6. Fishery Management

The coastal waters of the Southeast Asian region are among the most productive in the world (Sugiyama, 2004; Pomeroy, 2013) with more than 250 million people in the region relying on fish for at least 20 percent of their average per capita intake of animal protein (Pomeroy *et al*., 2020). Fishing has also been providing employment, livelihoods, and generates direct and indirect economic benefits for coastal communities in the South China Sea (Teh *et al*., 2017). Fishing is carried out within a country's own territorial sea or exclusive economic zone (EEZ) (Wongrak *et al*., 2021) and also in the high seas.

Improvement of fisheries management in the Southeast Asian region will involve promoting regional dialogues on fisheries management and improvement of governance. It will also involve developing and supporting regional alliances and networks and national fishery associations in the areas of policy and regulation development and capacity building. There are several strategies to consider in terms of how to address the priority issues and threats for marine capture fisheries in the Southeast Asian region (Pomeroy *et al*., 2016), *i.e.* a) Strengthening transboundary fisheries management; b) Engagement with the private fisheries sector; c) Ecosystem approach to fisheries management; d) Addressing maritime security issues; and e) Addressing globalization of trade and market access.

The ASEAN and SEAFDEC have been paving the way for enhancing better governance of the region's fisheries within the context of an ecosystems approach through the Code of Conduct for Responsible Fisheries (CCRF) and the regionalized CCRF (SEAFDEC, 2003). The ASEAN and SEAFDEC have also been responding to the other international instruments such as the International Plan of Action (IPOAs) on the management of fishing capacity, conservation and management of sharks, reducing the incidental catch of seabirds, and illegal, unreported, and unregulated (IUU) fishing, all of which are aimed at enhancing governance in fisheries management (Mahyam *et al*., 2011).

6.1 Status, Issues, and Concerns

6.1.1 Management of Fishing Capacity and Combating IUU Fishing

Illegal, unreported and unregulated (IUU) fishing and fishing overcapacity have been contemplated as the utmost root of overfishing for most of the coastal fisheries in the region and worldwide (Pomeroy, 2012; Stobutzki *et al*., 2006; Song *et al*., 2020), could even lead to the collapse of a fishery. IUU fishing can take place in all areas of capture fisheries and is considered a major factor that undermines the sustainability of fisheries. It occurs in both small-scale and industrial fisheries, in marine and inland waters, as well as in zones of national jurisdictions and in the high seas. The notions for combating IUU fishing initially come from the marine environment, which has been facing serious challenges from massive, organized fishing activities, specifically industrial fishing companies that disobey standard fishing practices to the extent of destroying the fishery resources that also lead to overexploitation. This implies that IUU fishing can contribute to the overfishing of fish stocks and could even result in the possible collapse of a fishery.

The origin of the terms illegal, unreported, and unregulated had been initially introduced in March 2021 and documented in the "International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported, and Unregulated Fishing" adopted by the 24th Session of the FAO Committee on Fisheries (COFI). **Illegal fishing** is defined as fishing without permission and conducted in the territorial waters of a particular country/state or fishing that offend state laws, and fishing activities in the high seas against laws and agreements of two or more countries based on the agreements with Regional Fisheries Management Organizations (RFMOs). **Unreported fishing** refers to fishing activities that are not reporting or are misreporting the yield and offend national and regional rules and guidelines; while **unregulated fishing** means that fishing fleets have no flags or nationality in water bodies of countries not members of RFMOs and fishing activities in water bodies that have no existing management actions (MRAG, 2008). For these definitions of IUU, each action is aimed to protect marine fisheries where the areas and fish distribution involved several countries and there is awareness of multi-nations collaboration necessary to deal with the IUU fishing that has destroyed the fishery resources.

