



PROJECT DOCUMENT

PROPOSED ACTIVITIES FOR THE YEAR 2020

Project ID: 0120200104

Program Category:	ASEAN-SEAFDEC ASSP and FCG Mechanism		
Project Title:	Sustainable Utilization of Fisheries Resources and Resources Enhancement in Southeast Asia		
Program Strategy No:	I	Total Period	2020 - 2024
Lead Department:	Training Department (TD)	Lead Country:	None
Donor/Sponsor:	Japanese Trust Fund (JTF)	Total Project Budget:	USD 400,000
Project Partner(s):	None	Budget for 2020:	USD 80,000
Lead Technical Officer:	Sukchai Arnupapboon, Head, Fishing Ground and Oceanography Section / TD	Project Participating Country	All Members Countries

PART I: PROJECT DESCRIPTION

1. Executive Summary:

The fisheries play significant roles to social and economic of the world. Marine productions provide a primary source of protein to people and also contribute the livelihood to many sectors, *i.e.* fisher, trader etc. Many Southeast Asia countries are among the highest producers of fishery products in the world. However, during the past several decades, the growing international, regional and national demands for marine products have led to the continued development and modernization of fishing technology. Unfortunately, this increased demands and the corresponding technology response have resulted in the over- exploitation of many fishery resources in the world.

To avoid the ASEAN fisheries catch becoming its downward trend same as globally. To promote sustainable fisheries, over the past decade SEAFDEC has provided technical support to explore the under-utilized offshore fisheries resources and enhance fisheries resources through various programs, *e.g.* technical meetings, workshops, training courses and research studies on fisheries resource exploration, fisheries abundance, stock assessment as well as artificial habitat installation.

To enhance the sustainable utilization of fisheries resources in the region, SEAFDEC will implement the project entitled “Sustainable Utilization of Marine Fisheries Resources and Resource Enhancement in Southeast Asia” from 2020 to 2024. The key activities for this project include organizing the regional consultation meetings and capacity development training courses, conducting research surveys, developing the application of Fisheries Geographic Information System (FGIS) and Remote Sensing (RS) as well as enhancing fisheries resources and its habitat. It is expected that the livelihood for marine fishers are secured and stable through the sustainable utilization of marine fisheries resources and resource enhancement in the Southeast Asia region.

2. Background and Justification:

Over a half of the world’s people obtains a significant source of protein from seafood. In Southeast Asia, this proportion is significantly higher. The Southeast Asian region is blessed with the high productivity of fisheries resources because of the rich ecosystems such as dense mangrove forests and seagrass beds sustained by the rich effluence of nutrients from land. However, over several decades, fisheries in Southeast Asia have exceeded its point of sustainability. Many of the commercially

important fishery resources in the region have declined due to many factors e.g. overfishing, illegal fishing, use of destructive fishing practices and environmental degradation.

As reflecting to the decline of fisheries resources in Southeast Asia, SEAFDEC has conducted a series of activities to promote sustainable fisheries for fishers and fishing communities in the region. For example, SEAFDEC under the JTF6 conducted two (2) activities, such as the “*Off-shore Fisheries Resource Exploration in Southeast Asia*” and the “*Promotion of Sustainable Fisheries Resources Enhancement Measures in Critical Habitats/Fishing Grounds in Southeast Asia*” over the last 7 years. This is in line with the United Nations’ Sustainable Development Goals 14 (Conserve and Sustainably Use the Oceans, Seas and Marine Resources for Sustainable development). Based on the lesson learnt regarding promoting sustainable fisheries, it has revealed that effective strategies and management as well as science-based knowledge on marine resources are a prerequisite for the sustainable utilization and enhancement of fisheries resources. In this connection, to further support and encourage the SEAFDEC Member Countries are ongoing challenges in the sustainable utilization of fisheries resources through the project entitled “Sustainable Utilization of Marine Fisheries Resources and Resource Enhancement in Southeast Asia” under the JTF 6-II is ongoing challenge.

3. Gender Sensitivity of the Project

The project is not gender-sensitive but neutral and equalized.

