017	Done November 2018
Mapping and Demarcating Fisheries <i>Refugia</i> Boundaries	Done April 2018	Done March 2018	Draft Expect to approve for Q3
Site Base Management Board Establishment	Done Sept 2018	Draft Expect to approve for Q3	Draft Expect to approve for Q3
Fisheries <i>Refugia</i> Proclamation Promulgated by MAFF's Minister	Done April 2018	Draft approved by provincial authority	Draft approved by provincial authority
Management Plan Preparation for Fisheries <i>Refugia</i> Sites	Draft Expect to approve for Q2	Not yet Expect to start for Q3	Not yet Expect to start for Q3
Key Species in Fisheries <i>Refugia</i> Sites	Blue Swimming Crab	Short mackerel	Juvenile Grouper

STAKEHOLDER CONSULTATION WORKSHOP IN KAMPOT



Stakeholder consultation workshop with community fisheries and fishers in Kampot



Stakeholder consultation workshop with community fisheries and fishers in Kampot



Stakeholder consultation workshop with provincial line departments in Kampot



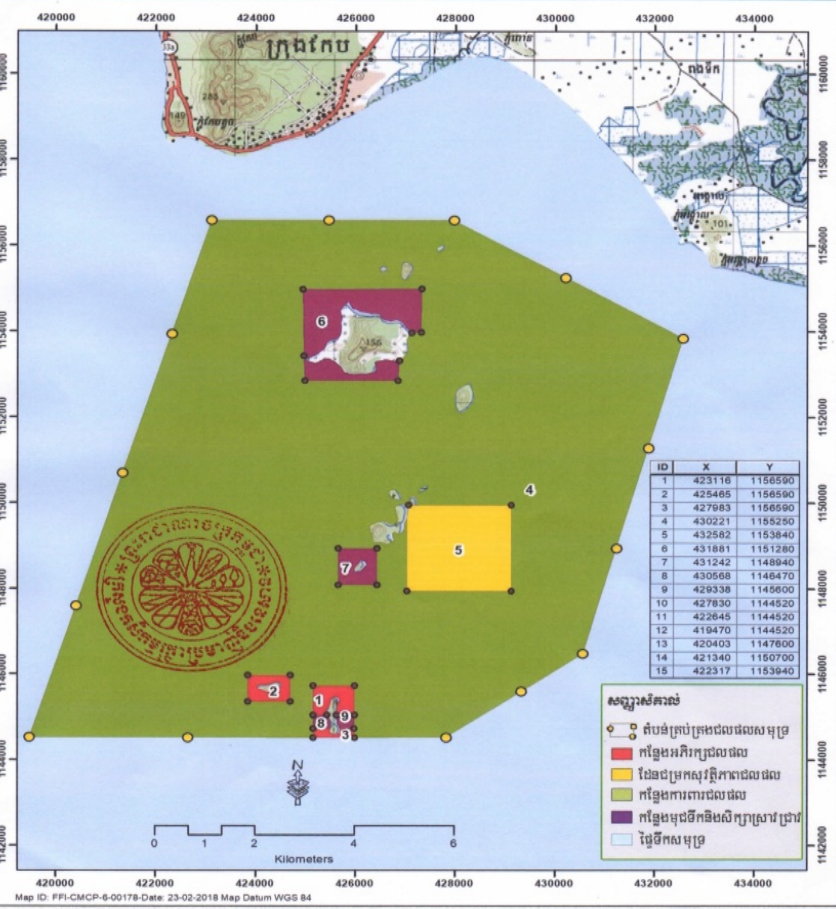
Stakeholder consultation workshop with provincial line departments in Kampot

MAPPING AND DEMARCATING BOUNDARIES OF FISHERIES REFUGIA SITES



ឧបសម្ព័ន្ធ១ នៃប្រកាសលេខ ១៩៣ ចុះថ្ងៃទី ១២ ខែ ២០១៨ ស្តីពីការបង្កើតតំបន់គ្រប់គ្រងជលផលសមុទ្រនៅប្រជុំកោះកេរីនិងកោះឆ្មារ ខេត្តកែប

