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Transboundary Fisheries Management: The Malaysian Perspective

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Transboundary Fisheries Management: The Malaysian Perspective

Background

Malaysia’s geographical location, lying between two Oceans – the Indian and Pacific, as well as nestled within a semi-enclosed sea, namely, the South China Sea, means that it faces a number of transboundary fisheries management scenarios with its neighbouring countries in the Southeast Asian region. Furthermore, Malaysia’s unique situation, whereby Peninsular Malaysia is physically separated from its two federal states of Sarawak and Sabah on the Borneo island by the southern part of South China Sea, places this country in the even more complex position of having transboundary fishery management issues with a number of neighbouring countries across several different marine sub-regions. Specifically, these States include, *inter alia*, Thailand, Viet Nam and Indonesia in the aforementioned South China Sea;¹ Indonesia and Thailand (again) as well as Myanmar (Burma) in the Malacca Straits; and Indonesia (yet again) as well as the Philippines, in the Sulu and Celebes Seas.

Across the world generally, the management of transboundary fish stocks has been described as a complex mosaic, with over 40 regional fisheries bodies around the globe, with some 20 of these having management functions.² As for the types of fisheries involved in these transboundary fisheries management situations, the UN Food and Agriculture Organization (FAO) refers to a number of different types of ‘shared’ fish stocks, as follows: 1) *highly migratory stocks*, which range across the different maritime jurisdiction zones (territorial seas, contiguous zones and 200 nautical mile (nm) Exclusive Economic Zones (EEZ)) of a number of these countries, as well as the high seas areas beyond them, consisting of species listed in Annex 1 of UNCLOS (e.g. tunas, marlins, swordfish, sailfish, sharks, frigate mackerels); 2) *straddling stocks*, consisting of species that are found in the EEZ of one or more countries and in the adjoining high seas areas; 3) *transboundary stocks*, consisting of species that exist in the EEZs of two (or more) countries but mostly not on the high seas, and 4) *high seas fish stocks* - discrete fish stocks found exclusively in the high seas.³

Moving to the specific, Malaysian perspective on its transboundary fisheries management issues, it is possible to state that, overall, Malaysia’s transboundary marine fisheries are focussed within four main geographical areas, namely, 1)

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¹ The relatively small maritime jurisdiction zones of Cambodia (facing the Gulf of Thailand), Brunei (facing the South China Sea) and Singapore (nestled between Indonesian and Malaysian waters at the meeting point between the Malacca Straits and South China Sea) will not be covered in this discussion unless directly pertinent to the Malaysian transboundary fisheries management issues considered here.


the South China Sea, whose waters lap at the shores of the entire eastern coastline of Peninsular Malaysia and then stretch all the way to the north-western coastline of the Borneo island, wherein lie Sarawak and Sabah; 2) the Straits of Malacca, lying between the western coast of the Peninsular and the eastern coast of the Indonesian island of Sumatra; 3) the southern sector of the Andaman Sea area, which is bordered by Myanmar, Thailand, Indonesia and the north-western part of Peninsular Malaysia, which corresponds to the northern part of the Malacca Straits; and 4) the Sulu-Celebes Sea area lying off the eastern coastline of the Malaysian state of Sabah on Borneo island, with the Philippines to the north (east) and Indonesia to the south (east). All four of these main (regional) fisheries grounds are located in the accompanying maps of Malaysia and its surrounding waters (Figures 1 & 2, below).\(^4\)

Maps of Malaysia, showing regional/sub-regional seas, where the main (transboundary) fishing grounds are located

**Figure 1**

![Map of Malaysia](image1)

**Figure 2**

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Having outlined the regional and sub-regional locations wherein transboundary fisheries management issues arise for Malaysia in relation to its neighbouring States, it is also important to note the presence of distant-water fishing vessels within these fishing grounds that hail from the wider regional setting, notably, mainland China, as well as Taiwan. Therefore, it is imperative to highlight the need for effective transboundary fisheries management by Malaysia and her neighbours in this region. This is within the context of several significant factors that are combining to form a challenging outlook for regional fisheries in this geographical area as a whole. Specifically, steep population growth and rapid industrialization has resulted in the following trends:

1) Increased fishery consumption levels – both in overall and per capita terms, and correspondingly rising levels of fishing effort to feed this consumption growth, with fish and seafood still being a major protein source for much of the population of Southeast Asia, and Malaysia itself;

2) Increased, and in some cases poorly regulated, industrialization causing marine pollution and thereby negatively affecting ecosystems and habitats that sustain fisheries;

3) Illegal, Unregistered and Unregulated (IUU) fishing, both from regional and extra-regional fishing vessels, resulting in over-fishing and wasteful fishing practices.

However, as Teh et al note, ‘despite these trends, a prevailing lack of effective fisheries management means that overfishing remains a persistent societal and ecological concern in the South China Sea (SCS).’ So, they undertake to ‘review
whether and how prevailing governance systems can address current problems such that fisheries in the SCS can be sustained into the future. This approach appears to assume fisheries co-operation among the littoral States is inevitable, whereas Franckx raises the question as to whether the very nature of common or shared resources such as fisheries give rise to disputes, rather than stimulating co-operative behaviour between States with access to these shared resources.

As for the international legal framework governing the relationships between littoral States in this region over fisheries issues, it should be noted that with the exception of Taiwan, all of these regional and extra-regional countries, as well as Malaysia itself, are parties to the 1982 UN Convention on Law of the Sea (UNCLOS). On the other hand, only a few of the regional and extra-regional States (not including Malaysia) are parties to the 1995 Fish Stocks Agreement.

Introduction

Having dealt with the factual and legal backgrounds to transboundary fisheries management issues as they pertain to Southeast Asian countries in general and Malaysia in particular, it is incumbent upon us to construct a framework for both the policy and legal analysis of transboundary fisheries management issues, from a Malaysian perspective.

The following points culled from the relevant factual and legal backgrounds (above) arguably underpin the elaboration of this policy and legal analytical framework: First, it is notable that despite the existence of a well-known and generally well-regarded regional organization that most Southeast Asian States are members of, namely, the Association of South East Asian Nations (ASEAN) there is to date no established regional fisheries management organization (RFMO) for the South China Sea and its adjacent marine areas. This is unlike other major regions clustered around semi-enclosed seas, such as the General Fisheries Commission for the Mediterranean (GFCM), or representing significant oceanic fisheries areas, like the Northwest Atlantic Fisheries Organization (NAFO) for example. A recent FAO publication provides a history, description and overview of the performance review process of 19 regional

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9 Only Indonesia, the Philippines, Thailand, and Viet Nam are parties to this Agreement. Full title: Agreement for the implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks, opened for signature on 4 December 1995; in force on 11 December, 2001. Text & related information accessible at: [https://www.un.org/Depts/los/convention_agreements/convention_overview_fish_stocks.htm](https://www.un.org/Depts/los/convention_agreements/convention_overview_fish_stocks.htm)
10 ASEAN is presently composed of ten Member States but has so far refrained from entering the regional fisheries debate, beyond promoting cooperation for the development of aquaculture through the ASEAN Ministerial Understanding on Fisheries Cooperation (1983). Accessible at: ...
11 More information on NAFO’s work is accessible at: [https://www.nafo.int](https://www.nafo.int)
fishery bodies (RFBs) across the world, including the implementation measures that the RFBs in question have taken following their performance reviews.\(^{12}\)

Second, in the face of this relative lack of formal regional and/or sub-regional fisheries organizations, a couple fisheries-related initiatives focussed on international co-operation and management of fisheries as a shared or commons-type transboundary resource at the sub-regional level within the wider, South China Sea region, are gaining traction. Third, as a corollary to the informal relationships that are coalescing around these sub-regions of the South China Sea, stricter national enforcement measures are being upgraded and implemented.

In relation to these three background points, Malaysia has actively participated in the second of these (sub-regional initiatives) and appears to have geared-up (at least legally) towards exerting more forceful measures against illegal fishing in its waters. Overall, Malaysia remains a passive rather than active participant on these issues, although there are signs that it is making greater efforts at engagement with so-called ecosystem-based fisheries management initiatives by various regional and sub-regional organizations and fora.

**Legal Status of Malaysia and Neighbouring States, re: UNCLOS & Fish Stocks Agreement**

Three of the littoral States in the greater South China Sea region including Malaysia, Viet Nam, and Myanmar are parties to UNCLOS, but not to the Fish Stocks Agreement; whereas three other States, namely, Thailand, Indonesia, and the Philippines are parties to both UNCLOS and the Fish Stocks Agreement; with the People's Republic of China being a party to UNCLOS and signatory (& therefore not yet a party) to the Fish Stocks Agreement. Within UNCLOS itself, aside from the fisheries provisions under Part VII dealing with the High Seas, several provisions from Part V, dealing with the 200 nautical mile (nm) Exclusive Economic Zone (EEZ) regime, are relevant for transboundary fisheries management purposes. The specific treaty provisions are as follows:

a) Paragraphs 1 and 2 of Article 63, dealing with fish stocks occurring within the EEZs of two or more coastal States, or within the EEZ and a high seas area beyond and adjacent to EEZs, provides that these States shall seek, either directly or through appropriate sub-regional or regional organizations, to agree upon the measures necessary to coordinate and ensure the conservation and development of such stocks; and

b) Article 64 on ‘highly migratory species’ provides in paragraph 1 that the coastal State and other States whose nationals fish in the region for these species shall cooperate either directly, or through appropriate international organizations, to ensure the conservation and optimum utilization of such

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species throughout the region, both within and beyond the EEZ.

Overall, the implications of both these UNCLOS Articles (63 & 64) along with other, related provisions on anadromous (Article 66) and catadromous (Article 67) species, is that neighbouring States are obliged to co-operate with each other, either directly or through relevant international and/or regional fisheries management organizations (RFMOs) to conserve, develop, and manage such fisheries to ensure their optimum utilization. As already noted (above) there are presently no such overarching (formal) RFMOs in the Southeast Asia/South China Sea region that Malaysia is specifically situated within. On the other hand, both Malaysia and her neighbouring Southeast Asian States within the Association of Southeast Asian Nations (ASEAN) were clearly aware of the implications of their extended maritime jurisdictions under the continental shelf, and especially the EEZ regimes of the 1982 UNCLOS. Notably, soon after the UNCLOS was adopted and opened for signature (on 10 December, 1982), the Fifth Meeting of the ASEAN Ministers on Agriculture and Forestry in Singapore on 20-22 October, 1983 yielded an ASEAN Ministerial Understanding On Fisheries Cooperation Singapore.13 This Understanding, inter alia, provided as follows:

‘NOTING the United Nations Convention on the Law of the Sea, particularly the provisions relating to Exclusive Economic Zones, and the impact it will have on fisheries development in the ASEAN region;

BELIEVING that management and conservation of fisheries resources of Exclusives Economic Zones in ASEAN region rest with the Government of ASEAN, and that closer cooperation is necessary among the ASEAN member countries;

DO HEREBY DECLARE that we have reached consensus, and will take necessary action toward closer cooperation in the following areas of fisheries:

A. In the management and conservation, of the fisheries resources of the Exclusive Economic Zones in the ASEAN region through:
   (i) exchanging Fisheries information and expertise relevant to Fisheries development and management.
   (ii) coordinating action in Fisheries resources research activities undertaken by national institutes in the member countries;
   (iii) undertaking appropriate action in the evaluation and management of shared stocks and migratory species in the ASEAN region;
   (iv) undertaking appropriate action for the rational utilization of fisheries in Exclusive Economic Zones.