4. Project Goal, Outcome, Outputs, Activities, Indicators and Verification:

4.1 Logical Framework

GOAL (Overall Objectives)	Indicators	Means of Verification
Sustainable utilization of marine fisheries resources in Southeast Asia	<ul style="list-style-type: none"> - The livelihood for marine fishers is secure and stable - Responsible fisheries practice is maintained 	Catch and socio-economic data on marine fisheries in Southeast Asia
OUTCOME	Indicators	Means of Verification
Strengthened management of marine fisheries resources in Southeast Asia through improved technical capacities	Management of marine fisheries resources improved Scientific research reports	Comments and recommendations from the Member Countries at SEAFDEC Program Committee Meeting (PCM)
OUTPUT 1	Indicators	Means of Verification
Technical capacities of human resources (<i>i.e.</i> junior fisheries officers and researchers) to conduct marine fisheries resources and oceanographic research/survey improved in Southeast Asia	Number of competent researchers and effective marine fisheries resources and oceanographic research/survey	<ul style="list-style-type: none"> - Good data collections and analysis - Appropriate survey plan - Appropriate sampling gear and oceanographic equipment
ACTIVITY 1	Indicators: key inputs (Number to be conducted, Where, Time)	Means of Verification
Activity 1.1: Regional training on design of sampling gear for fisheries	<ul style="list-style-type: none"> - One regional training on design of sampling gear for fisheries 	<ul style="list-style-type: none"> - Training report that present number (11) of participants

resources research survey (Year 2020)	resources research survey conducted - Expected number (11) of persons trained	- Country reports
Activity 1.2: Regional training on fisheries oceanographic (Year 2021)	- One regional training on oceanographic equipment for fisheries resources survey conducted - Expected number (11) of persons trained	- Training report that present number (11) of participants - Country reports
Activity 1.3: Regional training on research cruise planning for marine fisheries resources and oceanographic survey (Year 2022)	- One regional training on research cruise planning for marine fisheries resources and oceanographic survey conducted - Expected number (11) of persons trained	- Training report that present number (11) of participants - Country reports
Activity 1.4: Regional training on data collection and fisheries resources stock assessment (Year 2023)	- One regional training on data collection and fisheries resources stock assessment conducted - Expected number (11) of persons trained	- Training report that present number (11) of participants - Country reports
Activity 1.5: Research and human resources development on microplastic and marine debris in SEA (Year 2024)	- One regional training on marine debris and microplastic conducted - Expected number (10) of persons trained - Two marine debris and microplastic survey conducted in ASEAN water	- Training report that present number (10) of participants - Country reports
Activity 1.6: IEC materials for regional trainings	- IEC materials for regional trainings developed and utilized in the above-mentioned trainings	- IEC materials (i.e. handbooks, textbooks, SOPs, references, etc.)
OUTPUT 2	Indicators	Means of Verification
Technical knowledge, technical skills and field experience of SEAFDEC staff and member countries' researchers improved	- Participation in research/survey cruises and a regional/international - Meeting	- Successful research cruises - Active participation in research/survey and meeting - Good data collections and analysis

ACTIVITY 2	Indicators: key inputs (Number to be conducted, Where, Time)	Means of Verification
Activity 2.1: Participation of SEAFDEC staff or/and member countries' researchers in a research/ survey cruise	- SEAFDEC staff and member countries researchers 15 persons participated in 5 research/survey cruises in 5 years (3 persons/year)	- Cruise reports - Scientific/research papers and articles
Activity 2.2: Participation of SEAFDEC staff or/and member countries' researchers in a regional / international meeting on fisheries resources and stock assessment	- SEAFDEC staff and member countries researchers 5 persons participated in regional / international meetings 5 meeting in 5 years (1 person/year)	- Report on meeting participation - Meeting report
OUTPUT 3	Indicators	Means of Verification
Research cruise plan for research/training vessels of SEAFDEC and member countries developed	Research cruise plan developed	- Research cruise plan - Comments and recommendations from a research vessel Captain and Chief Researcher
ACTIVITY 3	Indicators: key inputs (Number to be conducted, Where, Time)	Means of Verification
Activity 3.1 Technical consultation meeting to develop a research cruise plan for research/ training vessels of SEAFDEC and member countries	- Five technical consultation meetings to develop a research cruise plan for research / training vessels of SEAFDEC and member countries organized (one meeting in every year) - Expected total number (20) of participants. (each year 4 persons)	- Meeting reports - Research cruise plan - Number (20) of participants
OUTPUT 4	Indicators	Means of Verification
Scientific knowledge to support fisheries management on transboundary fisheries resources in Sub-region	Sub-region has update the status of transboundary fisheries resources in Southeast Asia	Report of the status of transboundary fisheries resources in Southeast Asia
ACTIVITY 4	Indicators: key inputs (Number to be conducted, Where, Time)	Means of Verification
Activity 4.1: Technical consultation meetings on identification of transboundary fisheries resources and geographical area	- Update on the transboundary fisheries resources status in the geographical area organized - Expected number (15) of participants	- Meeting reports - Technical reports - Number (15) of participants
Activity 4.2: Technical consultation/ Workshop/training on	- Three (3) workshops/trainings on monitoring status of	- Workshop/training reports - Number (15) of participants