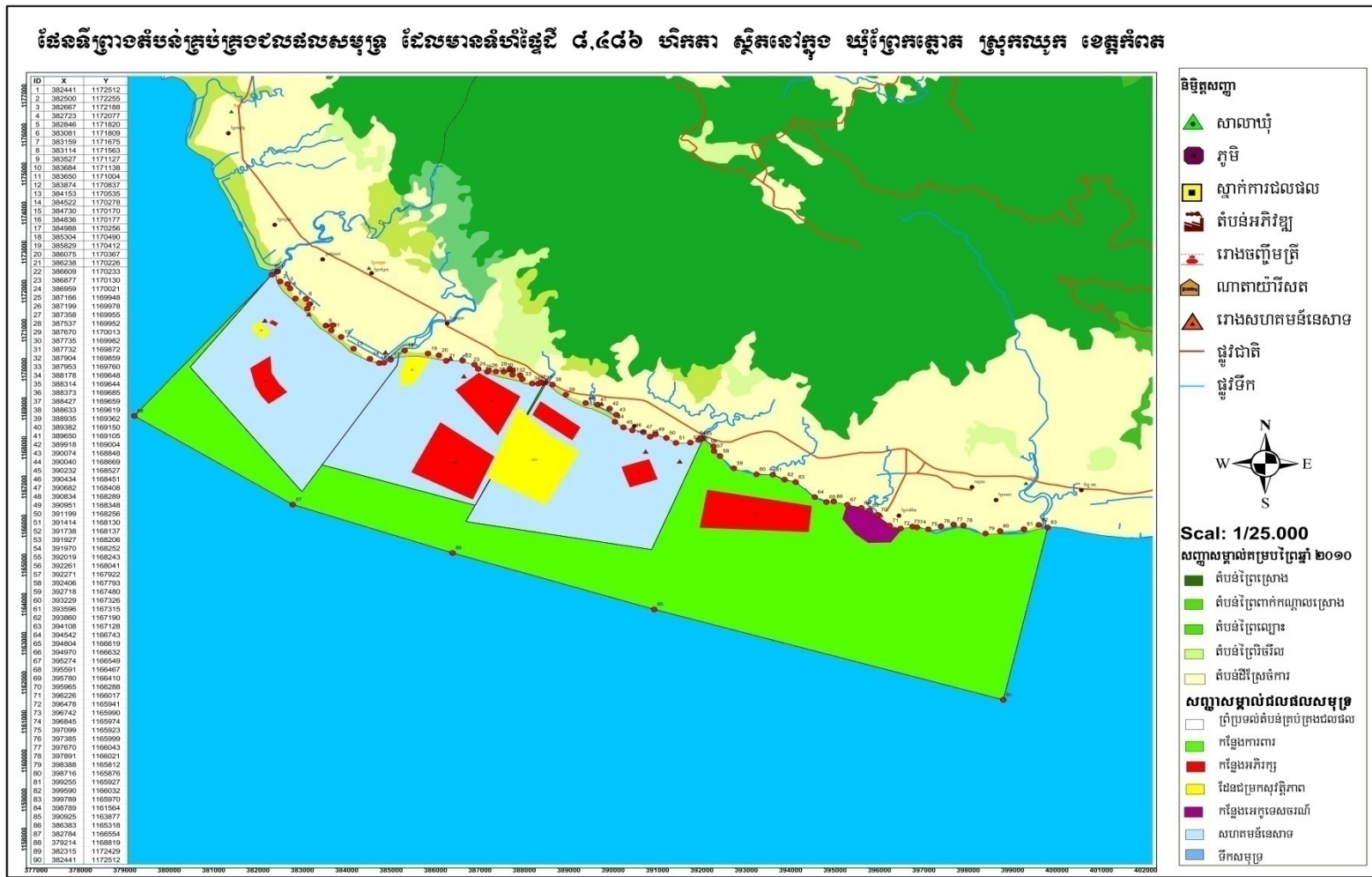
ឧបសម្ព័ន្ធ១ នៃប្រកាសលេខ.....ចុះថ្ងៃទី.....ខែ.....ឆ្នាំ២០១៩ ស្តីពីការបង្កើតនិងគ្រប់គ្រងតំបន់គ្រប់គ្រងសមុទ្រភាពជលផលត្រីកាតុង ខេត្តកោះកុង



Mapping and Demarcating boundary of Blue swimming crab Fisheries Refugia approved by MAFF's Minister