B. In the sharing and transfer of technology at all levels to improve the socioeconomic status of the fishermen;

C. in all aspects of Aquaculture to increase production and income of fish farmers;

D. in all aspects of Post-Harvest Technology in support of production and marketing efforts; E. In promoting the trade and marketing of fish and fishery products among the ASEAN countries as well as with other countries;

F. In identifying common areas for commercial cooperation in fisheries; and

G. in working towards a common stand and understanding on regional and international matters in fisheries.’ (emphasis added).

From a Malaysian perspective, the above ASEAN Ministerial Understanding initially yielded successful co-operation between Malaysia and her near neighbours. For example, Lim mentions ‘a joint private fishing venture between Thailand and Malaysia under which Thai crews will man Malaysian fishing vessels and land the catch in Kuantan port (on east coast of Peninsular) Malaysia, after which the fish will be sold to Thai canneries for processing and export.’\textsuperscript{14} Unfortunately, as Lim then notes, ‘(t)hese practical arrangements, however, are the exceptions rather than the rule. The main impediment to them is the perception by some ASEAN States’ governments that in order not to prejudice their rights in disputed waters, the State must not only claim the maximum EEZ possible but enforce domestic legislation regardless of the fact that the waters in question are the subject of overlapping claims between ASEAN member States.’\textsuperscript{15} For example, the above undertakings for intra-ASEAN fisheries co-operation did not prevent sporadic arrests of a number of Filipino and Thai fishing vessels by Malaysia during the late 1980s that resulted in bilateral tensions between these ASEAN neighbours.\textsuperscript{16}

A particularly important commercial species in this regard is tuna, several species of which traverse the South China Sea region with their migratory patterns. Within this context, Malaysia is nestled between and within the designated areas of two major, oceanic tuna-based RFMOs, namely, 1) the Indian Ocean Tuna Commission (IOTC)\textsuperscript{17} – an intergovernmental organisation established under the auspices of the Agreement for the Establishment of the Indian Ocean Tuna Commission, which is responsible for the management of tuna and tuna-like species in the Indian Ocean (to which Malaysia is a member);\textsuperscript{18} and 2) the Western and Central Pacific Tuna Commission (WCPFC)\textsuperscript{19} - established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPF Convention) to which Malaysia is not a party.


\textsuperscript{15}\textit{Ibid.}

\textsuperscript{16}\textit{Ibid.}, at 173-75.

\textsuperscript{17}Adopted on 25 November, 1993 and entered into force on 27 March, 1996. Accessible at: https://iotc.org/

\textsuperscript{18}Having joined on 22 May, 1998.

\textsuperscript{19}Adopted on 5 September, 2000 and entered into force on 19 June 2004. Accessible at: https://www.wcpfc.int/convention-text
Malaysian Legal and Institutional Framework for (Transboundary) Fisheries Management

Moving to the question of whether there are any Malaysian national fishing laws and regulations for transboundary stocks – the first thing to note is that there appears to be no directly applicable Malaysian fisheries laws covering this topic. Thus, the Fisheries Act, 1985 (as amended)\(^{20}\) does not explicitly regulate ‘shared’, ‘transboundary’, or ‘straddling’ fish stocks, nor even ‘highly migratory species’. However, there is scope for confusion between the definitions of ‘Malaysian fisheries waters’ and ‘maritime waters’ of the Malaysian 200nm EEZ. Thus, under Section 2, on ‘Interpretation’, having initially defined ‘Malaysian fisheries waters’ as meaning ‘maritime waters under the jurisdiction of Malaysia over which exclusive fishing rights or fisheries management rights are claimed by law and includes the internal waters of Malaysia, the territorial sea of Malaysia and the maritime waters comprised in the exclusive economic zone (EEZ) of Malaysia’. However, this definition is slightly at variance to the definition proffered by the 1984 EEZ Act,\(^ {21}\) which provides that ‘Malaysian fisheries waters’ means ‘all waters comprising the internal waters, the territorial sea and the exclusive economic zone of Malaysia in which Malaysia exercises sovereign and exclusive rights over fisheries’.

Section 2 of the subsequent 1985 Fisheries Act then goes on to define ‘maritime waters’ as meaning ‘areas of the sea adjacent to Malaysia, both within and outside Malaysian fisheries waters and including estuarine waters, and any reference to marine culture system, fishing or fisheries shall be construed as referring to the conduct of any of these activities in maritime waters;’ (emphasis added) thereby at least implicitly suggesting that Malaysian jurisdiction over all fishing activities extends to such ‘maritime waters’ as lie outside (i.e. beyond) fisheries waters within the Malaysian EEZ. This implicit suggestion is arguably compounded when read alongside the following provision in the 1984 EEZ Act, Section 8 of which, entitled: ‘Written law relating to fisheries to be applicable in the zone and on the continental shelf’, provides as follows: ‘Except as otherwise provided in this Act, any written law relating to fisheries shall be applicable in the exclusive economic zone and on the continental shelf with such necessary modifications or exceptions as may be provided in an order made under section 42.’

Given that the continental shelf of a coastal State can extend beyond the 200nm EEZ limit provided certain geological and/or geomorphological criteria are fulfilled under Article 76 of UNCLOS, this suggests that Malaysian fisheries law can equally extend beyond this limit, into the high seas area. The above ambiguity can be reconciled within the international law of the sea framework established by UNCLOS by limiting these domestic provisions, which implicitly


purport to extend Malaysian fisheries laws beyond 200nm, only to that of 'sedentary species' within the continental shelf under Article 77(4) of UNCLOS. But until a legally authoritative statement is made to this effect, the scope for confusion arguably remains.

In any case, such fishing, and other related activities by foreign fishing vessels are specifically governed by Part V of the 1985 Act, regarding 'Foreign Fishing Vessels', section 15(1) of which provides, inter alia, that 'Subject to subsection (2), no foreign fishing vessel shall do any of the following in Malaysian fisheries waters: (a) fish or attempt to fish; or (b) ... conduct any techno-economic research or survey of any fishery, ...' Moreover, under section 16 of the Malaysian Fisheries Act, 1985 entitled: 'Passage of foreign fishing vessel through Malaysian fisheries waters', sub-section (1) provides that, 'subject to subsections (2) and (3), a foreign fishing vessel may enter Malaysian fisheries waters, for the purpose of passage through such waters in the course of a voyage to a destination outside such waters.' Sub-section (3) of section 16 then requires that: 'The master of a foreign fishing vessel entering Malaysian fisheries waters for the purpose mentioned in subsection (1) shall notify by radio, telex or facsimile in the English or Malay Language an authorized officer of the name, the flag State, location, route and destination of the vessel, the types and amount of fish it is carrying and of the circumstances under which it is entering Malaysian fisheries waters.' Sub-section (4) of section 16 then states that: 'Every foreign fishing vessel entering Malaysian fisheries waters for the purpose mentioned in subsection (1) shall—
(a) without prejudice to the requirement to observe any other law of Malaysia which may be applicable, observe such regulations as may be made under section 61, including regulations regarding the stowage of fishing appliances; and
(b) return to a position outside such waters as soon as the purpose for which it entered such waters has been fulfilled.'

Finally, under section 17, entitled: 'Undertaking to be included in international fishery agreement't it is provided that: 'Every international fishery agreement referred to in section 15 shall include an undertaking by the government of the country, or by the international organization, which is a party to the agreement with the Government of Malaysia to comply or ensure compliance by its fishing vessels with the provisions of this Act.'

There are a number of points to be made respecting the compatibility of the above Malaysian law with the rights and obligations in the 1982 UNCLOS. First, the current section 16(1) is the result of a 1993 amendment, made to the original 1985 provision. The (original) provision in the 1985 Act stated that: 'a foreign fishing vessel may enter Malaysian fisheries waters, for the purpose of innocent passage through such waters in the course of a voyage to a destination outside such waters.' This original provision was clearly at variance with the implicit inclusion of fishing vessels of all flag States to the freedom of navigation in the

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EEZs of coastal States, as provided by UNCLOS Article 58. Second, this original provision respecting ‘innocent passage’ for foreign-flagged fishing vessels in the 1985 Fisheries Act was an inversion of the navigational freedom otherwise enjoyed by such vessels within an EEZ involving an expansive interpretation of Malaysian sovereign rights and jurisdiction over living resources within its EEZ, coupled with a discriminatory approach to any foreign-flagged fishing vessels found within its EEZ.

A policy justification for this (previously) legally untenable position that has now been rectified arises from the multiple incursions by fishing vessels from Thailand within the Malaysian EEZ, as well as other neighboring Southeast Asian countries, from the late 1970s to the present day. Valencia, for example, has noted in relation to the 1985 Act, that ‘the problem of access primarily concerns Thai fishermen who were fishing in Malaysian waters before Malaysia declared an EEZ (in 1980).’ A more recent study observes that: ‘Thailand’s reconstructed catch totalled 266 million t(tonnes) from 1950-2010, which was 2.8 times the reported landings of 95 million t(tonnes). Of total reconstructed catch, 176 million t(tonnes) originated from outside the Thai(land) EEZ, of which approximately 75% was caught by industrial fishing vessels either operating illegally in foreign waters or not properly reporting their catches. This suggests a failure of flag-state control, and indicates that stricter monitoring and enforcement of the Thai industrial fishing fleet should be pursued to mitigate un-controlled fishing effort both in the Thai EEZ and in the EEZs of other countries (as well as) in the High Seas.’ (emphasis added)

Having observed that the Malaysian national legal framework for regulating shared fish stocks generally is arguably inadequate, it is important to emphasize the negative impacts of continuing incursions by foreign fishing vessels within the Malaysian EEZ, and even her territorial sea. As Yahaya has noted, the official view held by fishery managers in Malaysia even by the late 1980s was that fishery resources in the inshore waters (within 12 nautical miles) had already been biologically overfished. The dualistic nature of the Malaysian fisheries sector, composed of large-scale commercialized, trawler fishing on the one hand, and traditional small-scale artisanal fishing boats on the other, also highlights the arguably unique socio-economic factors at play in this country. As Yahaya

24 Article 58(1) of UNCLOS states that: 'In the exclusive economic zone, all States, whether coastal or land-locked, enjoy, subject to the relevant provisions of this Convention, the freedoms referred to in article 87 of navigation and overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms, such as those associated with the operation of ships, aircraft and submarine cables and pipelines, and compatible with the other provisions of this Convention.'


