



The 4th Core Expert Meeting On Comparative Studies For
Purse Seine Fisheries in the Southeast Asian Region 2018
18-19 September 2018, Melia Hotel, Kuala Lumpur,
Malaysia



Overview of Project

**Comparative Studies for Management of Purse Seine Fisheries
in the Southeast Asian Region**

(Japanese Trust Fund VI Program: 2013-2019)

By: SEAFDEC/MFRDMD

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Background

- ❖ Small pelagic fishes such as Indian mackerels, scads and sardinellas are very important in the Southeast Asian region, not only for food resources, but also for employment and livelihood of fishers.
- ❖ Purse seine is one of the major fishing gears to catch those small pelagic fishes.
- ❖ Although formulation of a management plan is required for sustainable use of these resources, management of PS fisheries is still neglected because information of stocks is lacking.
- ❖ Therefore, we need to develop the best way to assess the size and state of the stocks for accurate TAC allocation and to find the most applicable management system for the PS fisheries in the region.
- ❖ Also, effective management of shared stocks requires management measures to be taken for the whole coverage area that is beyond national waters.

Mission

- The project involves compilation and comparison of annual and/or monthly CPUE to examine the trend of resource level for the last three decades in the region.
- MFRDMD will compare purse seine fisheries management systems including TAC systems and other management measures in the world and conduct the genetic study of a commercially important pelagic species.
- At the end of the project, MFRDMD will review available information including stock levels, and MFRDMD and member countries will examine applicable management strategies for sustainable purse seine fisheries in the Southeast Asian region

Objective (1)

1. To compile and compare annual and/or monthly catch per unit effort (CPUE) data for the last three decades in SEA region.

Activity 1: Comparative Studies for CPUE and TAC

- Act 1.1 Case studies for CPUE in the Southeast Asian region

2. To assess unit of effort and to examine other indicators for stock assessment.

- Act 1.2 Suitable CPUE and other indicators for resource levels in MCs

3. To compare existing management systems/measures of PS fishery which is applicable for management of PS fishery in the region

- Act 1.3 Comparison of TAC systems in the world (including other management measures)

Objective (2)

4. To compare genetic structures of commercially important small pelagic species in the region.

Activity 2. Genetic Data Collection and Analysis

- Act 2.1 Equipment preparation for genetic study
- Act 2.2 Sample collection
- Act 2.3 Genetic study
- Act 2.4 Data compilation and analysis

5. To propose management strategies for sustainable PS fisheries

Activity 3. Meetings for Effective Program Implementation

- Act 3.1 Core Expert Meeting/Workshop

Activity 4. Recommendation for PS Fisheries Management in the SE Asian region

- Act 4.1 Recommendation for fisheries Management
- Act 4.2 Preparation and publishing of terminal report

Expected Final Goals of the Project

1. To contribute for the formulation of management strategies for small pelagic fish fisheries in the region;
2. To provide monitoring tools for pelagic fishery resources in the region.

Achievements of implementation

Activity 1: Comparative Studies for CPUE and TAC

MFRDMD continuously collected updated information on PS fisheries from MCs as well as examined the data for regional synthesis of purse seine fisheries in the region to suggest possible suitable stock indicator and management systems in the MCs.

MFRDMD had conducted the Internal Workshop at UiTM Hotel, Dungun, Terengganu (12-14 February 2018) to discuss the catch and effort data by using other method/model than Allowable Biological Control (ABC) method (Rule 2-1 and Rule 2-2).

–In this workshop, The Surplus Production Model was introduced and explained by local Resource Person.

–Use Catch per Trip as CPUE Index because of the consistencies of yearly trend and data availability compared to other CPUE index.

–Subsequently, output generated during this workshop became main precursor in the regional analysis for this project.

Achievements of implementation

Activity 1: Comparative Studies for CPUE and TAC

Hokkaido University, Japan in collaboration with MFRDMD has conducted a series of preliminary surveys in 2017 and 2018 on species composition of purse seine fisheries in 5 major landing centers along the East Coast of Peninsular Malaysia.