Mapping and Demarcating boundary of Blue swimming crab Fisheries Refugia approved by Koh Kong Provincial Hall Administration

Mapping and Demarcating draft boundary of fisheries refugia site in Kampot province



In principal, it has been approved by CFis, local authorities, DoA, and FiAC, but still discuss with provincial governor. It expect to be approved on next quarter

MEETING WITH PROVINCIAL LINE DEPARTMENTS ON DRAFT PROCLAMATION ON ESTABLISHMENT AND MANAGEMENT OF FISHERIES REFUGIA AT PROVINCIAL LEVEL



Meeting with provincial line departments chaired by Deputy Governor of Kampot



Meeting with provincial line departments chaired by Deputy Governor of Kampot



Meeting with provincial line departments chaired by Koh Kong Governor



Meeting with provincial line departments chaired by Deputy Governor of Koh Kong

MEETING WITH TWG ON MANAGEMENT PLAN PREPARATION FOR BLUE SWIMMING CRAB FISHERIES REFUGIA IN KEP



Technical Working Group Meeting chaired by Deputy Governor of Kep on Management Plan Preparation for Blue swimming crab Fisheries Refugia in Kep



Technical Working Group Meeting chaired by Deputy Governor of Kep on Management Plan Preparation for Blue swimming crab Fisheries Refugia in Kep



IMPLEMENTATION OF ACTIVITIES IN FISHERIES REFUGIA SITES



1. BLUE SWIMMING CRAB FISHERIES REFUGIA IN KOH PO, KEP

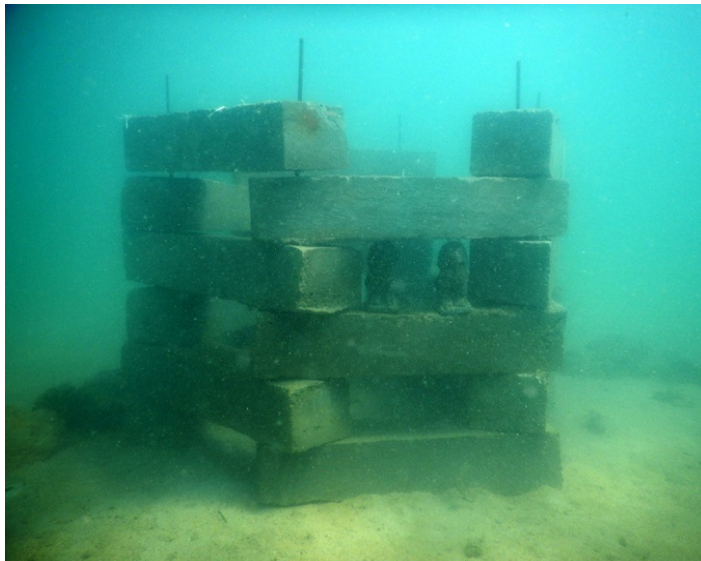
FiA has collaborated with FiAC in Kep to conduct public awareness on the role and function of blue swimming crab fisheries refugia in Koh Po in March 2019 to wider local authorities, CFIs, and fishermen and demarcate the boundary of that area to ensure effective patrol management, funded by Fisheries Refugia Project SEAFDEC/UNEP/GEF. There are total 150 participants in three events





FiA has collaborated MCC to build and deploy concrete block into marine fisheries management area in aim of (1) protecting coral reef, sea grass, and spawning ground from illegal fishing , and (2) serving as artificial habitat for some key species.

1600concrete block (80 artificial boxes) have been deployed into marine fisheries management area and will plan to deploy furthermore next quarter





Officers of FiAC in Kep as patrolling group operated to crack down illegal fishing in marine fisheries management area of fisheries refugia site of blue swimming crab.



2. MACKEREL FISHERIES REFUGIA IN PEAM KRASOB, KOH KONG



FiA has collaborated with FiAC in Koh Kong to conduct public awareness on the role and function of mackerel FR on March 2019 in Peam Krasob, Koh Sorlao, and Koh Kapi, funded by FR Project SEAFDEC/UNEP/GEF. There are total 155 participants in three events.