28 Ibid., 84-86.
observed, the glaring inequalities between these two forms of fishing effort are exacerbated by the fact that the majority of the commercialized, trawler fishermen are Chinese (Malaysians), while the artisanal fishermen are predominantly Malays,29 hence perpetuating historic ethnic divisions within Malaysian society as a whole. These arguably unique characteristics of Malaysian fisheries serve to emphasize that: '(a) comprehensive multidisciplinary approach is needed to transform and commercialize traditional, experience-dependent culture systems into technology-packaged systems based on scientific methods.'30

Notwithstanding these quintessential attributes of the Malaysian fisheries industry as an indicative aspect of wider Malaysian society, Malaysian fisheries policy has shifted to overtly managerial efforts at conservation of regional fisheries that traverse the extended national maritime (continental shelf and EEZ) jurisdictions of Malaysia and her coastal State neighbours. As Omar et al already proposed in 1992, '(f)uture management efforts should be based on a fuller understanding of the fishery stock and regional management of fish stocks.'31 Moreover, as they noted presciently even then, '(a)quaculture is often seen as a plausible alternative in order to augment supplies from the capture fisheries. ... There is also substantial potential for the development of recreational fisheries.'32 However, there are continuing difficulties with accommodating these different fishing activities within the current Malaysian (national) legal and institutional framework for fisheries conservation and management. For example, inland fisheries and aquaculture regulations are issued by (Malaysian) State authorities, whereas marine fisheries and (marine) aquaculture are a Federal concern. Unfortunately, neither the Kedah State Fisheries (Riverine) Rules (1992) nor the Perak State Fisheries (Riverine) Rules (1992) make any provision on aquaculture.33 In this regard, it is significant to note that Malaysia is a member of the Network of Aquaculture Centres in Asia and the Pacific (NACA), as well as being a member and hosting the Secretariat of Inter-governmental Organisation of Marketing Information and Technical Advisory Services to the Fishery Industry in the Asia-Pacific (INFOFISH).34

As a relatively recent (2013) review of Malaysian Laws and Policies in Relation to the Implementation of Ecosystem Approach to Fisheries Management summarizes succinctly, '(t)he fragmented institutional environment governing the management of fisheries-based ecosystems is a major impediment to their sustainability. ... At the core of the problem is the absence of a single institution that can champion the cause of conservation and management of fisheries and fisheries-based ecosystems. Different government agencies are involved, and each is governed by its own set of rules and regulations to cater to specific

29 Ibid.
31 Ibid.
32 Ibid.
As the review goes on to note, ‘(e)ven where federal lead agencies are concerned, there is a significant degree of fragmentation. The management of forests, lands and shorelines, and marine parks is coordinated by the Peninsular Malaysia Department of Forest, the Federal Directorate of Lands and Mines, the Drainage and Irrigation Department, and Marine Parks Department, while the monitoring of water quality is undertaken by the Department of Environment. All these five departments are within the Ministry of Natural Resources and Environment, while the Fisheries Department comes under the Ministry of Agriculture.’ Specifically, ‘(t)he Department of Marine Parks Malaysia, for instance, is limited to biodiversity management and conservation only within the boundaries of gazetted marine parks. Mangrove reserves come under the state forestry department, while all other habitats outside its boundaries largely come under the state lands and mines departments, which have no capacity to undertake the kind of management that they need. State lands and forests come under state governments, who have traditionally taken a “hands-off” approach to fisheries management, always regarding as a federal responsibility. Thus, a crucial stakeholder group, the (Malaysian) state governments, have never been involved to any significant extent in fisheries management, notwithstanding the fact that most fisheries-based ecosystems come under their jurisdiction.’

These Malaysian Federal-State constitutional discrepancies, as well as the legal and institutional deficiencies noted above, are exacerbated in their disjointed enforcement aspects. This is despite the advent of a (relatively) new (Federal) enforcement agency that was supposed to take over roles and functions that were previously done by sectorally-focused agencies. According to the review, ‘(t)he 2004 Malaysian Maritime Enforcement Agency (MMEA) Act was a positive move towards integrated enforcement of coastal marine laws. ... Following the establishment of the MMEA Act, an “administrative decision” was made that the existing enforcement agencies would transfer their operational assets to the agency. However, no amendment was made to any of the enabling legislation for the other enforcement agencies, which thus retain a legal requirement and mandate to conduct enforcement operations.’


36 Ibid.

37 Ibid.

38 As the (then) Prime Minister of Malaysia – Dr Mahathir Mohamed noted himself in the (2019) National Maritime Conference: ‘Currently, Malaysia has no less than 15 federal laws and orders to manage its maritime space, while the enforcement of these laws is entrusted on 31 maritime-related agencies from more than 10 ministries.’ See: Rahimi Yunus, ‘Dr M(ahathir) calls for comprehensive maritime policy’, Malaysian Reserve, 28 March, 2019. Accessible at: https://themalaysianreserve.com/2019/03/28/dr-m-calls-for-comprehensive-maritime-policy/

enforcement agency jurisdictional and operational overlaps, there is also potential for still more confusion between so-called Malaysian 'fisheries waters' and 'maritime waters' (already noted above) by the inclusion of a further marine spatial concept within the 2004 MMEA Act, as follows: Under section 2 entitled: 'Interpretation', the term 'Malaysian Maritime Zone' means 'the internal waters, territorial sea, continental shelf, exclusive economic zone and the Malaysian fisheries waters and includes the air space over the Zone.' (emphasis added) The ostensible inclusion within the 'Malaysian Maritime Zone' established under this Act of the 'air space' over both the Malaysian 200nm EEZ and Malaysian continental shelf, where it extends beyond 200nm is arguably at variance with general international law, as specifically provided in the 1982 UNCLOS. As Ooi notes, '(f)rom a cursory examination of that section it is evident that describing the new enforcement agency as merely a 'Maritime Enforcement Agency' is a slight misnomer. The jurisdiction of the MMEA obviously is not strictly limited to the maritime zones, but also to the air space over each of the aforementioned zones. There is little evidence that patrolling the air space appears to be at the forefront of official thinking. More often than not, the numerous official government press statements on the MMEA's role in the air space above the maritime zone appears to have been added as an afterthought, or worse still, not even mentioned.40

Two other Malaysian fishery management policies are, respectively, the (national) Fishing Zoning system, and the National Plan of Action for the Management of Fishing Capacity (NPOA – Fishing Capacity).41 In relation to the former policy, Shaupi et al have noted that: 't]he zoning system in Malaysia implemented since the 1980s, has demonstrated some forms of good management of fisheries and fishing capacity. The division of the sea area into 5 zones, namely: A, B, C, C2 and C3 according to gear type and tonnage (See Figure 3, below) was initially meant to minimize conflicts among users, as well as provide a fair share of resource distribution among the fishers.'42 Four classes of boats, based on their ability to fish from a certain distance from shore, can thereby fish in designated areas within Malaysia’s EEZ. More recently, however, it has been reported that: 'Currently, licenses for zones A, B, C and C2 are no longer issued.'43

the Malaysian Maritime Zone, with a view to the protection of maritime and other national interests in such a zone and for matters necessary thereto.


The NPOA – Fishing Capacity on the other hand, aims to manage fishing capacity in order to balance fishing efforts with available resources in a sustainable manner. According to Shaupi et al, ‘The development of the NPOA – Fishing Capacity is based on results of the country’s efforts to assess the fish stocks with particular attention given to cases requiring urgent measures, and is meant to address the management of fishing capacity for stocks recognized as significantly overfished.\textsuperscript{44}’ The NPOA – Fishing Capacity therefore focuses on the management of fishing capacity in marine capture fisheries through the implementation of a range of policies and technical measures aimed at ensuring the desired balance between fishing inputs and outputs in terms of production.\textsuperscript{45}

More recently, it has been reported that the National Plan of Action for the Management of Fishing Capacity in Malaysia (NPOA Fishing Capacity, Plan 2) was developed based on the achievement of NPOA Fishing Capacity, Plan 1. This revised NPOA Fishing Capacity, Plan 2 comprises three strategies: (1) review and implementation of effective conservation and management measures, (2) strengthening Monitoring, Control and Surveillance (MCS) capacity and capability, and (3) promotion of public awareness and education program. The Department of Fisheries Malaysia is in the process of reviewing the achievements of Plan 2 in order to prepare a (further) new plan.\textsuperscript{46}

\textsuperscript{44} Shaupi (2011) \textit{ibid.}
\textsuperscript{45} \textit{Ibid.}, citing Rosidi Ali, Fishing capacity and responsible fishing: Towards the development of the 2011 Resolution and Plan of Action for Sustainable Fisheries in the ASEAN Region. Paper presented during the ASEANSEAFDEC Regional Technical Consultation on Adaptation to a Changing Environment, 1-4 November 2010, Bangkok, Thailand.
A further amendment (in 2019) to the 1985 Malaysian Fisheries Act is designed to emphasize Malaysia’s commitment to severely de-incentivize illegal, unreported and unregulated (IUU) fishing in both within the Malaysian 200-nm EEZ limits, and in the high seas beyond, for Malaysian-flagged fishing vessels. Specifically, Clause 9 of the Fisheries (Amendment) Act, 2019 seeks to amend section 25 of the 1985 Fisheries Act (Act 317). Sub-clause 9(a) seeks to amend paragraph 25(a) of Fisheries Act 317 to increase the general penalty for offences under Act 317 in the case of foreign fishing vessel or foreign national from one million ringgit to six million ringgit (approx. USD$1.5 million) for owner or master and from one hundred thousand ringgit to six hundred thousand ringgit (USD$150,000) for every member of the crew. Sub-clause 9(b) seeks to introduce a new paragraph 25(aa) into Act 317 to provide a fine not exceeding four million ringgit (USD$1 million) as a general penalty for offences under Act 317 in the case of any local fishing vessel on the high seas.

Finally, as the 2018 Malaysian report to the Indian Ocean Tuna Commission (IOTC) observes, the government has taken further measures to reduce the impact of fishing activities on the marine ecosystem by promoting and encouraging the use of ‘eco-friendly fishing gears’, as well as introducing various fishing regulations, such as prohibiting any commercial fishing gears from fishing within one (1) nautical mile (nm) (Conservation Zone) from the coastline as these areas are reserved for aquaculture activities, cockle culture and fisheries communities activities only. (This in addition to the zoning of fishing areas, noted above).

A further requirement for all vessels operating beyond 12 nm from shore in Malaysian waters is that of Vessel Operation Reports (VORs), in which data from fishing activities (including compulsory recording of landings) is utilized to assist in the management of fisheries resources. VORs are now required for the annual renewal of fishing vessel licenses. The VOR form requires detailed information on fishing areas, times/dates, catches by species, details of by-catches if any, names of ports of landings, or details of trans-shipments to be submitted to the nearest Department of Fisheries office. Failure to do so, will cause the license of the vessel to be revoked or suspended as provided under the Fisheries Act 1985.