It was estimated that about 26 tonnes of the world's yearly fish landings are considered as IUU harvest, equal to a fifth of wild-harvested fish, and account for a net yearly cost of around USD 10 to USD 23 billion (Agnew *et al*., 2009; Sumaila *et al*., 2006). Thus, IUU fishing poses a direct threat to food security and socioeconomic stability in many parts of the world, and in turn, could result in lost economic and social opportunities, both short-term and long-term. Developing countries that depend on fisheries for food security and export income are most at risk from IUU fishing. Therefore, combating IUU fishing is of paramount importance to protect the huge amounts of resources harvested illegally that had disadvantaged the small-scale and subsistence fisheries.

The Department of Fisheries Malaysia also estimated that the country loses up to USD 1.44 billion to illegal fishing every year (The ASEAN Post, 2020). Recently, the vigorous inter-agencies enforcement activities of the Malaysian Maritime Enforcement Agency, Marine Police, and the Royal Malaysian Police in Malaysian fisheries waters

through special operations which began in May 2019 to curb IUU fishing activities, have successfully reduced the total loss due to IUU fishing activities from RM6 billion in 2017 to RM4.25 billion in 2020 (Yazeereen, 2021).

In 2010, the European Commission (EC) has enacted tough legislation against IUU fishing to make sure that IUU fisheries products do not end up on the EU market. Countries that disregard IUU fishing are first put on notice and issued a yellow card. If the country shows improvement in its anti-IUU fishing efforts, the observation period for at least six months will continue until the yellow card is eventually rescinded. Countries that do not show satisfactory progress after the monitoring period are identified or categorized as uncooperative and issued red cards. Marine products from these countries are banned from entering the EU and classified under the final state which is the blacklist, and their fisheries products caught by all fishing vessels operating under that country's flag are prohibited by the EU, while EU fisheries companies are also banned from cooperating with those countries (The ASEAN Post, 2020).

The Philippines was issued yellow card in June 2014 but managed to have it rescinded in April the following year. Cambodia received a yellow card in November 2012 and was downgraded further to the EC's blacklist in March 2014, and all fisheries products caught by fishing vessels registered in Cambodia have since been banned from the EU (The ASEAN Post, 2020). In April 2015, the EU announced that Thailand was in breach of the IUU fishing regulation by carrying out inappropriate fishing activities (Wongrak *et al*., 2021) and was issued yellow card which was lifted in January 2019, in recognition of the substantive progress made by Thailand in tackling the concerns on IUU fishing (Banks, 2019). Viet Nam received a yellow card in October 2017, and has been anxious to get it rescinded through communication, laws, and technical measures, following recommendations from the EC delegation (The ASEAN Post, 2020).

SEAFDEC has been promoting several measures and initiatives to combat IUU fishing activities in the region considering that IUU fishing has been recognized as a deterrent to the sustainable development of fisheries in the Southeast Asian region and many forms of IUU fishing occur in the region (Mazalina *et al*., 2015). Meanwhile, the AMSs have also made tremendous efforts in implementing several initiatives (**Figure 98**) as well as strengthening cooperation on transboundary issues through bilateral dialogues where the platform for harmonization has been provided by SEAFDEC (Jaya *et al*., 2019). SEAFDEC also has been requested by the AMSs since 2011 to come up with guidelines to prevent the entry of fish and fishery products from IUU fishing activities into the supply chain of the inter-and intra-regional as well as international fishery trade system. To this end, SEAFDEC/MFRDMD

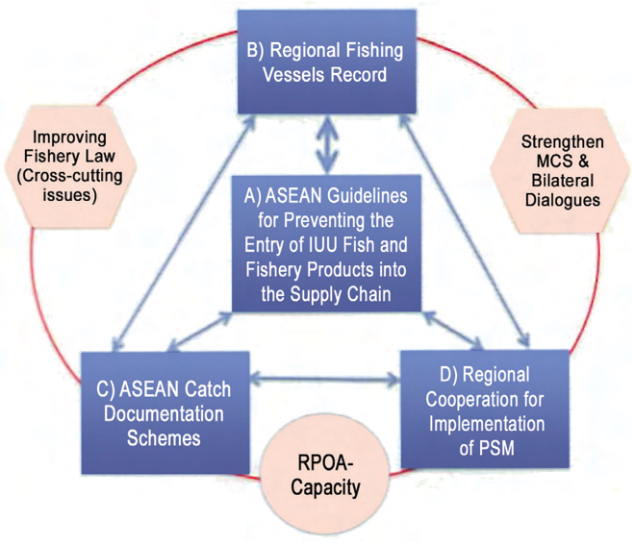

Figure 98. Initiatives of SEAFDEC and the AMSs towards combating IUU fishing in the Southeast Asian region