Dissemination activities of the importance of mackerel FR in Koh Ka Pi



Dissemination activities of the importance of mackerel FR in Koh Sro Lao



Dissemination activities of the importance of mackerel FR in Peam Krasob



BASELINE SURVEY OF SHORT MACKEREL (*Rastrelliger brachysoma*) IN KOH KONG

1. PURPOSE

To provide scientific data to support the establishment and management of mackerel fisheries *refugia* in Koh Kong province

2. METHODOLOGY

There are several methods to be conducted such as

- Collecting fish sampling from local market, landing site, and fishing ground
- Operating fish to check its gonad development
- Collecting its DNA
- Harvesting sampling of fish larvae using bongo net with the size of less 500micron



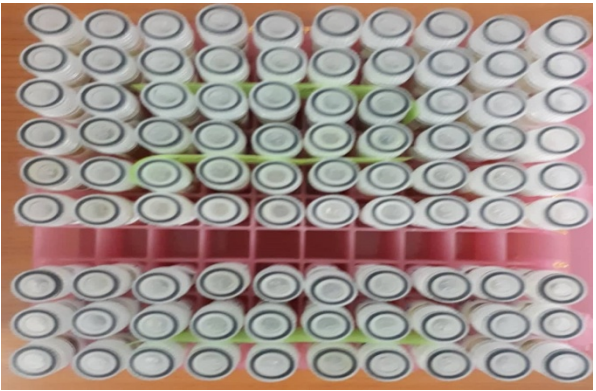
Collecting fish sample at local market in Koh Kong



Collecting DNA



Collecting sample of fish larvae



Operating fish to check its gonad



3. RESULTS

Table1: Monthly distribution of short mackerel by sex

No.	Month/year	Sex				Total
		Female	%	Male	%	
1	Dec-18	17	40.48	25	59.52	42
2	Jan-19	18	22.22	63	77.78	81
3	Feb-19	62	73.81	22	26.19	84
4	Mar-19	28	32.18	59	67.82	87
5	Apr-19	75	87.21	11	12.79	86
6	May-19	40	63.49	23	36.51	63
		<u>240</u>	<u>54.18</u>	<u>203</u>	<u>45.82</u>	<u>443</u>

In this research, 443 fish sampling were collected from local market, fishing ground, and landing site, including 240 females (54.18%) and 203 males (45.82%) according to t able 1.

Table 2: Monthly distribution of short mackerel total length and body weight by sex

No.	Month/year	Female		Male	
		TL (cm)	BW (g)	TL (cm)	BW (g)
1	Dec-18			14.69	51.77
2	Jan-19	15.22	58.89	14.68	52.12
3	Feb-19	17.70	67.94	17.13	58.9
4	Mar-19	17.03	58.70	16.65	53.52
5	Apr-19	16.25	52.24	16.15	50.17
6	May-19	17.61	58.10	16.65	50.42

Table 2 showed that Female' mature is total length from 15.22 cm to 17.70 cm and its body weight from 52.24g to 67.94g meanwhile male's mature is total length from 14.68 to 17.13 and body weight from 50.17g to 58.9g

Table3: Monthly distribution of short mackerel's body weight, ovary weight, and gonad somatic index

Month/year	Average T W of Body (g)	Average TW of Ovary (g)	Average GSI of Ovary
Dec-18	58.89	1.45	2.46
Jan-19	57.75	1.02	1.77
Feb-19	67.94	1.63	2.40
Mar-19	58.70	1.15	1.96
Apr-19	52.24	0.64	1.23
May-19	58.10	2.97	5.11

GSI value of short mackerel ovary varies up on total weight of body and ovary weight. Table 1 showed average GSI value increased 2.46, indicating that fish spawning in December and then GIS value start declining 1.77, indicating fish start releasing egg into sea water in January. Then GSI value increase 2.40, fish start spawning in February and GSI value decrease from 1.96 to 1.23, fish start releasing egg into sea water in March to April. GSI value increase 5.11, fish start spawning again in May



