

Highlighting SDG 14 in the Development and Management of Southeast Asian Marine Capture Fisheries

Suppachai Ananpongsuk, Kongpathai Saraphaivanich, Suthipong Thanasarnsakorn, and Jariya Sornkliang

Guided by the series of ASEAN-SEAFDEC Resolutions and Plans of Action on Sustainable Fisheries for Food Security for the ASEAN Region, the Southeast Asian Fisheries Development Center (SEAFDEC) has been continuously promoting sustainable management of marine capture fisheries in the Southeast Asian region through a number of projects implemented by SEAFDEC Training Department (TD) and SEAFDEC Marine Fishery Resources Development and Management Department (MFRDMD). Specifically, the 2001 Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region included provisions under A (Fisheries Management), on the need to: **A(3)** - take measures to prevent unauthorized fishing and eliminate the use of illegal and destructive fishing gears and practices by building awareness of their adverse impacts, the development and promotion of responsible and selective fishing gears and practices, enforcing regulations and encouraging alternative means of livelihood; and **A(5)** - review the issue of excess fishing capacity at the national level and recommend where appropriate, measures to improve registration of fishing vessels, the introduction of rights-based fisheries and the reduction in the number of fishing boats and level of fishing effort using government incentives. In the subsequent 2011 Plan of Action on Sustainable Fisheries for Food Security for the ASEAN region Towards 2020, some provisions were focused on the need

to: **B(21)** - strengthen regional and national policy and legislation to implement measures and activities to combat IUU fishing, including the development and implementation of national plans of action to combat IUU fishing, and promote the awareness and understanding of international and regional instruments and agreements through information dissemination campaigns; **B(22)** - establish and strengthen regional and sub-regional coordination on fisheries management and efforts to combat IUU fishing including the development of regional/sub-regional Monitoring, Control and Surveillance (MCS) networks; and **B(29)** - recognizing the different management approaches that are required, sustainably manage major critical coastal habitats, such as mangroves, coral reefs and sea grasses; and develop and disseminate information and guidance on appropriate tools and interventions. In a later development, concerns related to the sustainable development of fisheries in the ASEAN region were raised to higher level resulting in the development and adoption of the ASEAN-SEAFDEC Joint Declaration on Regional Cooperation for Combating IUU Fishing and Enhancing the Competitiveness of ASEAN Fish and Fishery Products in August 2016. The various relevant provisions serve as framework for the development of programs and activities undertaken by SEAFDEC to promote the sustainable development of fisheries in the Southeast Asian region.

From the outset, SEAFDEC had been exerting efforts to promote effective management of fisheries and strengthen the sustainable exploitation of the region's marine fishery resources, and in order to obtain clear picture of the status of the region's fishing capacity, SEAFDEC convened several regional consultations. Recommendations from such consultations pointed towards the need to combat illegal, unreported and unregulated (IUU) fishing in the waters of Southeast Asia as IUU fishing undermines the sustainable development of fisheries in the region. The ASEAN Member States (AMSs) agreed that initially, efforts to combat IUU fishing could start with improving fishing vessel registration and fishing licensing systems in the region, and development a mechanism for sharing the relevant information among the countries as appropriate.

Thus, a movement ensued in the AMSs to address issues on excess fishing capacity not only through registration of fishing vessels and licensing of fishing operations but also through the promotion of enhanced Monitoring, Control and Surveillance (MCS) systems for all fishing operations as well as port monitoring and control. Moreover, open access to fishery resources had been gradually replaced with limited

access regimes, while cooperation for combating IUU fishing in the region had been strengthened in order to improve the total marine fisheries production of the region, which appears to be leveling off except for Indonesia, as shown in **Fig. 1**. Considering that the region's production from marine capture fisheries had been considerably contributing substantial amount to the region and the world's total fisheries production, as shown in **Fig. 2**, it was deemed necessary that the region's marine capture fisheries should be managed in a sustainable manner.