monitoring the status of transboundary fisheries resources in Sub-region	transboundary fisheries resources in Andaman Sea GOT and SSS conducted - Expected number (15) of participants	
Activity 4.3: Participation in a national / regional / international meeting to disseminate the survey results and management on the transboundary fisheries resources	- Summarizing the survey results and management on the transboundary fisheries resources disseminated (One meeting/year) - Budget is allocated with for Activities 4.1 and 4.2	- Report on meeting participation - Meeting report
OUTPUT 5	Indicators	Means of Verification
Application of Fisheries Geographic Information System (FGIS) and Remote Sensing (RS) for monitoring marine fisheries resources and environment in Southeast Asia	Application of Fisheries Geographic Information System (FGIS) and Remote Sensing (RS) for monitoring marine fisheries resources and environment developed	Application of Fisheries Geographic Information System (FGIS) and Remote Sensing (RS) for monitoring marine fisheries resources and environment
ACTIVITY 5	Indicators: key inputs (Number to be conducted, Where, Time)	Means of Verification
Activity 5.1: Regional technical meeting or workshop or training on utilization of FGIS and RS to improve fisheries management (Year 2020-2024)	- Five regional technical meeting or workshop or training on utilization of FGIS and RS organized - Expected number (15) of participants	- Meeting reports - Training report - Technical reports - Number 15 participants
Activity 5.2: Participation in a national / regional / international meeting to disseminate the FGIS and RS to improve fisheries management in SEA	SEAFDEC participated in the 5 meetings and the survey results and management on the transboundary fisheries resources disseminated (One meeting/year)	- Report on meeting participation - Meeting report - Budget is allocated with for Activities 5.1
OUTPUT 6	Indicators	Means of Verification
Resource enhancement through the installation of artificial habitat	Resource enhancement is assessed	Impact assessment on fisheries resources and marine environment
ACTIVITY 6	Indicators: key inputs (Number to be conducted, Where, Time)	Means of Verification
Activity 6.1: Technical consultation meeting on the impacts for fisheries resources and marine environment by the installation of artificial habitat (Year 2020	- Two technical consultation meetings on the impacts for fisheries resources and marine environment by the installation of artificial habitat organized	- Meeting reports - Technical reports - Workplan on the investigation for the impacts for fisheries

and 2024)	- Expected number 40 participants	resources and marine environment by the installation of artificial habitat - Number 40 participants
Activity 6.2: Survey on the impacts for fisheries resources and marine environment by the installation of artificial habitat (Year 2021-2022)	- Three surveys on the impacts for fisheries resources and marine environment by the installation of artificial habitat conducted in the 2 nd and 3 rd year (during the post northeast monsoon, post southwest monsoon and southwest monsoon) - Expected series of publication on the impacts for fisheries resources and marine environment by the installation of artificial habitat 3 publication	- Survey reports - Progress reports and - Standard operational procedure to investigate impact of fisheries resources and marine environment by the installation of artificial habitat
Activity 6.3: Training workshop on the survey results of the impacts for fisheries resources and marine environment by the installation of artificial habitat (Year 2023)	- One training workshop on the survey results of the impacts for fisheries resources and marine environment by the installation of artificial habitat conducted - Expected number 20 participants	- Workshop report - Number 20 of participants