(***Source:*** *Jaya* et al., *2019)*

in collaboration with SEAFDEC/Secretariat had developed the 'ASEAN Guidelines for Preventing the Entry of Fish and Fishery Products from IUU Fishing Activities into the Supply Chain' (ASEAN Guidelines) through a participatory and consultative process involving fishery experts from the AMSs to enhance the credibility of the region's fish and fishery products. The ASEAN Guidelines was finalized in September 2014 and subsequently endorsed by the 37th Senior Officials Meeting of the ASEAN Ministers on Agriculture and Forestry (SOM-AMAF) in August 2015 and finally by the 37th Meeting of the ASEAN Ministers for Agriculture and Forestry (AMAF) in September 2015. The ASEAN Guidelines were published by SEAFDEC/MFRDMD in 2015 (Mazalina *et al*.,2015).

- *The ASEAN Guidelines for Preventing the Entry of IUU Fish and Fishery Products into the Supply Chain*

SEAFDEC as a technical arm of ASEAN always works together with all AMSs under the ASEAN-SEAFDEC Strategic Partnership Mechanism in developing several management tools, guidelines, and measures with the objective of enhancing the cooperation among the AMSs to combat IUU fishing in the region, *e.g.* the ASEAN Guidelines for Preventing the Entry of IUU Fish and Fishery Products into the Supply Chain (ASEAN Guidelines), eACDS, and RFVR.

The ASEAN Guidelines serves as guiding principles for Southeast Asian countries to combat IUU fisheries by controlling and monitoring the trade of fish and fisheries products. The ASEAN Guidelines comprises three main parts *i.e.* Part 1: Introduction; Part 2: Forms of IUU Fishing Activities Occurring in the Southeast Asian Region; and Part 3: Preventing the Entry of Fish and Fishery Products from IUU Fishing Activities into the Supply Chain. Part 3, which is the most important part of the ASEAN Guidelines,

is aimed at preventing the entry of fish and fishery products from IUU fishing activities into the supply chain based on the root cause of IUU fishing activities that occur in the region (Mazalina *et al*., 2015). SEAFDEC/MFRDMD has worked with AMSs in the promotion and dissemination of the ASEAN Guidelines since 2016, after which the AMSs had been encouraged since 2019, to consider continuing the evaluation of the implementation of the ASEAN Guidelines on their own every year, and to keep track of the activities to combat IUU fishing in their respective countries.

The ASEAN Guidelines is being promoted for implementation in the AMSs. As the ASEAN Guidelines is voluntary, its implementation is based on the capacity of each AMSs, while the status of implementation is subject to the self-evaluation by each AMSs. During the 2017 Regional Technical Consultation, the status of implementation of the ASEAN Guidelines in all AMS was discussed considering the results of the country visits organized by SEAFDEC/MFRDMD in 2018 (Abdul-Razak *et al*., 2019a), and those of the 2019 JTF6-IUU Project Terminal Meeting (Abdul-Razak *et al*., 2019b). The self-evaluation scoring rates given by the AMSs in 2017, 2018, and 2019, are shown in **Figure 99**.