–1st survey: 13rd – 23rd August 2017

–2nd survey: 1st – 10th July 2018

–3rd survey: 24th September – 3rd October 2018

Achievements of implementation

Activity 2. Genetic Data Collection and Analysis

Genetic samples from spotted sardinella (*Amblygaster sirm*) collected by participating member countries were analyzed and the preliminary result based on eight sampling locations (namely *Muara, Brunei DS; Kuantan, Kuching and Kudat, Malaysia; Palawan and Bataan, Philippines as well as Songkla and Ranong, Thailand*). The result was presented during the **3rd CEM in September 2017**.

–MFRDMD visited RIMF, Indonesia on 17th January 2017 to discuss on Indonesian specimen collection and laboratory analysis due to restriction on exporting specimens to MFRDMD.

–The preliminary result of genetic analysis for *Amblygaster sirm* suggested the homogenous structure within South China Sea but separated stocks between South China Sea and Andaman Sea.



Achievements of implementation

Activity 2. Genetic Data Collection and Analysis

An extra number of samples were collected from Ranong (Thailand) with the collaboration with Kasertsart University in **June 2018**. This is to confirm the finding from previous analysis of the genetic structure of spotted sardinella between South China Sea and Andaman Sea. Besides, an extra DNA marker (COI marker) was also selected to support the current result.

MFRDMD has convened an internal genetic workshop at Langkawi, Malaysia (6-9 August 2018) which revealed current findings of genetic analysis.

Achievements of implementation

Activity 3. Meetings for Effective Program Implementation

MFRDMD consulted with an expertise from Japan (Dr. Matsuishi)

- Study on “Sustainable Fishery Management - latest movement in Japan” (08 March 2015, MFRDMD)
- Discussion on “Total Allowable Effort (TAE) System and Possibility for its Application to the Management of Purse Seine Fishery in the ASEAN region” (19 Nov 2015, MFRDMD)
- Discussion on “Total Allowable Effort (TAE) system and Possibility for its Application to the Management of PS Fishery in the ASEAN region” (18 Nov 2016, Hokkaido University)

MFRDMD conducted internal workshop in Tok Bali, Malaysia to discuss regional synthesis of PS fisheries information (6-7 January 2016).

Achievements of implementation

Activity 3. Meetings for Effective Program Implementation

MFRDMD has convened a **regional workshop** on Comparative Studies for Management of Purse Seine Fisheries in the Southeast Asian Region at Kuala Lumpur, Malaysia (7-8 March 2017)

-During this workshop, the resource person (Dr. Matsuishi) introduced new options for PS fisheries management in the SEA region namely the **ABC and ABE** strategies. These strategies are more suitable for multispecies situation.

-Feedback control (**Rule 2-1 and Rule 2-2**) are being considered as the most applicable and appropriate for purse seine.