Figure 1: Monthly distribution of short mackerel's Gonad Somatic Index

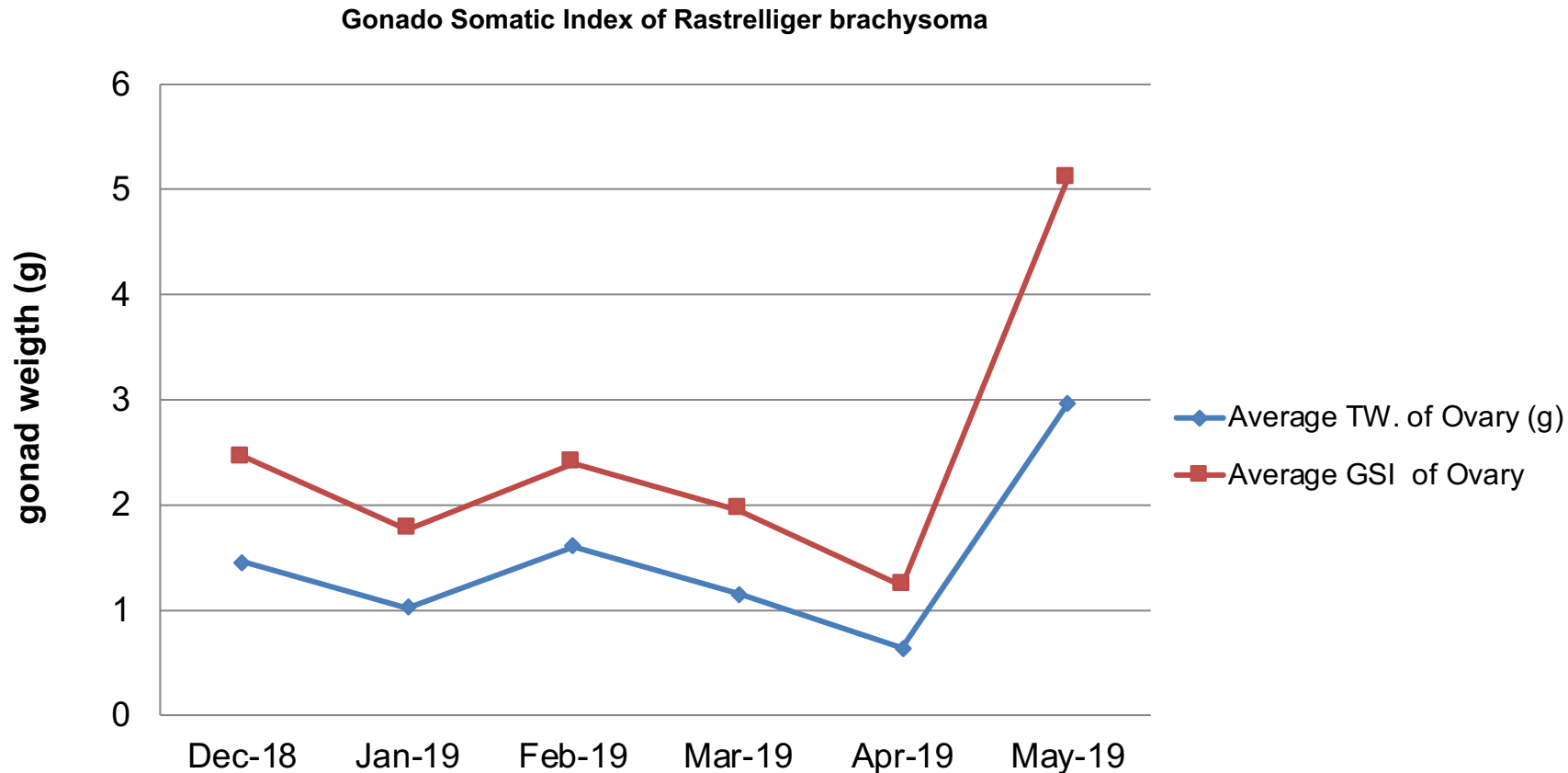