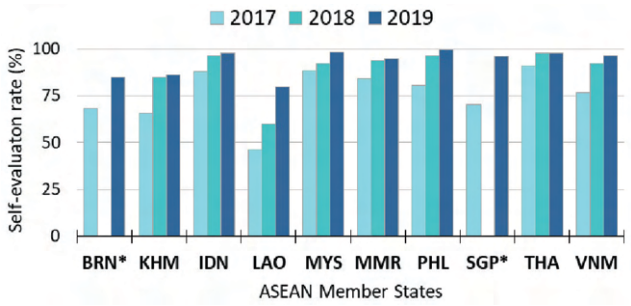

Figure 99. Self-evaluation rate (%) of the ASEAN Member States on the implementation of the ASEAN Guidelines during 2017-2019 (*MFRDMD was not able to conduct country visit in 2018 due to technical and budgetary constraints)

Source: *Abdul-Razak* et al., *2019c*

The data indicated that the average percentage of implementation of the ASEAN Guidelines by the AMSs in 2017 was 75.92 % which increased by 17.28 % to 93.20 % in 2019. All AMSs have implemented more than 80.00 % of the recommended actions in the ASEAN Guidelines in 2019 indicating that all AMSs were committed to combat IUU fishing in the region. Although all AMSs also recognize the importance of combating IUU fishing through trading measures and are seriously tackling the issue of IUU fishing, the implementation of the ASEAN Guidelines differs from country to country. This is based on the circumstances surrounding their respective fishery and trading industries in the country and the capabilities of agencies responsible for the management of the fishery including handling of fish and fishery products traded in the country. All AMSs are encouraged to continue conducting the self-evaluation on the implementation of the ASEAN Guidelines on their national initiatives, to keep track of the activities to combat IUU fishing in their countries (Abdul-Razak *et al*., 2019c).

6.1.1.1 Management of Fishing Capacity

The growing numbers of fishing fleets throughout the region coupled with rapid increases in harvesting capacity has not been matched with the development of national capacities and regional/sub-regional cooperation to manage the fishing effort. Limited management, or regulation and control, of the active fishing capacity, has allowed fisheries to operate in an "open-access regime" leading to the continuous increment in the number of vessels and people engaged in fisheries. Therefore, there is a need to improve and implement licensing schemes and other capacity management measures that effectively limit entry into the fisheries, replacing the present inadequately designed systems (SEAFDEC, 2017c).

The issue of managing fishing capacity has been raised during the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020, held in Bangkok, Thailand on 13–17 June 2011, under Sub-Theme 1.2: Management of Fishing Capacity. Recognizing the importance of management of fishing capacity, SEAFDEC in collaboration with the ASEAN has developed the Regional Plan of Action for Management of Fishing Capacity (RPOA-Capacity) through dialogues with the ASEAN-SEAFDEC Member Countries such as through regional technical consultations and expert meetings. The RPOA-Capacity was supported by the SEAFDEC Member Countries during the 47th Meeting of the SEAFDEC Council in 2014. Subsequently, it was endorsed during the 24th Meeting of the ASEAN Sectoral Working Group on Fisheries (ASWGFi) in June 2016 and adopted by the 38th Meeting of the ASEAN Ministers on Agriculture and Forestry (AMAF) in October 2016 in Singapore (SEAFDEC, 2017c).

The overall objective of the RPOA-Capacity is to serve as a guide for the management of fishing capacity in an ASEAN perspective and also to support the AMSs in the development and implementation of their respective NPOA-Capacity (SEAFDEC, 2006a). The RPOA-Capacity is also meant to support the need to enhance regional cooperation on fisheries management and/or management of fishing capacity in sub-regional areas such as the Andaman Sea, Gulf of Thailand, South China Sea, and Sulu-Sulawesi Seas. Strengthened regional and sub-regional cooperation on the management and control of fishing capacity would provide an effective platform for the AMSs to support their efforts to combat IUU fishing (SEAFDEC, 2017c). The RPOA-Capacity comprises five parts, namely: 1) Assessment of Fishing Capacity; 2) Preparation and Implementation of National Plans; 3) International Consideration; 4) Required Urgent Measures for Regional Fisheries Management, and 5) Mechanisms to Promote of the Implementation.