For its part, SEAFDEC has been assisting the AMSs in their efforts to combat IUU fishing through the implementation of the project on Promotion of Sustainable Fisheries and IUU-related Countermeasures in Southeast Asia. Initiated in 2010, the project was funded by the Government of Japan through the Japanese Trust Fund (JTF) and included among others, the activity on the Promotion of Fishing License, Boats Registration and Port State Measures (Matsumoto *et al.*, 2012). This activity had four main components that point towards developing countermeasures to reduce IUU fishing, namely: promotion of fishing licensing, boats registration and port state measures as fisheries management tool to combat

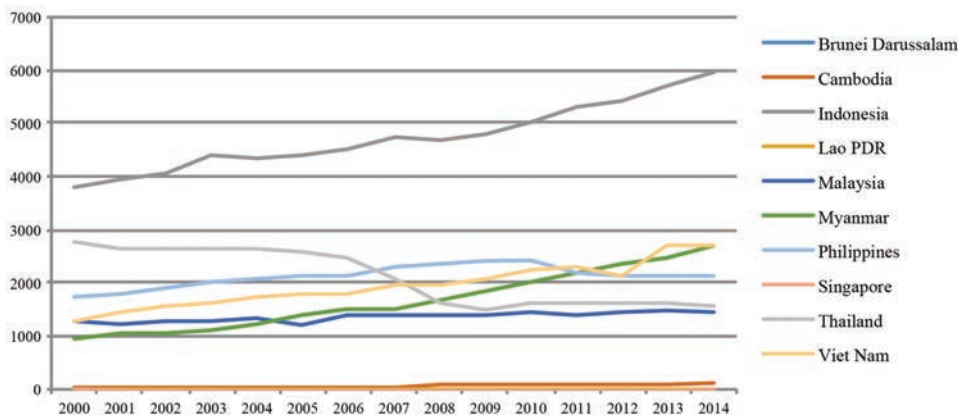


Fig. 1. Trend of Southeast Asia's production from marine capture fisheries (in '000 MT)

Source: SEAFDEC (2017)

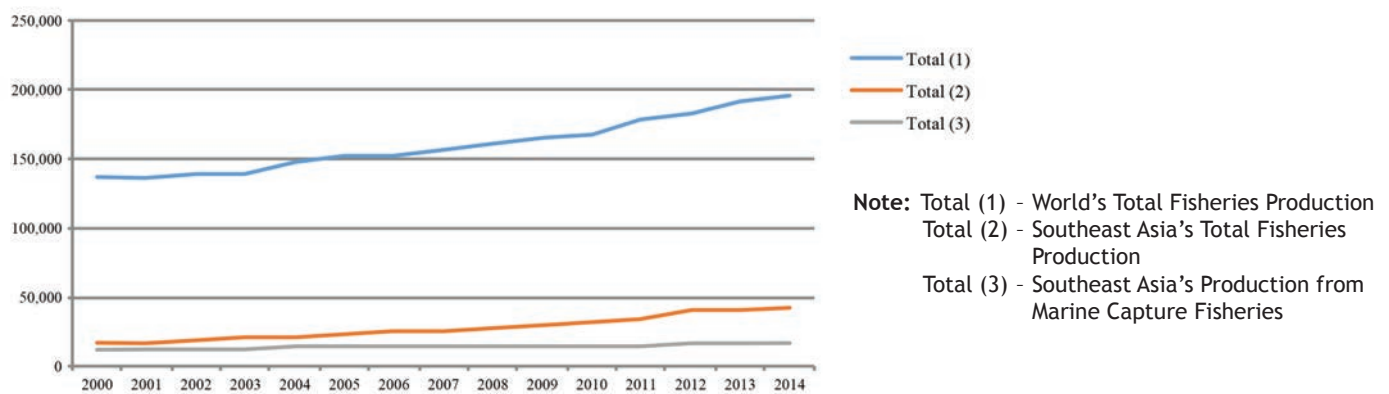


Fig. 2. Contribution of the Southeast Asia's production from marine fisheries to the total fisheries production of Southeast Asia and the world (in '000 metric tons)

Source: SEAFDEC (2017)

IUU fishing; promotion of MCS management for sustainable fisheries in the region; preventing IUU fishing operations and its products from being exported; and assistance to the AMSs in the application and implementation of IUU fishing-related countermeasures.