4.2 Project Implementation Plan for 2020 - 2024

Activities	2020				2021				2022				2023				2024			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Output 1:																				
Activity 1.1		x																		
Activity 1.2						x														
Activity 1.3										x										
Activity 1.4														x						
Activity 1.5		x				x				x				x				x		
Activity 1.6				x				x				x				x				x
Output 2:																				
Activity 2.1			x				x				x				x				x	
Activity 2.2			x				x				x				x				x	
Output 3:																				
Activity 3.1	x				x				x				x				x			
Output 4:																				
Activity 4.1			x																	
Activity 4.2							x				x				x				x	

Activity 4.3			x				x							x					x	
Output 5:																				
Activity 5.1		x					x							x					x	
Activity 5.2			x					x							x					x
Output 6:																				
Activity 6.1			x																	x
Activity 6.2					x	x	x	x	x	x	x	x								
Activity 6.3																				x

4.3 Proposed Budget for 2020 - 2024

(Unit: USD)

Output	Activities	Year 1 (2020)	Year 2 (2021)	Year 3 (2022)	Year 4 (2023)	Year5 (2024)
Output 1	Activity 1.1	15,000				
	Activity 1.2		15,000			
	Activity 1.3			15,000		
	Activity 1.4				15,000	
	Activity 1.5	5,000	5,000	5,000	5,000	20,000
	Activity 1.6					
Output 2	Activity 2.1	5,000	2,500	2,500	2,500	2,500
	Activity 2.2	2,500	2,500	2,500	2,500	2,500
Output 3	Activity 3.1	5,000	5,000	5,000	5,000	5,000
Output 4	Activity 4.1	15,000				
	Activity 4.2		15,000	15,000	15,000	
	Activity 4.3					15,000
Output 5	Activity 5.1	12,000	12,000	12,000	12,000	12,000
	Activity 5.2	3,000	3,000	3,000	3,000	3,000
Output 6	Activity 6.1	17,500				
	Activity 6.2		20,000	20,000	20,000	
	Activity 6.3					20,000
Sub-Total		80,000	80,000	80,000	80,000	80,000

PART II: PROJECT ACHIEVEMENTS IN 2019

Note: No information in 2019 are available since the new JTF 6-II activities will commence in 2020.

PART III: PROPOSED ACTIVITIES FOR THE YEAR 2020

1. Project Summary in 2020:

The project activities in 2020 are focused on the training, research and workshop. These activities aim to improve the national and regional fisheries and environment resources survey activities in the Southeast Asia region by enhancing knowledge, skills and experiences of fisheries officers/researchers through the human resource development programs. It also includes supporting the researchers of SEAFDEC and Member Countries (MCs) to participate in a relevant international/regional/national meeting and attend a fisheries cruise survey in SEAFDEC or MCs' research vessel(s). The project provides the MCs with supporting for planning a research cruise of the research/training vessels of SEAFDEC and MCs.

In order to enhance the sustainable utilization of fisheries resources in the region, the project will support the initiative of sub-regional fisheries resources management by following up the status and trends of transboundary fisheries resources in the Gulf of Thailand sub-region. The technical research and development on regional Fisheries Geographic Information System and Remote Sensing (FGIS and RS) will improve the technical knowledge and information, and support for managing fisheries resources at national and regional level. Under the project, SEAFDEC will conduct a five-year study on the impacts for fisheries resources and marine environment by installing artificial habitats. In 2020, the lesson learnt in the promotion of sustainable fisheries resources by using artificial habitats will be summarized, and pilot sites will be further identified to study on appropriate techniques to evaluate impacts of the installed artificial habitats in the coastal areas of Southeast Asia. Information Education and Communication (IEC) materials on the project activities (i.e. handbooks, textbooks, SOPs, references, etc.) will be disseminated through the SEAFDEC website and relevant official events.