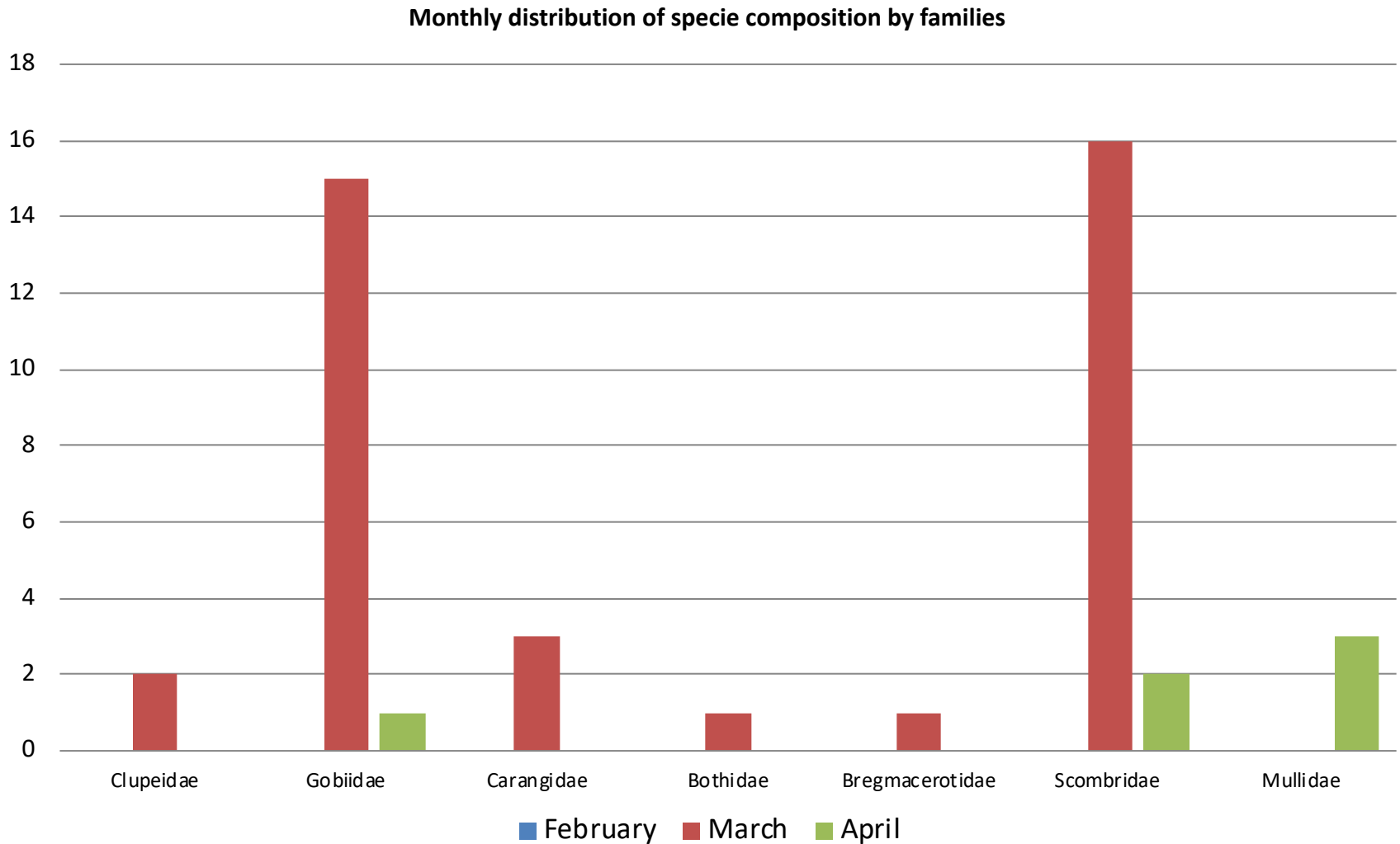
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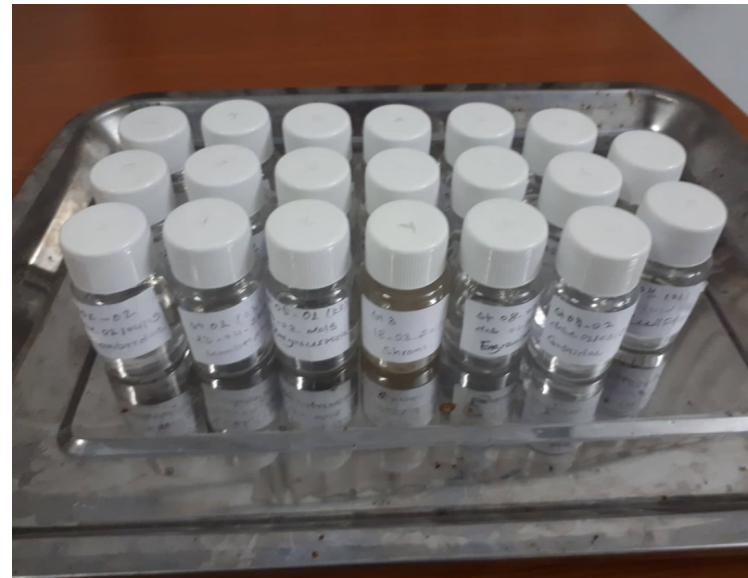