Development of Regional Fishing Vessels Record to Reduce IUU Fishing in Southeast Asia

The project on the Promotion of Sustainable Fisheries and IUU Fishing-related Countermeasures in Southeast Asia which includes the Promotion of Fishing License, Boats Registration, and Port State Measures in Southeast Asia paved the way for the development of a regional record of fishing vessels starting with vessels measuring 24 meters in length and over during its first phase, to be expanded later with the recording of vessels measuring less than 24 meters (Pongsri, *et al.*, 2014). In carrying out the abovementioned activity, SEAFDEC convened a series of regional consultations to compile the necessary information for the development of the regional record of fishing vessels, while the minimum requirements for fishing licensing and boats registration in the region have also been harmonized as agreed upon during the

consultations taking into consideration the existing practices in the AMSs (SEAFDEC/TD, 2011; SEAFDEC/TD, 2012).

Thus, SEAFDEC in collaboration with the AMSs developed the "Regional Fishing Vessels Record (RFVR) Database" for 24 meters in length and over, as a management tool to combat and reduce IUU fishing for the sustainability of fisheries in the region, and address the concern on severe fishery resources degradation in the Southeast Asian region brought about by uncontrolled practices of IUU fishing. In addition, SEAFDEC has since then been extending assistance to the countries in the region in their endeavors to improve their respective fishing licensing systems that conform to regional and international requirements.

The RFVR Database is an online system and a collaborative initiative of the AMSs with the intention of sharing information among AMSs on fishing vessels identification and other relevant data and information. The AMSs agreed on the 28 elements that would comprise the basic information requirements to be shared with the RFVR Database (SEAFDEC/TD, 2014). The specific objective of the RFVR is to provide the AMSs with reliable and rapid tools to share

information on AMS vessels engaged in “international fishing operations,” *i.e.* fishing operations in foreign country’s EEZ or in the high seas. The RFVR is expected to serve as a practical way of checking and taking corrective actions against inappropriate behavior of AMS fishing vessels, and means for related authorities of AMSs to support the elimination of IUU fishing in the Southeast Asian region (Pongsri *et al.*, 2014). For example, the AMSs can take appropriate actions against “double-flagging vessels, IUU fishing vessels, port State control and poaching” by sharing information and identifying problematic vessels through the information in the RFVR Database. Therefore, the RFVR can be described as a “Shared Tool for AMSs to Reduce IUU Fishing”, because RFVR could assist the AMSs in taking coordinated countermeasures against IUU fishing. Furthermore, it is also expected that if AMSs could make full use of the RFVR Database, reduction of IUU fishing activities in the region would be successfully achieved. The target users of the RFVR Database is categorized into three groups, namely: coastal State, flag State, and port State, involving many people such as enforcement officers, vessel inspectors, coastguards, marine polices, navy, vessel registration units, fishing license units, customs, immigration, quarantine units, ports authority, fisheries officers and managers, among others.

Moreover, SEAFDEC in collaboration with the AMSs had established a Regional Cooperation to support the effective implementation of port State measures (PSM). In addition to the standard approach, a harmonized approach would be developed in which implementation of PSM would be integrated, aligned with international and regional agreement/measures, and applied for all foreign-flagged vessels of the AMSs (SEAFDEC/TD, 2017). Such approach would also be linked to existing management tools such as the ASEAN Catch Documentation Scheme (ACDS), the ASEAN Guidelines for Preventing the Entry of Fish and Fishery Products from IUU Fishing Activities into the Supply Chain, and the RFVR.