2. Outcome, Outputs and Activities and Proposed Budget:

		(Unit: USD)
Proposed Activities	Descriptions	Proposed Budget
Outcome	Strengthened management of marine fisheries resources in Southeast Asia through improved technical capacities	
Output 1	Technical capacities of human resources (<i>i.e.</i> junior fisheries officers and researchers) to conduct marine fisheries resources and oceanographic research/survey improved in Southeast Asia	
Activity 1.1	<p>Regional training on design of sampling gear for fisheries resources research survey</p> <p><i>Regional training on sampling gear for fisheries research survey is designed for the junior researchers who will work onboard fisheries resource research vessel. The training course focus on the general fishing gear used for collect/sampling fisheries resources and special equipment to collect biological samples, including their standard operational procedure of them. Eleven (11) trainees from SEAFDEC Member Countries will be invited.</i></p> <p><i>Estimated expenditures:</i></p> <ul style="list-style-type: none"> • <i>Traveling cost</i> = US\$ 8,000 • <i>Daily subsistence allowance</i> = US\$ 2,000 • <i>Accommodation</i> = US\$ 3,000 • <i>Resource Persons</i> = US\$ 500 <p><i>Others (e.g. stationary, lunch, Coffee break and etc.) = US\$ 1,500</i></p>	15,000
Activity 1.5	<p>Research and human resources development on microplastic and marine debris in Southeast Asia.</p> <p><i>SEAFDEC researcher(s) will participate in the relevant international/regional/national microplastic and marine debris activities.</i></p>	5,000

	<p><i>Estimated expenditures:</i></p> <ul style="list-style-type: none"> • <i>Traveling cost</i> = US\$ 2,000 • <i>Daily subsistence allowance</i> = US\$ 1,500 • <i>Accommodation</i> = US\$ 1,000 <i>Others</i> = US\$ 500 	
Output 2	Technical knowledge, technical skills and field experience of SEAFDEC staff and member countries' researchers improved	
Activity 2.1	<p>Participation of SEAFDEC staff or/and Member Countries' researchers in a research/ survey cruise</p> <p><i>This activity will support few researchers of SEAFDEC or Member Countries to participate in the research cruise to improve skill and enhance experience in the fisheries resources exploration.</i></p> <p><i>Estimated expenditures:</i></p> <ul style="list-style-type: none"> • <i>Traveling cost</i> = US\$ 1,500 • <i>Daily subsistence allowance</i> = US\$ 2,000 • <i>Accommodation</i> = US\$ 1,000 <i>Others</i> = US\$ 500 	
Activity 2.1	<p>Participation of one (1) SEAFDEC staffs or/and Member Countries in the regional of international meeting on fisheries resources and stock assessment</p> <p><i>This activity will support SEAFDEC/TD technical staff(s) to participate in the international/regional/national meetings/workshop/ symposium to promote result fisheries resources exploration or stock assessment study in Southeast Asia.</i></p> <p><i>Estimated expenditures:</i></p> <ul style="list-style-type: none"> • <i>Traveling cost</i> = US\$ 500 • <i>Daily subsistence allowance</i> = US\$ 500 • <i>Accommodation</i> = US\$ 1,000 <i>Others</i> = US\$ 500 	
Output 3	Research cruise plan for research/training vessels of SEAFDEC and member countries developed	
Activity 3.1	<p>Technical consultation meeting to develop a research cruise plan for research/ training vessels of SEAFDEC and Member Countries.</p> <p><i>a) This activity will support fisheries officer(s) from SEAFDEC Member Countries to participate in the Technical consultation meeting to develop national research cruise plan for research/ training vessels of SEAFDEC and Member Countries.</i></p> <p><i>Estimated expenditures:</i></p> <ul style="list-style-type: none"> • <i>Accommodation</i> = US\$ 1,000 • <i>Local transportation</i> = US\$ 500 • <i>Others (e.g. stationary, lunch, Coffee break and etc.)</i> = US\$ 500 <p><i>b) Two (2) SEAFDEC researchers will technical visit to Member Countries and participate in the Technical consultation meeting to develop a research cruise plan for research/ training vessels of SEAFDEC and Member Countries.</i></p> <p><i>Estimated expenditures:</i></p>	5,000

