



## PROJECT DOCUMENT

**Program Categories:** Departmental Programs

**Project Title:** Improving of Fisheries Technology and Reduction of the Impact from Fishing

**Responsible Department:** Training Department

**Total Duration:** 2019

**Funding Sources:** Training Department

**Estimated Budget for 2019:** 60,000 USD

### 1. INTRODUCTION

Over the years, TD has initiated several projects/programs aiming to promote responsible fishing technology and practices, improvement of deck machineries and catch handling onboard fishing vessel through the practical research on fishing technology and fisheries marine engineering. This program covers a wide range of activities, implemented in collaboration with Department of Fisheries Thailand and other government agencies (e.g. Department of Coastal Marine and Resources, Fish Marketing Organization of Thailand, Fisheries Academies, Institutes and Universities) and local fisheries association. The activities are included with technical assistances, research and development, sea trials, and demonstrations and human resources development.

Project activities have been implemented since year 2014 with three (3) main components are 1) Promotion of appropriate technologies and practices of fishing and marine engineering to enhance sustain marine fisheries resource utilization; 2) Fisheries research on impact of fishing (include fisheries resources, socioeconomic and governance) to marine ecosystem; and 3) Database to support the fisheries management for Thailand. Since year 2018 the program has been extended to support the formulation of fisheries management plan of local communities in Thailand, based on the area that SEAFDEC training has been implement project activities in the past.

### 2. PROJECT

#### 2.1 Goal /Overall Objectives

Improvement fishing technology and marine engineering to support sustainable utilization of marine fisheries resources and strengthening the national networks.

#### 2.2 Outcomes and Expected Outputs

2.2.1 Appropriate fishing technologies and marine engineering to support sustainable fisheries by mitigating impacts of fisheries resources and marine ecosystem.

2.2.2 Base line information of the socioeconomic and gender in fisheries to support sustainable fisheries

2.2.3 Fisheries information and database support sustainable fisheries.

#### 2.3 Project Description/Framework

Activity 1: Research and promotion of appropriate technologies and practices of fishing and marine engineering.

The series of activities are emphasized on the improvement of appropriate fishing and marine engineering technology and practices including the energy saving, safety to enhance sustainable marine fisheries resource utilization. Introducing of fishing deck machineries to reduce manpower, improve fishing gear according to fishing method modification and study on economic impacted by improvement of fishing and marine engineering technology and practices is multidisciplinary research applied for these activities. Human resource development by improvement of training material of fishing technology subject for junior researcher and extension officers of Department of Fisheries, and undergraduate student of

Thailand. This is included with the technical support on monitoring and survey on fishing gear, fishing boat to support Fisheries Management of Thailand and other specific purposes are also major sub activities.

Activity 2: Study on the impact on fisheries resources, marine environmental, social well-being and livelihood from fishing activities.

The activities are emphasized on the multidisciplinary research to investigate impact of habitat and ecosystem focus on fisheries resources, oceanography and marine environment from fishing operation. Socioeconomic in small-scale as well as the study on the cost and return in commercial scale fisheries are significant sub-activities.

Activity 3: Database for fisheries management

SEAFDEC Training department in collaboration with Department of Fisheries, Thailand has developed database system for managing data from the cruise resource surveys. The activities aimed to harmonize data collection for the research cruise survey on fisheries resources between Department of Fisheries, Thailand and SEAFDEC/TD. In addition, SEAFDEC has series of data collected from the coastal fisheries projects. This data has never been developed database system for socioeconomic data management.

### 3. PROGRESS/ACHIEVEMENTS OF ACTIVITIES IN THE YEAR 2019

Project Activity Title	Duration	Remarks
<b>Promotion of appropriate technologies and practices of fishing and marine engineering</b>		
1. Study on improvement of fishing technology to enhance sustainable marine fisheries resource utilization (Improve purse seine fishing of Thailand)	Feb-Dec	
2. Research on coastal fishing activities, e.g. set net, bamboo stake trap, for specific proposes, e.g. fish sampling		
3. Advanced sustainable technology 3.1. Study on the midwater trawl net construction and designed suitable for M.V. SEAFDEC 2 and Research vessel of Department of Fisheries Thailand. 3.2. Study on the net monitoring system installed onboard M.V. SEAFDEC 2 3.3. Study on the Scientific echo sounder suitable for M.V. SEAFDEC 2	Jan-Dec	
4. Improve fishing technology reference 4.1. Training material for basic fishing technology subject for staffs of the Department of Fisheries 4.2. Training material for fishing technology subject for staffs of the Department of Fisheries (Observer onboard program) 4.3. Training material for fishing technology for undergraduate student of Thailand	Jan-Dec	
5. Support monitoring and survey on fishing technology to support fisheries management of Thailand and other specific purpose 5.1. Support of National and Local Programs and the Sustainable Development Strategy for the Seas of East Asia (Trat Province of Thailand) 5.2. Investigation on the push net fishing gear design and construction 5.3. Support the research on marking of fishing gear 5.4. Study the type and amount of debris in the surface layer of Chao Phraya River that flows into the Gulf of Thailand	Jan-Dec	