Although the main responsibility of enforcing these IUU fishing countermeasures lies with the flag States, the role and functions of port States should also be strengthened



through the enforcement of relevant regulations to enhance the promotion of measures to combat IUU fishing. In this regard, SEAFDEC organized the Workshop on “Regional Cooperation for Implementation of Port State Measures to Improve Fisheries Management and Reduce IUU Fishing in Southeast Asia” in November 2019 in Bangkok, Thailand.

The Workshop was specifically meant to: enhance the understanding of the AMSs on the implications to the region of the entry into force of the Port State Measures Agreement (PSMA); update the issues that impede the adoption of the PSMA; update the status, constraints and problems encountered by the AMSs during the implementation of PSM; identify the capacity building needs to support the implementation of PSM in the region; and develop the SEAFDEC work plan to facilitate the implementation of PSM in the region.

Strengthening Fishery Resource Conservation and Stock Enhancement

As SEAFDEC continues to promote the countermeasures to combat IUU fishing in the Southeast Asian region, in a parallel approach, it also implements projects that aim to mitigate the impacts of IUU fishing on the fishery resources. If uncontrolled, illegal fishing activities would prevent the recovery of stocks that had been overfished and degrade the fishery resources, therefore, as part of sustainable fisheries management, it is also necessary to safeguard the fish stocks through resource conservation, protection and rehabilitation (Theparoonrat *et al.*, 2016). Along this rationale, SEAFDEC has been conducting resource enhancement projects through two approaches, namely: improvement of critical habitats and nursing grounds of fishery resources; and direct enhancement of the fishery resources by artificial propagation techniques. The outputs of such projects are now being applied and implemented in most of the countries in the Southeast Asian region (Kawamura, *et al.*, 2016).

In order that the SEAFDEC Member Countries could share the experiences in the implementation of fishery resources enhancement activities in their respective countries, SEAFDEC organized the “Symposium on Strategy for Fisheries Resources Enhancement in the Southeast Asian Region” in Pattaya, Thailand in 2015. The Symposium was also meant to address the need to enhance the fishery resources in the jurisdictions of the respective Southeast Asian countries as well as their transboundary areas due to the declining and/or over exploitation of several economically important fish stocks and the loss of relevant habitats. Thus, the Symposium had two main parts, *i.e.* Fishery Resources Enhancement through Habitat Improvement and Management, and Fishery Resources Enhancement through Artificial Propagation and Stock Release. As a result, the Symposium came up with the “Strategic Plan for Fishery Resources Enhancement in Southeast Asia,” which was endorsed by the SEAFDEC Council during its Forty-eighth Meeting in 2016 for implementation by SEAFDEC and the Member Countries (SEAFDEC, 2016a). Based on the said Strategic Plan, TD initiated a new project on the “Promotion of Sustainable Fisheries Resources Enhancement Measures in Critical Habitats/Fishing Grounds in Southeast Asia,” which initially includes selection of appropriate project sites, identification of the most effective resources enhancement tools and measures, and development of rehabilitation plans for various critical habitats and fishing grounds.



tuna in Sulu and Sulawesi Seas which was carried out using the M.V. SEAFDEC 2 in 2014 and 2015.

Recognizing the importance of mitigating the impacts of climate change by reducing carbon emission, SEAFDEC conducted capacity building activities on efficient energy use of fishing vessels in the Southeast Asian region. Energy audit is also being promoted as a useful and effective tool for trawler owners to identify the levels of energy consumption and associated cost of utilization. Energy audit is considered a systematic approach for identifying operational and mechanical changes that can be implemented to reduce energy consumption as well as potential savings once the changes are implemented. Energy audit also provides guidance regarding the type of changes that can be applied, the cost of installation and operation for such changes, and the amount of fuel that can be saved, and the return on investment or payback period of each recommended change (Chokesanguan *et al.*, 2015). In this connection, TD collaborated with FAO to gain understanding of energy consumption in fishing boats and develop related energy audit testing protocols.