The 2018 Malaysian report to the IOTC also noted that as the need for conservation of national marine resources increases, the need for more and

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48 This Bill was passed on 9 July, 2019 by the Lower House (Dewan Rakyat) of the Malaysian Parliament (D.R.16/2019) but has not entered into force yet. Accessible at: https://www.parlimen.gov.my/bills-dewan-rakyat.html?uweb=dr&lang=en#
50 There seems to be a discrepancy here with the 2019 national report (see below), which states that the VOR requirement only applies to ‘all vessels operating beyond 30 (i.e., not 12) nm from the shore (deep-sea vessels)’, at 17.
51 2018 Malaysian report to IOTC, ibid., at 18.
better quality data on how these resources are utilized also increases. One of the most useful types of data is catch per unit effort. To meet these needs, in September 2017, the Malaysian Department of Fisheries began a vessel logbook programme, initially for pelagic long-line fisheries. Under this programme, fishermen are required to report the numbers of each species caught, the numbers of animals retained or discarded alive or discarded dead (long-line gear is non-selective and unwanted or prohibited species such as, billfishes, sea turtles, etc., must be returned to the water), the location of the set, the types and size of gear, and the duration of the set.\(^52\) In its 2019 national submission, the Malaysian government reported that it has updated the national logbook to include all the species requested in (IOTC) Resolution 15/01, and monitor tuna landing(s) and inspection at port by (the) Port Inspector.\(^53\)

The following sections will discuss transboundary fisheries management issues involving Malaysia in each of the four areas of regional and sub-regional marine fisheries space previously identified, namely, 1) the South China Sea; 2) Straits of Malacca; 3) the southern Andaman Sea, corresponding to the northern part of the Malacca Straits; and 4) the Sulu-Celebes Sea(s) area.

1) South China Sea

The South China Sea looms large in the public mind as a continuing site of Great Power, as well as regional, rivalry over international shipping lanes and offshore hydrocarbon potential. However, for local populations, especially those living along the coastlines of the littoral States of this semi-enclosed, regional sea, it is in fact their access to fisheries that forms their greatest source of interest and concern. According to Houdre, ‘(t)he South China Sea is home to one of the most biodiverse ecosystems on earth. It includes around 600 species of coral reef, 3000 species of fish, and 1500 species of sponge. Some of these species are endangered.’\(^54\) Moreover, she notes that: ‘These species are important not only in their own right, but also because they interact with each other and their physical environment in order to survive.’\(^55\) Focussing on corals, for example, Goodwin observes that these support marine species, protect coasts, and serve as the pillars of fisheries.\(^56\) In fact, according to Pala, in 2016, the South China Sea produced 16.6 million tons of catch, supported by corals.\(^57\)

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\(^52\) Ibid.
\(^56\) Goodwin (2011) ibid., at 12.
\(^57\) Christopher Pala, Official Statistics Understate Global Fish Catch, New Estimate Concludes, Science (Jan. 19, 2016) Accessible at:
As a recent long range report prepared for the US National Intelligence Council (NIC) by the Stimson Center observes, ‘Fisheries provide an important dietary staple—fish protein—to many of the 2.49 billion people of the Indian Ocean (IO) littoral and some 1.87 billion people living in eight Southeastern Asian countries, Taiwan, and three Chinese provinces around the South China Sea (SCS). Fisheries also constitute a key economic resource for many coastal communities.’ Specifically, the report goes on to state: ‘The countries bordering the South China Sea—Brunei, Cambodia, China, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam—rank among the top fish-producing and (fish)-consuming countries in the world in terms of both marine catch and aquaculture. Many people in these countries depend upon the fishing industry for both food security and income,’ before concluding with the following forecast: ‘Looking out to 2020 and beyond to 2040, the dual challenges of rising demand from growing populations and economies, colliding with increasing pressures on supply—stemming from overexploitation, pollution, habitat destruction, and climate change—will impose serious pressures on fisheries.’

In terms of the relationship between fisheries resources and regional fishing effort, the Expert Working Group on the South China Sea convened by the Center for Strategic and International Security (CSIS) has noted that: ‘The South China Sea is one of the world’s top five most productive fishing zones, accounting for about 12 percent of global fish catch in 2015. More than half of the fishing vessels in the world operate in these waters, employing around 3.7 million people, and likely many more engaged in illegal, unregulated, and unreported (IUU) fishing. But this vital marine ecosystem is seriously threatened by overfishing encouraged by government subsidies, harmful fishing practices, and, in recent years, large-scale clam harvesting and dredging for island construction. Total fish stocks in the South China Sea have been depleted by 70–95 percent since the 1950s, and catch rates have declined by 66–75 percent over the last 20 years. ... The entire South China Sea fishery, which officially employs around 3.7 million people and helps feed hundreds of millions, is now in danger of collapse unless claimants act urgently to arrest the decline.’

The Working Group’s proposal to avert this collapse initially recognises that: ‘An effective system to manage South China Seas fisheries and the environment cannot be based primarily on the overlapping territorial and maritime claims, to
which the fish pay no attention.' Instead, the Working Group postulates that such an integrated fisheries conservation and marine environmental management framework ‘must be built around the entire marine ecosystem, particularly the reef systems, on which much marine life depends. With political will, it is entirely possible for nations bordering the South China Sea to cooperatively protect these ecosystems and manage fish stocks without prejudice to their overlapping territorial and maritime claims.' Unfortunately, there is still no sign of the above levels of regional co-operation for this semi-enclosed sea, at least in the form of any kind of international legal framework towards these ends.

According to US NIC report (cited above), ‘Southeast Asian countries as a whole participate in a number of regional bodies and agreements, notably the Asia-Pacific Fishery Commission (APFIC), the Southeast Asian Fisheries Development Center (SEAFDEC), and the (ASEAN) Regional Plan of Action to Promote Responsible Fishing Practices (RPOA). These organizations play important roles in promoting and improving fishery management in the region, though many of these organizations primarily discuss voluntary provisions, or are limited to conducting research, gathering information, and/or making policy recommendations. Most Southeast Asian fishery agreements contain the type of nonbinding language that typically characterizes regional pacts, but effective co-management and policing mechanisms between most countries bordering the South China Sea are still lacking. Further, many of these regional bodies or agreements lack the participation of one critical country: China. One notable exception is the Gulf of Tonkin fishery agreement between China and Vietnam, which has the potential for expansion to cover broader maritime areas.’

On the other hand, the NICR report goes on to state that: ‘Although all of the South China Sea countries realize the threat posed to their economies and food security from the current lack of cooperation to ensure sustainable fisheries, the maritime disputes will long present major obstacles to any regional approach. There are no regional organizations or South China Sea-wide initiatives for cooperating to sustainably manage fisheries except nongovernmental organizations for training or professional bodies for networking and personal cooperation.’

**Asia-Pacific Fishery Commission (APFIC)**

Unlike other regional fisheries arrangements that Malaysia participates in, the Asia-Pacific Fishery Commission (APFIC) founded in 1948, is underpinned by a legally-binding Agreement to promote the full and proper use of living aquatic resources in the region from the Indian Ocean to the Pacific Ocean. In this regard, the Commission assists member countries to achieve their objectives by

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62 Ibid.
63 Ibid.
65 Ibid., at 28.
helping with the development and management of marine fishing activities, and aquaculture farming operations, as well as fish product processing and marketing. APFIC works to improve understanding, awareness and cooperation concerning fisheries issues in the Asia-Pacific region. Twenty-one countries are now members of the Commission, which maintains its Secretariat at the FAO Regional Office for Asia and the Pacific in Bangkok, Thailand. Member countries are Australia, Bangladesh, Cambodia, China, France, India, Indonesia, Japan, Malaysia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea, Sri Lanka, Timor-Leste, Thailand, United Kingdom, United States of America and Viet Nam.\(^67\)

The Commission addresses a number of issues that pose threats to the health and future of fisheries in the Asia-Pacific region. Notably, the Commission’s mandate for action appears to encompass a broader notion of threats than those related to IUU fishing activities alone. Thus, although overfishing and unsustainable production practices are identified, so is weak management of aquaculture development and intensification. On top of these challenges, the Commission has highlighted climate variability affecting freshwater and marine ecosystems with impacts already apparent in the form of increased flooding, coastal storms, drought and temperature rise.\(^68\) Specifically, the APFIC’s work is directed towards the following aims: promoting an ecosystem approach; sustainable intensification of aquaculture; policy development and capacity building; analysis and consensus building on critical issues.

Focussing on the first two goals related to marine and aquatic/freshwater fisheries, APFIC’s work begins from the recognition that fisheries and other marine resources do not exist in isolation so that the best way to sustain and conserve them as a whole is to promote an ecosystem approach to fishery management. To this end, the Commission states that it “is working with partners to develop regional training courses in the ecosystem approach so that those responsible for managing fisheries and marine resources may do so more holistically, reduce user group conflicts, help unlock financial resources, work cooperatively with other stakeholders and better resolve fisheries issues and challenges.”\(^69\) Moreover, “the Commission recognizes the opportunities presented by aquaculture in the region, but also the challenges from the increasing intensification of aquaculture production.”\(^70\) Thus, a core part of the biennial programme for the APFIC is working on advisory material, regional consensus building and the development of management tools tailored to meet the needs of the region.\(^71\)

**ASEAN Regional Plan of Action (RPOA)**

According to the US NIC report (referred to above) on *inter alia* South China Sea fisheries, regional countries are slowly recognizing threats to fisheries from


\(^{68}\) Ibid.

\(^{69}\) Ibid.

\(^{70}\) Ibid.

\(^{71}\) Ibid.
climate change and trying to bring illegal fishing and fishing methods under cooperative and regulatory regimes. Within this context, the 'Regional Plan of Action (RPOA) to Promote Responsible Fishing Practices (including combating illegal, unreported, and unregulated fishing) in the Region’ was adopted by fisheries ministers from six ASEAN countries, namely, Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Viet Nam, as well as Australia, Papua New Guinea, and Timor-Leste at a meeting in Bali, Indonesia, on 4 May, 2007. Notably, however, China is not a participant in RPOA. Four regional fisheries organisations provide technical advice and assistance, i.e., the FAO/Asia-Pacific Fishery Commission (APFIC), Southeast Asian Fisheries Development Centre (SEAFDEC), InfoFish and Worldfish Center.

The objectives of RPOA-IUU are to enhance and strengthen the overall level of fisheries management in the region, in order to sustain fisheries resources and the marine environment, as well as optimize the benefit of adopting responsible fishing practices. Under this Plan, these countries agreed to combat illegal, unreported and unregulated (IUU) fishing in three sea areas, the first two of which fall at least partly within Malaysian EEZ and continental shelf jurisdiction, namely, 1) the South China Sea (including the Gulf of Thailand); 2) the Southern-Eastern South China Sea and Sulu-Sulawesi Seas; and 3) the Arafura-Timor Seas. These actions cover conservation of fisheries resources and their environment, managing fishing capacity, and combating IUU fishing, *inter alia*, by seeking to identify and deny port access to boats involved in such IUU fishing.