	<ul style="list-style-type: none"> • <i>Traveling cost</i> = US\$ 1,000 • <i>Daily subsistence allowance</i> = US\$ 500 • <i>Accommodation</i> = US\$ 1,000 <i>Others</i> = US\$ 500 	
Output 4	Scientific knowledge to support fisheries management on transboundary fisheries resources in Sub-region	
Activity 4.1	<p>Technical consultation meetings on identification of transboundary fisheries resources. <i>SEAFDEC/TD will organize the sub-regional technical consultation meetings on identification of transboundary fisheries resources. The meeting aims to follow up the status and trend of transboundary fisheries resources in Sub-region. Eleven (11) participants from SEAFDEC MCs will participate in meeting.</i> <i>Estimated expenditures:</i></p> <ul style="list-style-type: none"> • <i>Traveling cost</i> = US\$ 8,000 • <i>Daily subsistence allowance</i> = US\$ 1,700 • <i>Accommodation</i> = US\$ 3,000 • <i>Resource Persons</i> = US\$ 500 <i>Others (e.g. stationary, lunch, Coffee break and etc)</i> = US\$ 1,800 	15,000
Activity 4.3	Participation in a national / regional / international meeting to disseminate the survey results and management on the transboundary fisheries resources (Budget is allocated with for Activities 4.1)	
Output 5	Application of Fisheries Geographic Information System (FGIS) and Remote Sensing (RS) for monitoring marine fisheries resources and environment in Southeast Asia	
Activity 5.1	<p>Regional technical meeting or workshop or training on the utilization techniques of FGIS and RS to improve fishing ground exploration and fisheries management in Southeast Asia. <i>SEAFDEC/TD will organize the Regional technical meeting or workshop or training on the utilization techniques of FGIS and RS to improve fishing ground exploration and fisheries management in Southeast Asia. Ten (10) Participants from SEAFDEC MC will participate in the meeting or workshop or training to improve the knowledge and enhance experience to apply GIS and RS to support fisheries management.</i> <i>Estimated expenditures:</i></p> <ul style="list-style-type: none"> • <i>Traveling cost</i> = US\$ 6,000 • <i>Daily subsistence allowance</i> = US\$ 1,500 • <i>Accommodation</i> = US\$ 2,000 • <i>Resource Persons</i> = US\$ 1,000 <i>Others (e.g. stationary, lunch, Coffee break and etc)</i> = US\$ 1,500 	12,000
Activity 5.2	<p>Participation in a national / regional / international meeting to disseminate project activities and their results. <i>Two (2) researchers of SEAFDEC will participation in the meeting or workshop or training on the utilization techniques of FGIS and RS to improve fishing ground exploration and fisheries management in Southeast Asia.</i> <i>Estimated expenditures:</i></p> <ul style="list-style-type: none"> • <i>Traveling cost</i> = US\$ 1,500 • <i>Daily subsistence allowance</i> = US\$ 500 	3,000

	<ul style="list-style-type: none"> • Accommodation = US\$ 500 Others = US\$ 500 	
Output 6	Resource enhancement through the installation of artificial habitat	
Activity 6.1	<p>Technical consultation meeting on the impacts for fisheries resources and marine environment by the installation of artificial habitat.</p> <p><i>SEAFDEC/TD will organize the regional technical consultation meeting on the impacts for fisheries resources and marine environment by the installation of artificial habitat. Eleven (11) participants from SEAFDEC MCs will participate in the meeting to development and improve their knowledge and experience</i></p> <p><i>Estimated expenditures:</i></p> <ul style="list-style-type: none"> • Traveling cost = US\$ 8,000 • Daily subsistence allowance = US\$ 3,000 • Accommodation = US\$ 4,500 • Resource Persons = US\$ 1,000 Others (e.g. stationary, lunch, Coffee break and etc) = US\$ 1,000 	17,500