SEAFDEC/MFRDMD then conducted the "Regional Technical Consultation on Regional Plan of Action for the Management of Fishing Capacity (RPOA Capacity)" on 8 December 2020 (Annie-Nunis *et al*., 2021), with the objectives of: i) updating the information regarding the implementation status of fishing capacity (RPOA-Capacity) in the AMSs, and ii) finding the way forward for the implementation of NPOA and RPOA-Capacity in the AMSs. The status of the development and implementation of the NPOA-Capacity by the respective AMSs appears in **Box 17**.

Apart from the updated information regarding the implementation status of fishing capacity (RPOA-Capacity) in the AMSs, the participants of the 2020 Regional Technical Consultation also discussed the issues/challenges and strategies in improving RPOA-Capacity implementation in their respective countries (**Table 68**).

Box 17. Status of the development and implementation of the NPOA-Capacity of the ASEAN Member States
Brunei Darussalam - Even though Brunei Darussalam has not yet developed NPOA fishing capacity, its policy on Sustainable Fisheries Management under the Brunei Fisheries Limits Chapter 130, and Fisheries Order 2009, a legislative infrastructure is provided for the management of fisheries activities and fishing areas, as well as marine reserves and parks. The country has adopted an overarching policy on sustainable fisheries industry development. This underlying policy has been translated into operational and field-level management programs to ensure that: i) the resources is protected from over-fishing and destructive fishing activities; ii) the breeding grounds (coral reefs and mangroves) are protected and conserved, and that recruitment and recovery are promoted, and iii) responsible fishing and environment-friendly technologies developed are promoted.
Cambodia - The country's NPOA of fishing capacity and fishing operation was adopted by the Government but it is still in its national language. The contents of Cambodia's NPOA management of fishing capacity include: i) strict registration of all fishing vessels through cooperation with the local governors; and ii) licensing only the authorized fishing vessels; iii) management of marine fishing resources; iv) concrete policy on marine protected areas (MPA); v) management of fishing grounds by zoning fishing areas; vi) fishing gears permitted to operate, and more fishing activities following the Law.
Indonesia - Management of fishing capacity in Indonesia is reflected in the legal frameworks that had been issued and include among others: a) Regulation of the Minister of Marine Affairs and Fisheries number 18/PERMEN-KP/2014 on Fishery Management Areas of the Republic of Indonesia; b) Regulation of the Minister of Marine Affairs and Fisheries number 9/PERMEN-KP/2020 on Inland Fishery Management Areas of the Republic of Indonesia; c) Regulation of the Minister of Marine Affairs and Fisheries number 59/PERMEN-KP/2020 on Fishing Channel and Allocation of Fishing Gear in the Fishery Management Areas of the Republic of Indonesia; d) Decision of the Minister of Marine Affairs and Fisheries number 50/KEPMEN-KP/2017 on the Potency Estimation, Total Allowable Catch, and Level of Utilization of the Fish Resources in the Fishery Management Areas of the Republic of Indonesia; and e) Regulation of the Minister of Marine Affairs and Fisheries number 29/PERMEN-KP/2016 on Guidance for the Planning of Inland Fishery Management. The marine and inland fisheries management in Indonesia is being taken to the next level by transforming from a centralized to decentralized approach as a follow up of the above-mentioned regulations and as regulated in the Regulation of the Minister of Marine Affairs and Fisheries number 33/PERMEN-KP/2019 on Organization and Work Procedure of the Fishery Management Body in the Fishery Management Areas of the Republic of Indonesia. The anticipated constraints/challenges to implementing aforesaid Regulation are the discrepancies among the Fishery Management Bodies in terms of quality and quantity of the human resources as well as interbody/interagency coordination.