The Malaysian national report at the most recent RPOA Co-ordination Committee Meeting highlighted the following points on current Malaysia fisheries management issues, including: amendment of Fisheries Act imposing stronger penalties; collaboration with the South East Asian Fisheries Development Center (SEAFDEC, see below) to share scientific information of certain small pelagic and neritic tuna stocks with a view to improve management of shared stocks; as well as conducting gap analysis on legal framework and capacity need to implement the FAO global record of (fishing) vessels initiative, and SEAFDEC Regional Fishing Vessels Record (RFVR) requirements. Malaysia is also obligating all the fishing vessels to install Monitoring Tracking Unit (MTU) and Automatic Identification System (AIS) in order to monitor fishing vessels, as well as implementing Radio Frequency IDentification (RFID) and Quick Response (QR) code(s) for her fishing license system.

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73 Accessible at: [http://www.rpoaiuu.org](http://www.rpoaiuu.org)
74 See: NIC report, *ibid.*
76 For a report on this SEAFDEC-initiated programme for the Development of RFVR and RFVR Database for (Fishing) Vessels 24m in Length and Over, see; Kongpathai Saraphaivanich, Yanida Suthipol, Namfon Imsamrarn, Bundit Chokesanguan, and Somboon Siriraksophon, *Regional Fishing Vessels Record: A Management Tool for Combating IUU Fishing in Southeast Asia*’* Fish for the People*, Vol.14 No. 2: 2016 (Special Issue) 12-17.
South East Asian Fisheries Development Center (SEAFDEC)

Within this context, the South East Asian Fisheries Development Center (SEAFDEC) represents the closest regional fisheries management institution/arrangement to that of a regional fisheries management organization (RFMO) in the South China Sea region. However, as its title suggests, SEAFDEC is not a formally constituted, inter-governmental fisheries regulatory body like that found elsewhere. Instead, SEAFDEC fulfils a more informal, supportive role for regional fisheries co-ordination rather than management, let alone governance or regulation. SEAFDEC’s mandate and objectives are as follows: ‘… (SEAFDEC) is mandated to develop and manage the fisheries potential of the region by rational utilization of the resources for providing food security and safety to the people and alleviating poverty through transfer of new technologies, research and information dissemination activities. SEAFDEC’s strategic objectives are (i) to promote rational and sustainable use of fisheries resources in the region; (ii) to enhance the capability of fisheries sector to address emerging international issues and for greater access to international trade; (iii) to alleviate poverty among the fisheries communities in Southeast Asia; and (iv) to enhance the contribution of fisheries to food security and livelihood in the region.’ This informal role of SEAFDEC can also be surmised from the fact that ‘SEAFDEC does not have a defined geographical area of competence, as SEAFDEC is technical organization with no management authority.’ SEAFDEC Members comprise the following countries: Brunei Darussalam, Cambodia, Indonesia, Japan, Lao People’s Dem. Rep., Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.

Despite its arguably informal organizational setting, SEAFDEC’s role is historically significant and this fact alone renders a transcendent authority to its work, as one of the main providers of relevant fisheries science data that informs sound conservation and management decisions. SEADEC’s role in this regard is enhanced through endorsements by the pre-eminent regional organization, namely, ASEAN. For example, on 17 June 2011, the fisheries ministers of ASEAN-SEAFDEC members adopted a Resolution on Sustainable Fisheries for Food Security for the ASEAN Region in Bangkok, Thailand on the occasion of the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020: Fish for the People 2020 - Adaptation to a Changing Environment, endorsing the eponymous Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020, adopted by the ASEAN-SEAFDEC Senior Officials as a guideline for formulating and implementing programs, projects, and activities through appropriate ASEAN-SEAFDEC mechanisms. This

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80 Ibid.
81 Accessible from ASEAN-SEAFDEC Strategic Partnership website, 'Documents' page, at: http://asspfisheries.net/documents/
82 Ibid., at para. 22 of 2011 Resolution.
2011 Resolution provides, *inter alia*, for the following relevant actions on regional transboundary fisheries governance and management issues:

‘(Paragraph 4.) Strengthen fisheries governance by evaluating current constraints to ensure comparability and compatibility between the required practices and operation of fisheries in the ASEAN Member Countries;

(5.) Further develop regional initiatives to promote a responsible fisheries management mechanism, taking into account the specific social, economic, cultural, ecological and institutional contexts and diversity of ASEAN and ASEAN fisheries in the spirit of the development of the ASEAN Economic Community and the ASEAN Socio-Cultural Community;

(6.) Implement effective management of fisheries through an ecosystem approach to fisheries that integrates habitat and fishery resource management aimed at increasing the social and economic benefits to all stakeholders, especially through delegating selected management functions to the local level and promoting co-management as a partnership between government and relevant stakeholders;

(7.) Promote better management of fishing capacity and use of responsible fishing technologies and practices, recognising the movement towards replacing the “open access” to fisheries resources with “limited access” through rights-based fisheries, and at the same time, secure the rights and well-being of inland and coastal fisheries communities;

(8.) Foster cooperation among ASEAN Member Countries and with international and regional organisations in combating IUU fishing;

(9.) Enhance resilience of fisheries communities to anticipate and adapt to changes in environmental conditions of inland and coastal waters, including those caused by climate change, which could adversely affect fisheries and aquaculture of fisheries communities;

(10.) Strengthen knowledge/science-based development and management of fisheries through enhancing the national capacity in the collection and sharing of fisheries data and information; …’

Among the different types of fish species that give rise to transboundary fisheries management issues for Malaysia and her neighbouring States, varieties of *tuna* currently form their main catch, and therefore also their main source of future concern. As the SEAFDEC Secretariat notes in a recent Statement, '*(t)*unas have been very important resources for several countries in Southeast Asia in view of its contribution to economies and improving livelihoods of fishers in the region. From the regional perspective, it was commonly agreed that tuna fisheries in the Southeast Asian waters should be placed under the guidance and management of respective tuna RFMOs. However, since there is no clear data and information on stock structure of tunas distributed in the Southeast Asian region, development of appropriate tuna management at the national and sub-regional levels could be difficult. The lack of data and information in this region would also hamper the efforts of concerned RFMOs in carrying out effective regional stock assessment.’

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83 See: SEAFDEC Secretariat, Statement by Dr. Chumnarn Pongsri & Annex 1: ‘Promoting Sustainable Tuna Fisheries Management in Southeast Asian Waters through Regional Cooperation’, to the Western and Central Pacific Fisheries Commission, SCIENTIFIC COMMITTEE
Building on the need for collective action on tuna species, an ASEAN-SEAFDEC Regional Plan of Action on Sustainable Utilization of Neritic Tunas in the ASEAN Region was adopted in 2015. This Regional Plan of Action (RPOA-Neritic Tunas) provides for the following Objectives:

Objective I: Determining available data and information, improving data collection and developing key indicators

Objective II: Improving sustainable fisheries management;

Objective III: Improving sustainable interaction between fisheries and marine ecosystem

Objective IV: Improving compliance to rules and regulations and access to markets

Objective V: Addressing social issues; and

Objective VI: Enhancing regional cooperation

Of these 6 Objectives, the last one: ‘Objective VI: Enhancing regional cooperation’ is most relevant to the overarching theme for this paper, namely, transboundary fisheries management and is elaborated, inter alia, as follows:

Issue 6.1: Lack of Sub-regional action plans for neritic tuna fisheries

Action Plan: Enhance/Develop Sub-regional Action Plans for Neritic Tuna Fisheries

- Reviewing the existing action plans in sub-regions such as Sulu-Sulawesi Seas, Gulf of Thailand, South China Sea, and Andaman Sea
- Establishment of cooperation on R&D to support sub-regional management of neritic tuna fisheries
- Exchanging of information among ASEAN Member States on legal framework, policies & management, trade rules & regulations at sub-regional and regional levels on neritic tuna fisheries
- Encouraging the participation of ASEAN Member States in sub-regional fora and consultations organized by regional fishery management organizations such as IOTC, if applicable and other regional fora.

Issue 6.2: Insufficient information on status and trends of neritic tunas at sub-regional level

Action Plan: Assessment of the Status and Trends of Neritic Tunas at Sub-Regional Level

- Establishment of the SEAFDEC scientific working group on neritic tunas for regional stock assessment and providing scientific advice for policy considerations on neritic tunas management


Accessible from ASEAN-SEAFDEC Strategic Partnership website, 'Documents' page, at: http://asspfisheries.net/documents/
• Conduct of regular meetings of SEAFDEC scientific working group at a sub-regional and regional levels
• Conduct of regional tagging program on neritic tunas.85

In 2019, the shared experiences, best practices, and lessons learned from the implementation of a SEAFDEC-Sweden Project, as well as the recommendations from the participants of an End of Project meeting, were distilled into a set of Key Messages that serve as guidelines to SEAFDEC, ASEAN, Governments of the ASEAN Members States (AMSS) and the Partner organizations for building on the results and sustaining the initiatives of the Project.86 These Key Messages are inter alia as follows:

On Transboundary Species:
- Improve the capacity of the countries in data collection and analysis of the stocks of transboundary species, by mobilizing the available expertise from other national institutions in the respective countries;
- Continue regional cooperation for data collection and stock assessment of transboundary species in collaboration with regional organizations, including in the implementation of the RPOA-Neritic Tunas and its SWG, the Regional Action Plan for Indo-Pacific Mackerel in the Gulf of Thailand;
- Transform the scientific findings into materials that could be easily understood by policy makers and fisheries managers, as well as fishers;
- Seek support from organizations, e.g. from SEAFDEC, as well as from potential donor agencies, e.g. FAO, USAID, Japanese Trust Fund (JTF), to continue the activities.

On Sub-regional Cooperation for Combating IUU Fishing:
• The most important prerequisites for combating IUU fishing include consistent and strong political will, and amendment of the country’s legal frameworks to comply with the requirements of relevant international instruments. In preventing the entry of IUU fish into the supply chain, there is a need to combine the measures that address different points of the supply chain where IUU products can enter. However, combating IUU fishing should also take into consideration the circumstances of the countries, e.g. the need for securing rights of small-scale fishers as well as the livelihood/welfare of the communities.
• With the support from the SEAFDEC-Sweden Project, comparative studies on laws and regulations were conducted by SEAFDEC for some neighboring areas of some countries in the region. Results of such studies have been beneficial for these countries in-terms of enabling fisheries officers at the local level to obtain better understanding of other country’s laws and regulations; helping fishers to avoid violating other countries’ regulations; serving as reference for collaborative projects in transboundary areas; and identifying the gaps and what needs to be done to ratify relevant international instruments.
• Amendment of the countries’ fisheries laws and regulations could be one of the

85 RPOA-Neritic Tunas, ibid., at 12-13.
important indicators that demonstrate their alignment with emerging initiatives and international requirements, e.g. the EAFM and Co-management concepts, Port State Measures Agreement (PSMA), International Labour Organization (ILO) Convention, etc. However, for some countries high-level policy decisions are also important, e.g. for combating IUU fishing, control of fishing efforts, moratorium on destructive fishing gears, transshipment at sea or in other country’s port, etc. without necessarily amending their existing laws and regulations.