Table 4: Monthly identification of specie composition by families and by station

Families	Station1	Station2	Station3	Station4	Station5	Station6	Station7	Station8	Total
February									
Small shrimp									
Sea weed									
worm									
March									
Clupeidae	1			1					2
Gobiidae					13			2	15
Carangidae					3				3
Bothidae					1				1
Bregmacerotidae					1				1
Scombridae		1	14				1		16
sub-Total	1	1	14	1	18	0	1	2	38
April									
Scombridae	2								2
Mullidae							3		3
Gobiidae	1								1
Sub-Total	3						3		6
Grand Total	4	1	14	1	18	0	4	2	44

Figure 2: Monthly distribution of specie composition by families





PROJECT BENEFIT INTO NATIONAL FISHERIES FRAMEWORK AND POLICY



Fisheries *refugia* concept will be integrated into national fisheries framework and policy such as

- ✓ Fisheries Law

At least 5 articles (Chapter on protection and conservation of fisheries , and Penalties) related to fisheries *refugia* establishment and management including zoning type, certain period of closed season for particular species as well as sanction to the fishing offender

- ✓ National action plan on combating IUU,
- ✓ 10 year strategy plan for fisheries conservation, and
- ✓ 5 year management plan for fisheries conservation,

NEXT COSTED WORKPLAN FOR Q3 & Q4 IN 2019



Project Components/Activities		Estimated Costed-Workplan for Q3 and Q4/2019		
Component 1	Identification and management of fisheries and critical habitat linkages at priority fisheries refugia in the South China Sea	Q3	Q4	Total
Activity 1.2	Facilitating agreement among stakeholders on the boundaries of fisheries refugia at 14 priority fisheries refugia sites	3,000.00		3,000.00
Activity 1.3	Developing Community-Based Management Plans for 14 priority fisheries refugia sites	5,000.00	5,000.00	10,000.00
Activity 1.4	Establishing operational management for 14 priority fisheries refugia sites	10,000.00	10,000.00	20,000.00
Activity 1.5	Strengthening civil society and community organization participation in the management of 14 fisheries refugia sites	500.00	500.00	1,000.00
	sub-total	18,500.00	15,500.00	34,000.00
Component 2	Improving the management of critical habitats for fish stocks of transboundary significance via national and regional actions to strengthen the enabling environment and knowledge-base for fisheries refugia management in the South China Sea	Q3	Q4	Total
Activity 2.3	Development of national guidelines on the establishment and operation of fisheries refugia and reflected in an updated regional refugia action plan	3,000.00	5,000.00	8,000.00
Activity 2.5	Enhancing access to information relating to status and trends in fish stocks and their habitats in waters of the SCS marine basin	4,000.00	8,000.00	12,000.00
Activity 2.6	Improved national and regional-level management and sharing of information and data on fish early life history in the waters of SCS	6,000.00	6,000.00	12,000.00
Activity 2.8	Strengthening the information base for the planning, monitoring and evaluation of management at priority fisheries refugia sites	1,500.00	1,500.00	3,000.00
	sub-total	14,500.00	20,500.00	
Component 3	Information Management and Dissemination in support of national and regional-level implementation of the fisheries refugia concept	Q3	Q4	Total
Activity 3.2	Improving community acceptance of area based approaches to marine management in the 6 participating countries		2,000.00	2,000.00
	sub-total	-	2,000.00	2,000.00
Component 4	National and regional cooperation and coordination for integrated fish stock and critical habitat management in the South China Sea	Q3	Q4	Total
Activity 4.3	Catalyzing local community action via establishment and operation of site-based management boards at 14 priority refugia sites	2,000.00	2,000.00	4,000.00
	sub-total	2,000.00	2,000.00	4,000.00
	SUB TOTAL PROJECT COST (\$)	2,000.00	2,000.00	4,000.00
	TOTAL PROJECT COST (2019) (\$)	35,000.00	40,000.00	75,000.00



Thank you very much for your attention