Malaysia - Malaysia has published the National Plan of Action for the Management of Fishing Capacity in Malaysia (NPOA Fishing Capacity) in 2008 and NPOA Fishing Capacity Plan 2 in 2015. Now, Malaysia is currently developing the NPOA Fishing Capacity Plan 3. Under the NPOA fishing Capacity 2, Malaysia has underlined 3 strategies to implement and manage fishing capacity, such as: i) Review and implement effective conservation and management measures; ii) Strengthen capacity and capability for monitoring and surveillance program; and iii) Promote public awareness and education program. Malaysia has successfully: i) enforced the use of 38 mm cod-end mesh size for trawl net in all fishing zones; ii) conducted Resources Assessment surveys; iii) gradually restructured the operation area for trawlers; iv) introduced a conservation zone (one nautical mile buffer zone from the coastline) for fishing operation in the West Coast of Peninsular Malaysia (encompassing Kedah, Perak, and Selangor); v) maintained all records of fishing vessels and fishing gears/appliances electronically (Sistem ELesen) and developed the Malaysian Fishing Vessel Record (MFVR) managed by DOFM; vi) undertaken several initiatives to promote an EAFM mechanism as a tool of fisheries management; and vii) conducted public awareness programs on sustainable fisheries, including managing fishing capacity, conserving, and restoring fisheries resources and habitat. Constraints/Challenges to implementing the NPOA Fishing Capacity include: i) limited funds for implementation; ii) fishers have limited knowledge and skills to operate different fishing gears other than the current fishing gear used.
Myanmar - Myanmar has not yet developed the NPOA-Capacity management plan, as the country needs international and regional expertise to support the development of the NPOA-Capacity management plan. Myanmar also needs capacity building for the usage of specific gear for specific stock and determination of fishing capacity methodologies. Despite this, Myanmar has implemented several fisheries management measures such as Marine Protective Area (MPA) 2020, Closed Season Closed Area (CSCA) since 2013, Trawl fishing gear mesh size (1.5 inches for shrimp, 2.0 inches for fish), Installation of Turtle Exclusive Device (TED) at trawl gears 2020; banned the building of new vessels relevant to fishing activities; enhanced the management of licenses for marine capture fisheries; suspended the issuance of fishing rights of foreign fishing vessels since 1st April 2014; and established the policy on usage of VMS system. The development of NPOA-capacity has been considered and would be based on RPOA-Capacity including fisheries co-management.
Philippines – The Philippines has not yet developed the NPOA-Capacity, but Reference Points and Harvest Control Rules are being processed and finalized in all Fisheries Management Areas (FMA) covering the entire Philippine waters. Constraints or challenges to developing its NPOA-Capacity include: capacity building needed in all levels of government and stakeholders; and alternative livelihoods for the fishers as fishing capacity are expected to be reduced.
Singapore - Singapore has a small capture fisheries sector, but its legislation ensures that only the Singapore Food Agency (SFA)-licensed fishing vessels can fish in Singapore waters. Foreign fishing vessels are not permitted to fish in Singapore waters.