- To strengthen Monitoring, Control and Surveillance (MCS), establishment of MCS networks has been initiated with the support of the SEAFDEC-Sweden Project. Through this initiative, mechanisms for collaboration and information sharing among concerned agencies within and among the countries in the region have been initiated. Nevertheless, it is necessary that regional MCS mechanism should also be promoted by relevant regional organizations, particularly for the different sub-regional areas of the region.

- The Port State Measures (PSM) is considered as very effective tool for combating IUU fishing by preventing the entry of IUU fish, particularly from foreign vessels into the country. However, there is still a need to ensure that the country’s legal frameworks are compliant with the PSM requirements, including capacity building of relevant authorities in the implementation of the PSM.

- The Regional Plan of Action for Management of Fishing Capacity was developed with support from the SEAFDEC Sweden Project upon the request of Malaysia during the ASWGFi Meeting. While some countries could already implement the management of fishing capacity, but to support the Southeast Asian region in the implementation of the RPOA-Capacity as a whole, there is a need for a regional platform for the countries to enhance their understanding and improve their existing laws and regulations through sharing of experiences among countries.

- The ASEAN Catch Documentation Scheme (ACDS) is also one of the most effective tools for combating IUU fishing. Implementation of ACDS not only enables the traceability of fish and fishery products, but also enhances international trade of fish and fishery products. Nevertheless, successful implementation of the ACDS is long process as it also requires several management systems to be put in place in the country, e.g. port-in port-out, catch report at sea, report at landing sites, report by processors. In order to overcome some difficulties faced in ACDS operations, e.g. limited wifi signal at sea, SEAFDEC would continue to promote the use of off-line technologies. Furthermore, besides implementing the ACDS in more countries in the region, the expansion of ACDS to also cover traceability of products from aquaculture and hatcheries intended for export should also be considered.

On Sub-Regional Platforms:
Focusing on the Gulf of Thailand, Andaman Sea, Sulu-Sulawesi Seas and Mekong Sub-Regions, the priority issues that has been addressed through sub-regional cooperation focused on:
- Combating IUU fishing, e.g. sharing/exchanging of information on laws, regulations and practices, and enhancing coordination/networking of initiatives among countries including MCS network;
- Management of transboundary species, e.g. on data collection, sharing and analysis, and development of management measures at sub-regional level;

Moving forward to the implementation of the sub-regional approach in the
future, the following aspects should be considered:
- Support for the formulation and implementation of projects using sub-regional approach, such as the BOBLME and Gulf of Thailand (GOTFish) in collaboration with relevant organizations;
- Formalization of mechanisms for the different sub-regions in the areas of planning, implementation, and in monitoring/evaluation of activities addressing their priority issues;
- Support for the development and implementation of action plans among countries to address issues that need to be addressed at sub-regional level, e.g. combating IUU fishing, management of transboundary species, habitat and species conservation;
- Capacity building for countries to support activities under the sub-regional platform.\(^87\)

As well as the SEAFDEC-ASEAN programmes discussed above, Malaysia also participates in SEAFDEC programmes on aquaculture, which include, inter alia, the promotion of mangrove-friendly aquaculture. In relation to this set of issues, the 2011 ASEAN-SEAFDEC Resolution (above) provides, inter alia, ‘(Paragraph 15.) Enhance the awareness that aquaculture makes to food security and sustainable livelihoods to deliver a responsible increase in aquaculture production that promotes aquaculture for rural development as means of rational use of land and water resources;
(16.) Promote cooperation among Member Countries and with international and regional organizations in encouraging responsible aquaculture practices through joint research, technology transfer and human resource development;
(17.) Mitigate the potential impacts of aquaculture on the environment and biodiversity including the spread of aquatic animal diseases caused by the uncontrolled introduction and transfer of exotic aquatic species and over-development of aquaculture; ...’\(^88\)

SEAFDEC is also spearheading a further set of in-shore initiatives that have implications for the sustainability of fisheries further out to sea in the form of fisheries refugia. According to Paterson et al, ‘the concept of fisheries refugia was developed as a novel approach to the identification and designation of priority areas in which to integrate fisheries and habitat management in the context of high and increasing levels of small-scale fishing pressure in the South China Sea.’\(^89\) The fisheries refugia concept has been defined as ‘(s)patially and geographically defined, marine or coastal areas in which specific management measures are applied to sustain important species [fisheries resources] during critical stages of their life cycle, for their sustainable use.’\(^90\) According to the

\(^{87}\) Ibid., at 15-17.

\(^{88}\) See: 2011 ASEAN-SEAFDEC Resolution, ibid.


SEAFDEC Regional Working Group on Fisheries (RWG-F), ‘fisheries refugia should:
· NOT be “no take zones”,
· Have the objective of sustainable use for the benefit of present and future generations,
· Provide for some areas within refugia to be permanently closed due to their critical importance [essential contribution] to the life cycle of a species or group of species,
· Focus on areas of critical importance in the life cycle of fished species, including spawning, and nursery grounds, or areas of habitat required for the maintenance of broodstock,
· Have different characteristics according to their purposes and the species or species groups for which they are established and within which different management measures will apply,
· Have management plans.91

Moreover, ‘management measures that may be applied within fisheries refugia may be drawn from the following [non-exhaustive] list:
· Exclusion of a fishing method (e.g. light luring, purse seine fishing),
· Restricted gears (e.g. mesh size),
· Prohibited gears (e.g. push nets, demersal trawls),
· Vessel size/engine capacity,
· Seasonal closures during critical periods,
· Seasonal restrictions (e.g. use of specific gear that may trap larvae),
· Limited access and use of rights-based approaches in small-scale fisheries.92

Having outlined and discussed specific regional, national and local actions to overcome barriers towards establishing a regional system of fisheries refugia within the South China Sea, Paterson et al go on to conclude that the fisheries refugia approach has been shown to provide ‘an adequate platform for building partnerships and enhancing communication between the environment and fisheries sectors.’93 Moreover, according to Paterson et al, this approach has proved to be particularly relevant in Southeast Asia where coastal fishing communities that rely on local fisheries as their main food source as well as their livelihoods have disdained conservation efforts that are focused solely on the establishment of no-take zones. Paterson et al then highlight the potential benefits of the fisheries refugia concept generally, through its utilization for effective fisheries and habitat management at the local level, for global fisheries and biodiversity conservation as a whole.94

Progress on establishing fisheries refugia within this region is being maintained the SEAFDEC/UNEP/GEF Project on Establishment and Operation of a Regional System of Fisheries Refugia in the South China Sea and Gulf of Thailand. The 3rd Regional Scientific and Technical Committee Meeting, at Hai Phong City, Viet Nam, on 5–7 February 2020 headlined: ‘Improving Healthy Ocean Ecosystems

91 See: SEAFDEC South China Sea Fisheries Refugia Initiative, accessible at: https://fisheries-refugia.org/refugia-about/refugia-introduction
92 Ibid.
93 Paterson et al, ibid., at 228.
94 Ibid., at 214.
through Best Practices and Fishing Gear Innovations'. The project design consists of four main actions that are urgently needed: 1) Promotion of effective fisheries management policies, 2) Development of innovative technology and capacity building, 3) Enhancement fisheries resources and rehabilitation of the seabed habitats, and 4) Strengthening national and regional cooperation and coordination.96

Within this context, specific Malaysian efforts at establishing fishery refugia are currently focused on two proposed sites, namely, a Lobster Refugia in Tanjung Leman, Johor and the Tiger Prawn Refugia in Kuala Baram, Miri, Sarawak. According to a recent progress report by the Malaysian Fisheries Department, ‘for the lobster refugia in Tanjung Leman, the actual site has not been determined yet as scientific data gathering is still ongoing and the Department of Fisheries Malaysia will only announce the refugia area once the spawning site of the spiny lobster has been determined. The main fishing area for spiny lobsters spans from southern Pahang to the tip of east Johor. ... As for the tiger prawn refugia, the proposed site is located at the river mouth of Kuala Baram in Miri, Sarawak and the refugia area has been roughly determined by researchers studying the prawn population there. The proposed site for the tiger prawn refugia is located near a mangrove swamp with a river mouth and nearby the border of Brunei Darussalam.’97

2) Gulf of Thailand

Under SEAFDEC auspices, transboundary fishery management dialogues between Malaysia and Thailand were discussed during the Fourth Meeting of the Gulf of Thailand (GoT) Sub-Region in 2013. During this (4th) Meeting, it was suggested that roundtable discussion between sets of two neighbouring countries in the GoT should be conducted to discuss the issues revolving around the effective management of fishing capacity and reducing illegal and destructive fishing activities in the GoT. Subsequently, the ‘Sub-regional Technical Meeting on Effective Fisheries Management between Malaysia and Thailand’ was organized in 2014, to identify possible working areas that could be established between these countries for the promotion of effective management of fishing capacity, combating Illegal, Unreported and Unregulated (IUU) fishing and management of trans-boundary stocks in the maritime jurisdictions of both Malaysia and Thailand in the GoT, as well as in the Andaman Sea.98

95 See: SEAFDEC/UNEP/GEF/FR-RSTC.3 WP5.3 Accessible at:
https://fisheries-refugia.org/3rd-rstc-meeting/3rd-rstc-doc/509-rstc3-wp5-3-gcf-note/file
96 See: Executive Summary’, ibid.
97 SEAFDEC/UN ENVIRONMENT/GEF Fisheries Refugia Project, Progress Report, Q4 2018 to Q2 2019, by Department of Fisheries Malaysia, Prepared: 11 September 2019 Accessible at:
http://repository.seafdec.org/handle/20.500.12066/993
The 2014 Meeting between Malaysia and Thailand identified three major issues with regards to IUU fishing, e.g. dual flagging/registration/deregistration, landing of catches in the neighboring countries’ ports, and encroachment by foreign (and national) fishing vessels in the coastal waters. It was then agreed that a Memorandum of Understanding (MOU) between Malaysia and Thailand should be developed as a priority long-term activity. This would become the official mechanism for strengthening future cooperation between both countries. Furthermore, a Joint Working Group should also be defined in the MOU. This 2014 Meeting also agreed that a proper mechanism for data recording should be established for monitoring the landing of catches in the neighbouring countries’ port. In addition, fishing vessels under the IUU lists should be denied entry into fishing ports of the participating countries in the GoT and Andaman Sea Sub-region. In this connection, both countries agreed to nominate focal points to coordinate the data exchange and establishing of a network for such purpose.99

Aside from tuna species, SEAFDEC has also reported in 2019, inter alia, that a genetic/DNA study of Indo-Pacific mackerel stocks in the GoT had been conducted to understand its stock structure, spawning area, migration pattern, and life cycle concluded that the Indo-Pacific mackerel is a transboundary species. This result encouraged the GoT countries to develop a joint management plan covering Monitoring, Control & Surveillance (MCS) Network coordination and national management measures for transboundary species.100