<b>Study on the impact on fisheries resources, marine environmental, social well-being and livelihood from fishing activities</b>		
1. Research and study on the status and impact of fisheries oceanography and marine environment from fishing operation 1.1. Support the collaborative research survey of Department of Fisheries Thailand and Timor-Leste 1.2. Facilitate the follow up activities on the Collaborative Research Survey on Marine Fisheries Resources and Marine Environment in the Gulf of Thailand (Cambodia, Thailand, and Viet Nam) 1.3. Produce the reference of Scombrid Fish Larvae and Juvenile in Southeast Asia	Jan-Dec	
2. Research and study on impact of social well-being and livelihood from fishing activities (Economic Study on Thai Purse Seine, equipped with modern technology)	Feb-Dec	
<b>Database for fisheries management</b>		
3. Development of database system for fisheries resources survey	Jan-Dec	
4. Development of database system to support fisheries socio-economic and small-scale fisheries study		Postpone to 2020

#### 4. PROPOSED FUTURE ACTIVITIES FOR THE YEAR 2020

##### 4.1 Planning of the Project Activities

<b>Project Activity Title</b>	<b>Duration</b>	<b>Remarks</b>
<b>Promotion of appropriate technologies and practices of fishing and marine engineering</b>		
1. Study on improvement of fishing technology to enhance sustainable marine fisheries resource utilization (Improve purse seine fishing of Thailand)	Feb-Dec	
2. Research on coastal fishing activities 2.1. Support the research on marking of fishing gear	Jan-Dec	
3. Advanced sustainable technology 3.1. Study on the midwater trawl net construction and designed suitable for M.V. SEAFDEC 2 and Research vessel of Department of Fisheries Thailand. 3.2. Study on the Scientific echo sounder suitable for M.V. SEAFDEC 2	Jan-Dec	
4. Improve fishing technology reference 4.1. Training material for fishing technology subject for staffs of the Department of Fisheries (Trawl net and purse 4.2. Training material for fishing technology for undergraduate student of Thailand	Jan-Dec	
5. Support monitoring and survey on fishing technology to support fisheries management of Thailand and other specific purpose 5.1. Support of National and Local Programs and the Sustainable Development Strategy for the Seas of East Asia (Trat Province of Thailand) 5.2. Study the type and amount of debris in the surface layer of Chao Phraya River that flows into the Gulf of Thailand	Jan-Dec	
<b>Study on the impact on fisheries resources, marine environmental, social well-being and livelihood from fishing activities</b>		

1. Research and study on the status and impact of fisheries oceanography and marine environment from fishing operation. 1.1. Facilitate the presentation on the result of Collaborative Research Survey on Marine Fisheries Resources and Marine Environment in the Gulf of Thailand (Cambodia, Thailand, and Viet Nam) in the 7 <sup>th</sup> Marine Science Conference of Thailand 1.2. Produce the reference of Scombrid Fish Larvae and Juvenile in Southeast Asia	Jan-Dec	
2. Research and study on impact of social well-being and livelihood from fishing activities	Feb-Dec	
<b>Database for fisheries management</b>		
1. Development of database system for fisheries resources survey	Jan-Dec	
2. Development of database system to support fisheries socio-economic and small-scale fisheries study	Jan-Dec	

#### 4.2 Expected Outcomes/Outputs

1. Technical Report on Purse Seine Net Modification Appropriate Design with Net Hauler and Deck Machinery.
2. Update report of the research on marking of fishing gear.
3. Study report and monograph drawing of mid-water trawl net.
4. Training material for fishing technology subject for staffs of the Department of Fisheries and undergraduate student of Thailand.
5. Study report the type and amount of debris in the surface layer of Chao Phraya River that flows into the Gulf of Thailand.
6. Draft Guidebook of Scombrid Fish Larvae and Juvenile in Southeast Asia.
7. Report on the Economic Study on Thai Purse Seine, equipped with modern technology