Box 17. Status of the development and implementation of the NPOA-Capacity of the ASEAN Member States *(Cont'd)*

Thailand - Thailand has utilized its Fisheries Management Plan (FMP) to manage fishing capacity instead of the NPOA-Capacity. Currently, the FMP is the national fisheries management plan and policy approved by the country's cabinet. Regarding the country's capacity control measures as specified in Objective 1 of the FMP, the fishing effort for all species both in the Gulf of Thailand and the Andaman Sea is controlled at the level that can produce MSY. The target is to maintain fishing effort below the Fmsy. There are eight measures under this objective, which include among others: controlling the number of fishing days for each vessel, and implementation of a vessel buyback scheme. Unfortunately, the country's artisanal fishing vessels are not required to obtain fishing licenses and the fishing effort for the artisanal vessels is unlikely to be controlled.

Viet Nam – Viet Nam has issued the Fisheries Law 2017 with many guiding documents which has been in effect from 2019 to manage the fisheries towards sustainable development, and promote its National Action Plan against IUU fishing. Currently, Viet Nam is developing various instruments that include: draft of its Fisheries Development Strategy to 2030 and a vision of 2045; and Projects to establish seafood processing and value enhancement. Viet Nam also has signed the Agreement on National Measures of Port Fishes (PSMA) and Agreement for the conservation and management of amphibian and migratory fish stocks (Agreement for the conservation and management of fish stocks and highly migratory fish stocks, UNFSA), and the national action plan has been issued to implement the above agreements. The sea area of Viet Nam is divided into 3 fishing zones (*i.e.* coastal areas, open areas, high seas) while the operating area of fishing vessels in the maximum length is being enhanced. Fishing licenses are managed by quotas, *i.e.* the central government manages the quotas for fishing vessels with length 15 m or more, while the provinces manage the quotas for fishing vessels with lengths less than 15 m. Fishing vessels with a maximum length of 15 m or more also are obliged to install the cruise monitoring equipment.

Table 68. Issues/constraints and actions/strategies in the implementation of the RPOA-Capacity

Plan of action	Issues/Constraints	Actions/Strategies
Section I: Assessment of Fishing Capacity		
1.1 Diagnosis and identification of fisheries and fishing capacity	• High cost to carry out resource surveys in deep-sea waters • Inadequate capacity of human resources on taxonomy of uncommon fish species, stock assessment, data analysis, among others • Multispecies marine resources • Inadequate updated data on fishery resources • Intrusion of commercial fishing vessels in coastal waters • Complicated procedures on fishing vessels registration • Insufficient information on total number of commercial and small-scale fishing vessels • Insufficient information on the status of the fish stock • Inaccessible and/or inaccurate catch data/ log sheet • Carrier vessels operating in territorial waters and EEZs were not covered by VMM/VMS program • Lack of countrywide electronic catch documentation and traceability system • Lack of validation of catch unloaded from fishing vessels • Limited information on the number of deployed fish aggregating devices (FADs)	• Development and implementation of NPOA-Capacity should be pursued, and annual budget from 2020 to 2024 to be allocated • Procurement of a new research vessel to facilitate fishery resource surveys • Utilization of M.V. SEAFDEC 2 to conduct fisheries surveys • Conduct of national/regional training workshops on fish taxonomy, stock assessment, data analysis, and others • Establishment of new fisheries management system for the development of various fisheries management plans (*e.g.* species-area specific rather than gear-based management) • Conduct of regular fishery resource monitoring and surveys • Adoption of the eACDS and land-based catch data application • Strengthening of law enforcement • Implementation of vessel monitoring measure (VMM) • Assistance to local governments in filing cases and enforcement of local ordinances • Enforcement of closed fishing seasons and areas in coastal waters • Coordination with relevant agencies • Inventory of commercial and small-scale fishing vessels • Establishment of Fisheries Management Areas (FMAs) including the adoption of Reference Points and Harvest Control Rules (HCR) • Consolidation of information on the status of fish stock in FMAs • Safekeeping of logbooks to be analyzed by appropriate authorities • Requiring all commercial fishing vessels to comply with VMM and electronic catch reporting system (ERS) • Designation of Fisheries Observers for commercial vessels • Development of a simplified logbook for artisanal fishing vessels • Limitation of number of fishing days for highly efficient fishing gear (*e.g.* trawl, purse seine, and others) • Development of alternative/diversified livelihood for fishers • Establishment of marine conservation zones
Section II: Preparation and Implementation of National Plan of Action for the Management of Fishing Capacity		
2.1 Development of national plans and policies	• Limited capacity building activities • Limited funds for policy implementation • Limited knowledge of fishers to operate modern fishing gear • Limited expertise to develop plans and policies • Inadequate financial resources • Inappropriate policies and regulations	• Implementation of the NPOA-Capacity • Continued engagement and consultation with fishers • Seeking technical and financial support from regional and international organizations (*e.g.* SEAFDEC, FAO for the development of NPOA-Capacity plan • Development of policies towards sustainable fisheries development
2.2 Subsidies and economic incentives	• Large amount of budget and long period of implementing buy back schemes • Inadequate educational level of fishers • Low income of fishers	• Participation in the WTO negotiation of fisheries subsidies • Allocation of annual budget for the buyback scheme • Conduct of training and awareness raising activities to support fishers • Development of policies to support fishers in sustainable exploitation fishery resources, preserving products, and stabilizing selling prices of aquatic products