3. Implementation Plan of Activities in 2020:

Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Activity 1.1	X	X	X									
Activity 1.2	X	X	X	X	X	X	X	X	X	X	X	X
Activity 1.6										X	X	X
Activity 2.1	X	X	X	X	X	X	X	X	X	X	X	X
Activity 2.2	X	X	X	X	X	X	X	X	X	X	X	X
Activity 3.1				X	X	X						
Activity 4.1							X	X	X			
Activity 4.3	X	X	X	X	X	X	X	X	X	X	X	X
Activity 5.1				X	X	X						
Activity 5.2	X	X	X	X	X	X	X	X	X	X	X	X
Activity 6.1							X	X	X			

4. Expected Activity Results in 2020:

Planned activity	Expected Activity Results
Activity 1	
<p>Activity 1.1: Regional training on design of sampling gear for fisheries resources research survey</p>	<ul style="list-style-type: none"> ▪ Eleven (11) researchers has develop their knowledge to support fisheries research survey ▪ Training curriculum that could be developed as training manual in the future ▪ Training report on the design of sampling gear for fisheries resources research survey
<p>Activity 1.5: Research and human resources development on microplastic and marine debris in Southeast Asia</p>	<ul style="list-style-type: none"> ▪ Two (2) SEAFDEC staffs or/and Member Countries' researchers develop their experience and knowledge in microplastic and marine debris research study in Southeast Asia ▪ Training or observation report on the microplastic and marine debris in Southeast Asia

Planned activity	Expected Activity Results
Activity 2	
Activity 2.1: Participation of SEAFDEC staff or/and Member Countries' researchers in a research/ survey cruise	<ul style="list-style-type: none"> ▪ SEAFDEC staffs or/and Member Countries' researchers develop their experience in a research/ survey cruise ▪ Report on the participation in a research/ survey cruise
Activity 2.2: Participation of SEAFDEC staff or/and member countries' researchers in a regional/international meeting on fisheries resources and stock assessment	<ul style="list-style-type: none"> ▪ SEAFDEC staffs or/and Member Countries' researchers develop their experience in fisheries resources and stock assessment in regional or international level ▪ Report on the participation in the regional / international meeting on fisheries resources and stock assessment
Activity 3	
Activity 3.1: Technical consultation meeting to develop a research cruise plan for research/ training vessels of SEAFDEC and member countries	<ul style="list-style-type: none"> ▪ One (1) research cruise plan (at least) for research/training vessels of SEAFDEC and Member Countries
Activity 4	
Activity 4.1: Technical consultation meetings on identification of transboundary fisheries resources and geographical area	<ul style="list-style-type: none"> ▪ Report on Technical consultation meetings on identification of transboundary fisheries resources and geographical area to develop the activity framework and general status on transboundary fisheries resources in the geographical areas
Activity 4.3: Participation in a national / regional / international meeting to disseminate the survey results and management on the transboundary fisheries resources	<ul style="list-style-type: none"> ▪ SEAFDEC staff or/and Member Countries' researchers develop their experience in fisheries resources and stock assessment in regional or international level ▪ Report on the participation in the regional / international meeting on fisheries resources and stock assessment
Activity 5	
Activity 5.1: Regional technical meeting or workshop or training on the utilization techniques of FGIS and RS to improve fishing ground exploration and fisheries management in Southeast Asia	<ul style="list-style-type: none"> ▪ Report on technical consultation meeting on the impacts for fisheries resources and marine environment by the installation of artificial habitat ▪ Countries update on the installation of artificial habitat in Southeast Asia
Activity 5.2: Participation in a national / regional / international meeting to disseminate project activities and their results	<ul style="list-style-type: none"> ▪ Two (2) researchers of SEAFDEC participate in the meeting or workshop or training on the utilization techniques of FGIS and RS to improve fishing ground exploration and fisheries management in Southeast Asia. ▪ Report on the participation in the regional / international meeting on in the meeting or workshop or training on the utilization techniques of FGIS and RS to improve fishing ground exploration and fisheries management

Planned activity	Expected Activity Results
Activity 6	
<p>Activity 6.1: Technical consultation meeting on the impacts for fisheries resources and marine environment by the installation of artificial habitat</p>	<ul style="list-style-type: none"> ▪ Report on technical consultation meeting on the impacts for fisheries resources and marine environment by the installation of artificial habitat ▪ Countries update on the installation of artificial habitat in Southeast Asia