3) Malacca Straits

While Burbridge observed (in 1988) that ‘(t)he Strait of Malacca is thought to be relatively rich in shrimp, and pelagic and demersal fish stocks with potential for expansion of fisheries activities”101, he was unable to confirm this view, due to a shortage of comprehensive data. On the other hand, reverting to Yahaya, she had noted that by the late 1980s over-fishing in Malaysian waters was particularly acute for the Straits of Malacca on the west coast of peninsular Malaysia.102 A more recent survey by Jagerroos (2016) appears to confirm both of these apparently divergent views. While affirming the quantities and commercial value of the fishery resources accessible from the Malacca Straits area, Jagerroos nevertheless cautions that these resources are declining at an alarming rate. As she notes, ‘(t)he Straits of Malacca was historically and still is a productive region for Malaysian marine capture fishery, with valuable demersal and pelagic resources of finfish and shellfish. In terms of fishery productivity, this region (also known as the west coast of Peninsular Malaysia) yields one of the highest marine landings in Malaysia. The Strait contribution to the total marine landing of Malaysia in 2013 was 48%. Fisheries statistics for the year 2013 in the Strait showed that 82% of the landing comprised of finfish while the remaining 18%
comprised primarily squid and prawns. The total value of marine resources in the Strait is estimated to be USD $7,124 million, which consists of both market and non-market resources. The Malaysian commercial fisheries involved three main types of gear the trawl fish, the purse seine and the anchovy purse-seine. The traditional fisheries included shellfish collection and fishing with the use of other seines, drift gill nets, traps, hooks and lines, bag nets, barrier nets and push nets. Introduction of trawling in the 1960s increased fishery productivity tremendously. However, a closer inspection of the fishery statistics coupled with data obtained from field survey indicated that the health of the fish stocks is declining considerably, particularly the demersal fishery resources.  

This apparent emphasis by the Malaysian fishing industry, as well as relevant Malaysian government departments and agencies on sustaining gross fishery catch figures, rather than ensuring underlying marine ecosystem health, has been noted by other commentators. For example, the previously cited (2013) review of laws and institutions devoted to examining the implementation of the ecosystem approach to fisheries management in Malaysia confirms the focus of the relevant government institutional stakeholder, namely, the Fisheries Department, on sustaining commercial fish catch. According to the authors of this review, the Malaysian Fisheries Department sees its success as measured by the tonnage of fish that is landed yearly. Thus, ‘[i]ts annual fisheries statistics do not discuss the health of fisheries-based ecosystems and focus entirely on landings and value.’ Moreover, ‘[t]here is no mention of the ability of fisheries ecosystems to support these figures.’ They go on to note that ‘[c]onservation is undertaken by the Department of Fisheries, but the rationale behind conservation and management is to ensure sustainability of commodity production rather than the fisheries ecosystem as a whole.’ As the review concludes succinctly on this issue: ‘This has led to a situation where fish stocks are not managed for long-term benefit but almost entirely for short-term economic gain, leading to a skew in the conservation and management process. The need to compare the less-tangible benefits of patrimony and the long-term returns of sustainable fisheries stewardship against the more visible and cogent profile of revenue and employment generated by their exploitation has led to a situation where economic imperatives often overshadow fisheries conservation efforts.’ Jagerroos too observes that: ‘Without serious intervention, economic imperative and pressing food and job security issues will solely drive the fishery agenda with little regard for long term conservation of the already depleted fishery resources.’  

While confirming Yahaya’s observation (above) that: ‘the effects of intensive 

105 Ibid.
106 Ibid.
107 Ibid.
108 Ibid.
trawling in the Straits were felt by the mid-80s. Catches were dwindling and fish stocks were believed to have been over-exploited for some years by that time'. Jagerroos proceeds to note that very little bilateral co-operation took place over these shared fisheries as between Malaysia and its neighbouring State across the Malacca Strait, namely, Indonesia. Thus, ‘(w)hile the neighboring Indonesia took to banning of trawling, Malaysia utilized other means to manage the problems such as construction of artificial reefs, establishment of marine parks, increased research and development and offerings of off-shore fishing licenses [11]. Attempts on joint assessment of these sources in the Strait by both countries were conducted back in 1976 and in 1985; however these did not result in any form of co-management of the shared resources [12].’

4) Andaman Sea

From a Malaysian perspective, as with South China Sea fisheries, tuna species are seen as having the greatest potential for expansion in the northern reaches of the Malacca Straits leading to the Andaman Sea, off the coastline in the north-western region of Peninsular Malaysia. This corresponds to the East Indian Ocean (EIO) area for the Indian Ocean Tuna Commission (IOTC), which Malaysia is a member of. As the 2015 Malaysian national report to the Scientific Committee of the IOTC notes: ‘Tuna fisheries is considered to be future contribution toward the increase in fisheries production as well as the main factor to accelerate and develop deep-sea fishing industries. ... The Malaysian government has taken steps to develop tuna fishing industries from coastal waters, offshore waters within the Exclusive Economic Zone (EEZ) and open sea especially in the Indian Ocean by joining as a member of the IOTC RFMO. ... Overall, neritic tuna contributed 3.95% of the total marine landings. Although the contribution in weight is rather low, the value of this group of fish is still substantial at more than USD$121 million in 2014.... Landings of neritic tuna in Malaysia appear to have stabilised from 2010 to 2015.’

The 2018 Malaysian report to the IOTC then notes that: ‘In 2017, 19 tuna long line vessels were licenses (sic) where 13 tuna longline vessels were registered and operate in the East of Indian Ocean (EIO) area and another 6 tuna longline vessels were registered and operate in southwest of Indian Ocean. For vessels (that) were operating in EIO, their target species are tropical tuna namely yellowfin and bigeye meanwhile the vessels were operating in SIO their target species is tuna albacore.’ Further on, the same report noted that: ‘In 2017, a

110 Ibid., at p.3/13.
number of longline tuna vessel registered as a Malaysia Flag was increased (sic) from 10 to 19 vessels and total landing of tuna and tuna-like (species) was increased 49% compare in the 2016.\textsuperscript{114}

The Malaysian Department of Fisheries has also recently reported to the IOTC (in 2018 and 2019) that it had introduced several regulatory mechanisms for tuna fishing vessels in this EIO area (including the Andaman Sea) as follows:

1) The Fisheries Department has successfully implemented a Vessel Monitoring System (VMS) for all high seas fishing vessels. It is based on Inmarsat (a British satellite telecommunications company), utilizing Inmarsat C (a two-way data and messaging communication service), Mini C and D+/B equipment. For tuna longline vessels operating in Indian Ocean, they use the Argos and Iridium data collection system(s) for their VMS. This VMS enables Fisheries Department officials to track fishing vessel compliance with the geographical limits in their license and to check position data contained in their catch and effort/transshipment reports. The installation of Mobile Transceiver Units (MTU) is mandatory under fishing vessel licensing regulation. Failure to do so will cause the license of the vessel to be revoked or suspended under the Fisheries Act 1985. To date, all Malaysian tuna long-line vessels have installed these devices;

2) To further improve quality of tuna catch data, the Department of Fisheries also planned to implement an observer onboard (OBB) scheme (apparently, as required by IOTC Resolution 11/04) for long line vessels operating in Indian Ocean and purse seine vessels fishing in the domestic waters. However, in its 2019 Report, Malaysia noted that due to the lack of financial resources, human (staff) capacity, and communication problems between captains and crew, the observer onboard (OBB) program plan was still under consideration. Malaysia had requested assistance from countries that have developed and implemented this regional OBB scheme. However, due to the limited numbers of port inspectors, the request could not be granted and subsequently, Malaysia has requested assistance from the IOTC on this matter. Although Malaysia has yet to implement the OBB scheme, Malaysia participated in the Regional Observer Program (ROP) in 2018 for carrier vessel and fishing vessel to monitor transhipment (of catches) at sea. Under IOTC resolution 18/06 (on At Sea Transhipment and Conditions Relating to In-Port Transhipment), Malaysia longliners transhipped at sea are monitored by the IOTC observer under the ROP. Malaysia reported (in 2019) that there are 6 fishing vessels involved in this programme for transhipment by large-scale fishing vessels that is indirectly being monitored by these regional observer(s). All transhipment declarations were sent to the Malaysian Department of Fisheries and the IOTC Secretariat, as required by Resolution 18/06;\textsuperscript{115}

\textsuperscript{114} Ibid., at 6.

3) A further action taken by the Malaysian Fisheries Department is to implement a closed-circuit television (CCTV) monitoring system for tuna-fishing vessels. The objective of this CCTV system is to monitor tuna vessels that were involved in any illegal activities and thereby (possibly) replace the need to have observers on board these vessels. In April 2018, three tuna long-line vessels were selected to install with 24 hour CCTV (including night vision) to the front and rear views of these vessels. The system is able to keep the data within 6-month period.\textsuperscript{116}

4) Finally, the 2019 Report also notes that from 2010, the Department of Fisheries conducted regular sampling activities at the Penang port, both collecting and processing information, and assisting tuna scientists with analysis of catch data. However, from 2012 until mid-2016, all Malaysian flag vessels unloaded their catches outside Malaysian port, so no port samplings program were carried out. The port sampling program resumed after Malaysia registered two designated tuna ports in 2016 (namely, the Penang Port and Langkawi Port) to the present day. \textsuperscript{117}

The 2019 Malaysian report to the IOTC noted that 13 tuna fishing vessels unloaded their catches at Penang Port. Monitoring of tuna landing and inspection at port by the Port Inspector was carried out for both Malaysian tuna fishing vessels and foreign tuna fishing vessels. Sampling for neritic tuna and other tuna-like species is the responsibility of the Fisheries Information Management Division. Their sampling program covers all landing sites and fishing ports along the west coast of Peninsular Malaysia, but apparently only for vessels operating in the Malaysian Fisheries waters.

5) Sulu & Celebes Seas

Last but certainly not least, the shared fish stocks in the Sulu and Celebes Seas off the eastern coast of the Malaysian state of Sabah on Borneo island are easily the richest in biological diversity due to their relationship with the extensive coral reef systems that (still) thrive in this sub-region. For our purposes here, re: transboundary fisheries management issues within and across Malaysian maritime jurisdiction zones, this area of shared marine space borders with both the (south-western) Philippines and main Indonesian islands of (the rest of) Borneo and Sulawesi and is now encompassed within the vast ‘Coral Triangle Initiative’ (CTI) that is heavily promoted and supported by multiple international agencies and donors.\textsuperscript{118} Geographically, the CTI on Coral Reefs, Fisheries, and Food Security (CTI-CFF) extends across a very large marine area of the south-western aspect of the Pacific Ocean. It is bordered by the Philippines, Indonesia (central and eastern), Malaysia (Sabah on Borneo island), Timor Leste, Papua New Guinea, and the Solomon Islands. On the fisheries aspect, the CTI-CFF Ecosystem Approach to Fisheries Management (EAFM) Working Group is a

\textsuperscript{116} 2018 Report, \textit{ibid.}, at 19.