Achievements of implementation

Activity 3. Meetings for Effective Program Implementation

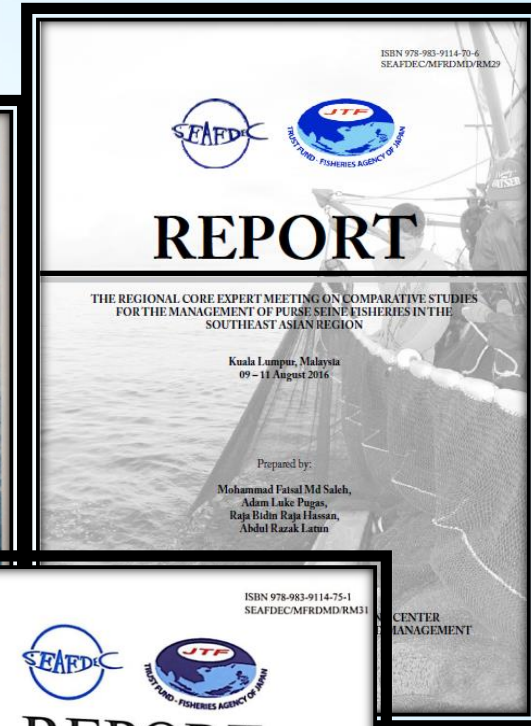
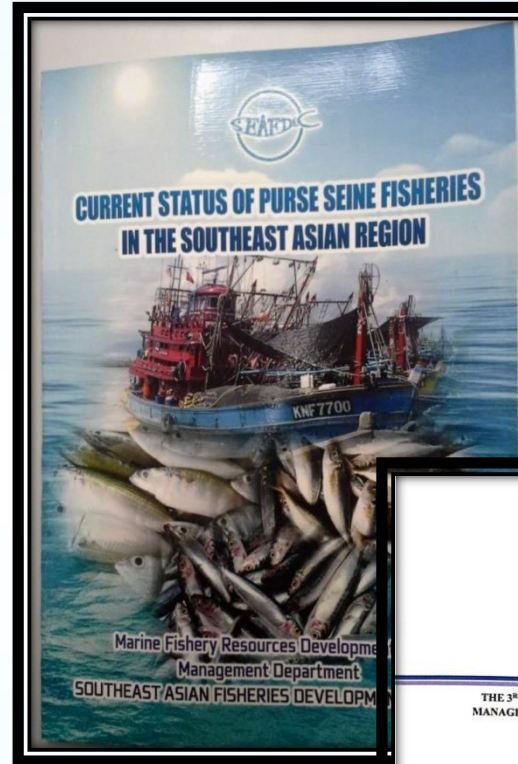
“The Third CEM on Comparative Studies for Management of PS Fisheries in SEA Region” was held on 12-14 September 2017 in Kuala Lumpur, Malaysia.

- The meeting shared the latest information about landings and CPUEs of PS fisheries in the region, TAC management for multi-species as well as experience learned from the implementation of TAC in Thailand and TRP in the Philippines.
- The meeting also highlighted about the separated management unit of *Amblygaster sirm* in the SEA region and introduced the concept of Fisheries Management Plan (FMP).



Compilation of Current PS Management

- Information of Fisheries, Biology Fishing Effort, and Management in AMSs are compiled both in the AS and SCS.
- List of complete publication:
 1. “Current Status of Purse Seine Fisheries in the Southeast Asian Region” was published in 2015.
 2. Current status of Pelagic Fisheries in the Southeast Asian Region (Fish for The People, 2015).
 3. Meeting report for “Core Expert Meeting on Comparative Studies for Management of Purse Seine Fisheries in the Southeast Asian Region. (2nd CEM, 2016).
 4. Managing Purse Seine Fisheries in the Southeast Asian Region: a joint effort among ASEAN Member States (Fish for the People, 2018)
 5. Meeting report for “The 3rd Core Expert Meeting on Comparative Studies for Management of Purse Seine Fisheries in the Southeast Asian Region. (3rd CEM, 2017).



Proposed activities for 2019

Act. 4: Sub-activity 4.1: Recommendation for fisheries Management

- MFRDMD will continue synthesizing regional information of purse seine fisheries based on the updating data given by MCs after the 4th CEM.
- Study visit at Hokkaido University in collaboration under “Survey of species composition at major landing ports in East Coast of Peninsular Malaysia”.
- Internal meeting/workshop on analyzing and synthesizing regional data.

Act. 4: Sub-activity 4.1: Preparation and publishing of terminal report

- Data of catch and effort of regional purse seine fisheries and stock structures of shared small pelagic fish will be analyzed and synthesized. The findings will be published in the terminal report.
- Mini workshop on preparing final report.

Schedule of Proposed Activity for the year 2019

Proposed Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Activity 4												
Sub-activity 4.1: Recommendation for fisheries Management	X	X	X	X	X	X	X	X	X	X	X	X
Sub-activity 4.2: Preparation and publishing of terminal report	X	X	X	X	X	X	X					

Major impacts or issues

- ❖ For regional synthesis of purse seine fisheries information, Member Countries are requested to submit the updated data within the **agreed time frame**. Aside from that, full regional analysis was also **impacted by data reliability and validity**.
- ❖ For **genetic study** of *Amblygaster sirm*, **samples from Myanmar** is very important to get a better picture of population structure of spotted sardinella around Andaman Sea.

*Terima kasih
Thank you very
much*