Baseline data and the potential fuel savings in fishing vessels were collected in the Gulf of Thailand and Andaman Sea. Parameters such as catch per liter of fuel and distance per liter during steaming and towing were compiled for the second phase which aims to systematically evaluate the potential impact of fuel saving practices in fisheries, including their

Understanding the Fishery Resources in Southeast Asia through Scientific Cooperation

SEAFDEC has been providing technical support to the AMSs in assessing the status of their fishery resources through the conduct of marine fishery resource surveys in their respective waters using the M.V. SEAFDEC 2. After the M.V. SEAFDEC 2 was granted to SEAFDEC by the Government of Japan in 2003, a number of resource surveys had been carried out in the waters of the region. The surveys include compilation and analysis of oceanographic data, fishing operation trials, and hydro-acoustic studies. One of the most recent collaborative research activities with the AMSs was the stock assessment of





suitability and relative contribution to fuel conservation. Analysis of the data compiled is being undertaken to identify, establish and evaluate the potential fuel saving options and protocols.

A pilot activity on extensive energy audit using Thai fishing vessels is now being carried out based on the experience of the initial energy audit conducted by TD, as well as the knowledge and skills obtained from such activity. SEAFDEC plans to continue this activity using improved equipment and data collection protocols, and collection of data to cover a span of at least six months in order that the data compiled would be more accurate and reflective of one fishing period.

Enhancing Fisheries Management through Capacity Building

SEAFDEC also supports the small-scale fisheries to have access to marine and inland resources, and market through its project on “Facilitating Fisheries Activities and Information

Gathering through Community-based Fisheries Management.” Implemented by TD, the project is aimed at strengthening community fisheries organizations and providing capacity building for better development and management of the coastal and inland resources. The ultimate goal of the project is to ensure sustainable livelihoods in coastal communities through enhanced fisheries information gathering activities and introduction of community-based fisheries management (CBFM) in coastal and inland fishing communities in the Southeast Asia region.

The four main activities of the project are: (1) on-site training on the introduction of tools and methodologies for socio-economic surveys, as well as the appropriate participatory mechanism of co-management to foster the use in coastal small-scale and inland fisheries in the region; (2) monitoring and conduct of socio-economic surveys and practical training for fisheries officers at local fisheries community in the region; (3) compilation of information on CBFM practices of the countries in Southeast Asia and development of harmonized and appropriate approach for the Southeast Asian region; and (4) regional workshops in Cambodia, Malaysia, Myanmar, Lao PDR, Philippines, Thailand, and Viet Nam.



After the capacity building activities and workshops, the countries applied and adapted the knowledge, skills and experience in their respective countries. Thailand is one of the successful countries to have applied and adapted the knowledge on fisheries co-management in Num Oon Reservoir in Sakonnakorn Province.



Such effort was recognized by the Government of Thailand and gave the award for good fisheries co-management to Sakonnakorn Province in 2016. Moreover, to support fisheries management for small-scale coastal fisheries, SEAFDEC participates in the regional project of the Research Institute for Human and Nature (RIHN) of Japan on “Area Capability” under the component on socio-economics. This component focuses on the conduct of fishing household surveys along the coastal areas of the Gulf of Thailand during 2012-2015, notably in the provinces of Rayong, Prachaub Kiri Khan, Chumphon and Surat Thani. The ongoing surveys are meant to assess the situation of small-scale fishing communities and identify the capability of each area for sustainable fisheries development.