Table 68. Issues/constraints and actions/strategies in the implementation of the RPOA-Capacity *(Cont'd)*

Plan of action	Issues/Constraints	Actions/Strategies
2.3 Regional Considerations and Cooperation	• Limited resources • Insufficient collaboration among the AMSs	• Cooperation among the AMSs to combat IUU fishing in the region • Updating the RFVR Database • Exchange of information and experience in fisheries management
Section III: International Considerations and Fishing in High Seas or RFMO Competent Areas		
	• Inability to access fishing in the high seas • Closed WCPFC high seas areas should be for fishing • Lack of expertise in tuna fishing in the IOTC competent area • Insufficient information on fishing grounds and resources • Lack of information on regulations	• Cooperation among the AMSs and relevant agencies to protect the competent areas • Adherence to the IOTC Resolution • Self-imposed fishing access to reduce the catch of juvenile tunas (BET) • Analysis of historical fishing effort data • Data collection from logbooks, onboard observers, ERS, etc. • Exchange of updated information on fisheries and aquatic resources, regulations, and others
Section IV: Required Urgent Measures for Regional Fisheries Management		
	• Limited resources • Insufficient measures to manage transboundary species • Lack of timely and accurate information	• Sharing of experiences and lessons learned on fisheries management among the AMSs • Participation in the discussion at the sub-regional/regional level regarding the management of transboundary species • Humanist handling of cases at sea
Section V: Mechanisms to Promote Implementation		
	• Limited of resources • Lack of technical support for the information-sharing program, training program, and experts' consultation program on the fishing capacity to support the NPOA-capacity • Lack of systematic data collection and analysis • Prioritizing national interests and commitments	• Enforcement of fishery laws in the respective EEZs and high seas • Engagement with stakeholders through consultation programs • Conduct of training and capacity building activities to improve fishing capacity management • Provision of technical support for systematic data collection and analysis • Ensure the interests of the countries in the region • Development of a mechanism for sharing of information and experience among countries for regional compliance

In addition, during the 2020 Regional Technical Consultation, most AMS requested SEAFDEC to provide technical assistance for the preparation of NPOA-Capacity and capacity building especially fisheries management and fisheries survey. Specifically, Brunei Darussalam requested technical assistance from SEAFDEC and Malaysia for the development of their NPOA-Capacity, while Cambodia requires capacity building and training, particularly on fisheries management. In its response, Malaysia indicated that there has been certain inadequacies of the number of younger experts, particularly in fishery taxonomy and stock assessment, to conduct resource surveys. Thus, the collaboration with SEAFDEC on the aforementioned concerns was requested. Malaysia also requested for capacity building through training on taxonomy, especially for deep-sea resources; stock assessment; and determination of fishing capacity methodologies. Meanwhile, Myanmar also sought technical assistance for its plan to conduct the deep-sea survey and expressed the desire to collaborate with regional and international organizations. The Philippines has already completed zero drafts for its NPOA-Capacity but requested technical assistance from SEAFDEC for the finalization of the said document, and also sought technical assistance from SEAFDEC for its acoustic survey. Thailand specifically sought technical assistance from FAO on the application of FMP to manage fishing capacity.

6.1.1.2 Fishing Vessels Registration and Fishing Licensing

Recognizing the severity of degradation of the fishery resources in the Southeast Asian region brought about by uncontrolled practice of IUU fishing, the AMSs have been promoting sustainable fisheries management at the national level in accordance with a provision in the Regional Guidelines for Responsible Fisheries in Southeast Asia: Responsible Fisheries Management, viz: "*States should review the issues of excess fishing capacity at the national level and recommend where appropriate, measures to improve registration of fishing vessels, introduction of rights-based fisheries and reduction in the number of fishing boats and level of fishing effort using government incentives*" (SEAFDEC, 2003). Updates on fishing vessels registration and licensing undertaken by the AMSs at national levels as of 2021, are shown in **Box 18**.