References

- Bundit Chokesanguan, Steve Eayrs and Suthipong Thanasarnsakorn. 2015. Fishing Vessels Energy Audit: Operational Benchmarking of Fuel Consumption in Southeast Asian Trawl Fisheries – Pilot Project in Thailand. *In: Fish for the People Vol. 13 No. 2: 2015*. Southeast Asia Fisheries Development Center, Bangkok, Thailand; pp 43-47
- Chumnam Pongsri, Hajime Kawamura, Somboon Siriraksophon, and Bundit Chokesanguan. 2014. Regional Fishing Vessels Record: Option to Mitigate IUU Fishing in Southeast Asia. *In: Fish for the People, Volume 12 No. 1 (2014)*; Southeast Asian Fisheries Development Center, Bangkok, Thailand; pp 11-15
- Hajime Kawanura, Tsuyoshi Iwata, Yuttana Theparoonrat, Nopporn Manajit, and Virgilia T. Sulit. (Eds). 2016. Consolidating the Strategies for Fishery Resources Enhancement in Southeast Asia. Proceeding of the Symposium on Strategy for Fisheries Resources Enhancement in the Southeast Asian Region, Pattaya, Thailand, 27-30 July 2015. Training Department, Southeast Asian Fisheries Development Center, Samut Pakan, Thailand; 185 p
- Kenji Matsumoto, Bundit Chokesanguan, Virgilia Sulit, and Kongpathai Saraphaivanich. 2012. Development of Regional Fishing Vessels Record as Tool to Combat IUU Fishing in Southeast Asia. *In: Fish for the People, Volume 10 No. 3 (2012)*; Southeast Asian Fisheries Development Center, Bangkok, Thailand; pp 12-16
- SEAFDEC. 2015. SEAFDEC Annual Report 2014. Southeast Asia Fisheries Development Center, Bangkok, Thailand; 80 p
- SEAFDEC. 2016. SEAFDEC Annual Report 2015. Southeast Asia Fisheries Development Center, Bangkok, Thailand; 84 p
- SEAFDEC. 2016a. Report of the Forty-eighth Meeting of the Council of the Southeast Asian Fisheries Development Center, 4-8 April 2016, Nha Trang, Viet Nam. Southeast Asian Fisheries Development Center, Bangkok, Thailand; pp 16
- SEAFDEC. 2016b. SEAFDEC Annual Report 2015. Southeast Asia Fisheries Development Center, Bangkok, Thailand; 84 p
- SEAFDEC/TD. 2011. Report of the Regional Core Experts Meeting on Fishing License, Boats Registration and Information on Export of Fisheries Products in Southeast Asia, 4-7 October 2011, Bangkok, Thailand. SEAFDEC Training Department, Samut Prakan, Thailand; TD/RP/153; 111 p
- SEAFDEC/TD. 2012. Report of the Experts Group Meeting on Fishing License and Boats Registration in Southeast Asia, June 2012. SEAFDEC Training Department, Samut Prakan, Thailand; TD/RP/162; 102 p
- SEAFDEC/TD. 2014. Regional Technical Consultation on the Regional Fishing Vessels Record: Use and Way Forward of RFVR Database as a Management Tool to Reduce IUU Fishing in Southeast Asian Region. SEAFDEC Training Department, Samut Prakan, Thailand; TD/RP/183; 76 p
- SEAFDEC/TD. 2017. Report of the Workshop on Regional Cooperation for Implementation of Port State Measures to Improve Fisheries Management and Reduce IUU Fishing in Southeast Asia. Training Department, Southeast Asian Fisheries Development Center, Samut Pakan, Thailand; 117 p
- Yuttana Theparoonrat, Hajime Kawamura, Virgilia T. Sulit, and Nopporn Manajit. 2016. Strengthening Fishery Resource Rehabilitation Measures to Mitigate the Impacts of IUU Fishing. *In: Fish for the People Vol. 14 No. 2: 2016 (Special Issues)*. Southeast Asia Fisheries Development Center, Bangkok, Thailand; pp 63-75

About the Authors

Mr. Suppachai Ananongsuk is the Technical Assistant to SEAFDEC Training Department Chief. He is based at SEAFDEC/TD in Samut Prakan, Thailand.

Mr. Kongpathai Saraphaivanich is the Head of Training and Information Section of SEAFDEC/TD, and is involved with the implementation of the project on “Promotion of Countermeasures to Reduce IUU Fishing.”

Mr. Suthipong Thanasarnsakorn is the Head of Marine Engineering Section of SEAFDEC/TD.

Ms. Jariya Sornkliang is a Fisheries Management Scientist of SEAFDEC/TD.