\textsuperscript{117} 2019 Report, \textit{ibid.}, at 18.

\textsuperscript{118} Full title: The Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security (CTI-CFF). The CTI is a multilateral partnership working together to sustain extraordinary marine and coastal resources by addressing crucial issues such as food security, climate change and marine biodiversity. It was established in 2009 and is now underpinned by an Agreement on the Establishment on the Regional Secretariat of the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security, which was scheduled to enter in force on 20 November 2014. More information on the CTI is accessible at: http://www.coraltriangleinitiative.org/
technical working group developed by the six (6) Member Countries with a focus on achieving Goal 2 of CTI-CFF Regional Plan of Action, namely, the Ecosystem Approach to Management of Fisheries (EAFM) and other Marine Resources Fully Applied. This working group also plans to develop and manage fisheries in a manner that addresses the multiple needs and desires of societies, without threatening the ecosystems and marine resources for the benefit of the future generation.119

Other specific sub-regional arrangements include consideration of the proposed development of fisheries policy framework to support tuna management at national and sub-regional areas where transboundary issues exist, including the Sulu Sea, Celebes Sea, South China Sea, and Andaman Sea – all of these involving Malaysia.120 Within the Sulu-Celebes/Sulawesi Sea(s) area especially, a recent policy-related report notes that: ‘As the apex of the Coral Triangle, the richness in biodiversity of the Sulu and Celebes region sustains the livelihoods and food security of about 410 million people in that region.’121 It then outlines three key initial findings, as follows:

• This area is home to world-renowned coral reefs that support tourism, fishing and reef-sourced biomedical industries, but these sectors are threatened by unsustainable fishing practices and general (land-based sources of) environmental damage;
• Although substantial international shipping traffic criss-crosses the Sulu and Celebes Seas, most of this shipping does not stop at ports within these Seas. The region’s largest ports are on opposite sides of the islands framing these Seas. The combination of distant major ports and abundant shipping traffic puts the region at risk of poor maritime safety and slow response times to shipping disasters like oil spills or vessel-threatening storms;
• Although the number of instances of violence at sea and kidnapping for ransom are below recent highs, the presence of the organized illicit actors that perpetuate these crimes continues to dis-incentivize greater investment in maritime infrastructure, tourism, coastal development, and new blue economy opportunities.122

In relation to fisheries in particular, a further key finding is that although the area is rich in marine biodiversity, over-fishing is still confined to specific marine sub-regions. Thus, widespread industrial fishing does not exist in the Sulu Sea, which is almost entirely within the various maritime jurisdiction zones of the Philippines, while significant over-fishing does take place in the Celebes/Sulawesi Sea, which is mainly within the jurisdictions of both Indonesia and the Philippines.123 In recognition of these two adjoining/connected seas as a large marine ecosystem (LME) Indonesia, Malaysia and the Philippines

119 More information on the CTI’s programme on the Ecosystem Approach to Fisheries Management (CTI-EAFM) is accessible at: http://www.coraltriangleinitiative.org/eafm
120 SEAFDEC Council, 45th Meeting, April, 2013. Accessible at: ...
122 Ibid., at 6.
123 Ibid., at 55.
formulated a biodiversity conservation vision for the Sulu-Sulawesi Marine Ecoregion (SSME) in 2001. Significantly, this vision was based on the SSME Conservation Program launched in 1999 by the World Wide Fund for Nature (WWF) and its partners. This Program adopted a two-pronged approach: First, the formulation of a Biodiversity Vision - a 50-year conservation goal – for this ecoregion, and second, the development of a stakeholders’ Ecoregion Conservation Plan (ECP) based on the ecoregion’s Biodiversity Vision. As Miclat et al point out in their account of the evolution of the SSME’s ECP, it is notable that there was a shift from a private, non-governmental organization (NGO)-facilitated process, to a government-led planning process, via the establishment of interim governance mechanisms, to ensure coordination in the development of the ECP.124

To formally articulate this vision, the three governments developed the SSME Ecoregion Conservation Plan (ECP) in 2003. The SSME ECP was a product of 12 stakeholder workshops at the local, national, and tri-national levels conducted over the course of 2 years. On the basis of this ECP, the three countries signed a Memorandum of Understanding (MOU) to conserve the Sulu–Sulawesi Marine Ecoregion (SSME) during the Seventh Conference of the Parties to the Convention on Biological Diversity held in Kuala Lumpur in 2004. This SSME (MOU) was ratified in 2006 and includes a network of 58 priority conservation areas under various forms of management and/or protection to be established over a period of 50 years.125

The Sulu-Sulawesi Marine Ecoregion (SSME) Ecoregion Conservation Plan (ECP) subsequently established a trilateral governance structure composed of the Tri-National Committee for the SSME and three Sub-Committees on, respectively, Charismatic and Threatened Species, Marine Protected Areas and Networks, and most significantly for our purposes here - Sustainable Fisheries. In 2008, these Sub-Committees then prepared individual Action Plans on each of these three themes for implementation by the three States in the SSME.126 The Action Plan of the Sub-Committee on Sustainable Fisheries promotes the ecosystem-based management of fisheries and contains specific activities to protect fisheries-supporting ecosystems, including the coastal communities that rely on these fisheries for their livelihoods.127

The Ecoregion Conservation Plan (ECP) has 10 objectives, which are linked to the SSME vision, and contains three country action plans and a fourth ecoregion-level action plan for joint tri-national activities. Each action plan identifies broad

127 Ibid., at 137.
activities under the 10 ECP objectives addressing (i) governance and management strategies; (ii) functional networks of conservation and protected areas; (iii) sustainable livelihood systems; (iv) sustainable economic development; (v) research for science-based and informed management decisions; (vi) communication, education, and outreach programs; (vii) sustainable financing for conservation and resource management; (viii) capacity building for stakeholders; (ix) protection of threatened marine species and their habitats; and (x) fisheries management.\textsuperscript{128}

Under the general auspices of the geographically much larger CTI itself, the specific tri-lateral relationship between Malaysia, Indonesia and the Philippines in the Sulu-Celebes/Sulawesi Sea(s) area is also being advanced in terms of coral reef system protection for fishery activities, as a specific aspect of wider socio-economic development, including ensuring food security for these far-flung communities, as well as national security purposes, in relation to the prevention of terrorist activities. To begin with the latter, national security-terrorism prevention aspect(s) of this sub-regional arrangement, this manifests itself most vividly in the form of a trilateral joint maritime enforcement operation.\textsuperscript{129}

According to Storey, this joint operation by Indonesia, Malaysia and the Philippines came about in response to maritime attacks by the Abu Sayyaf Group (ASG) – a local criminal-terrorist group mainly operating in southern Philippines, in early 2016.\textsuperscript{130} These incidents compelled the three governments to strengthen security cooperation in the Sulu-Celebes Seas. On 5 May 2016, the foreign ministers and chiefs of defence of the three countries met in Indonesia and issued a joint declaration in which they agreed to increase naval patrols and strengthen communication and information exchange. Over the next six months, meetings were held on a monthly basis among the foreign or defence ministers, and the chiefs of staff, to operationalize trilateral security cooperation in the Sulu-Celebes Seas. This initiative was to provide coordinated naval patrols, combined air patrols and the exchange of information and intelligence in the affected area. In this regard, the TMP is based on the Malacca Straits Patrol (MSP) model, successfully conducted by the armed forces of Indonesia, Malaysia, Singapore and Thailand in that strategic waterway since 2004.\textsuperscript{131} However, the Trilateral Maritime Patrols (TMP) initiative was not formally launched until 19 June 2017 and air patrols only began in October 2017. As Storey notes, the initiative has improved communication and information exchange among the three navies, but (as of mid-2018) it has yet to be fully operationalized, mainly due to sensitivities over disputed territorial sovereignty and related overlapping maritime jurisdiction issues, as well as financial resource and capacity deficiencies.\textsuperscript{132} Moreover, Storey provides two additional reasons for the TMP’s slow implementation, as follows; ‘First, a much larger maritime space to monitor

\textsuperscript{128} See: Comprehensive Actions Plans for SSME (2011) \textit{ibid.}


\textsuperscript{130} \textit{Ibid.}, at 2-3.

\textsuperscript{131} \textit{Ibid.}, at 3.

\textsuperscript{132} \textit{Ibid.}, at 3-4.
and patrol. Second, while piracy/sea robbery in the Straits of Malacca is a relatively straightforward criminal issue, the piracy-terrorism nexus in the Sulu-Celebes Seas is more complex in that it not only requires increased cooperation among the three countries’ national defence and counter-terrorism agencies but also improved inter-agency cooperation in the participating countries themselves."

In the case of the former, environmental, fisheries and food security connexions, both the SSME specifically, and the CTI generally, are placing great emphasis on multiple stakeholder outreach efforts. This holistic approach is increasingly seen as a model of how an ostensibly (international) scientific research programme has transcended its initially relatively narrow disciplinary beginnings to become a successful multilateral stakeholder forum for relevant and concerned actors in this region, beyond just the governments themselves. Fidelman et al have recently charted this progress towards inculcating multiple stakeholder views within the nascent international governance framework of the CTI. They focused on identifying influential stakeholders, their beliefs and interests, their network relations, and their capacity to leverage resources towards meeting CTI goals. They then applied the ‘Advocacy Coalition Framework’ to examine the views of main CTI stakeholders to better understand their efforts to design and implement marine management policies. Fidelman et al conclude inter alia that ‘The CTI presents many characteristics of a nascent, collaborative policy subsystem, one which is newly formed or in the process of forming and involves collaborative over adversarial relations. Among the stakeholders consulted, there is largely strong support for the CTI objectives, convergence in policy beliefs (e.g., pro community-based conservation), and instances of collaboration at different levels. It is important to note that in collaborative policy subsystems, there are still disagreements among stakeholders. However, these disagreements are overcome by finding enough common ground to cooperate. In other words, despite the differences among CTI stakeholders, the goals of the Initiative may be close enough to their policy preferences and beliefs to enable collaborative action to achieve similar or related objectives.’

Conclusions

As the US National Intelligence Community (NIC) report on, inter alia, South China Sea fisheries observes, ‘(a) key question regarding the long-term sustainability of South China Sea fisheries is whether the region’s countries can adopt sufficient conservation measures to ease overexploitation, particularly pertaining to multilateral management mechanisms. The majority of South China Sea fish stocks stretch across the maritime borders (or the potential but

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133 Ibid., at 6.
135 Ibid., at 125.
137 Fidelman et al (2014) at 125.
undefined maritime borders) of numerous countries. Thus effective conservation measures would require a concerted effort on the part of multiple states. Despite the fact that nearly all states bordering the South China Sea are highly reliant on the region’s marine fisheries and therefore share a common interest in sustainably managing these stocks, it remains to be seen whether such incentives can overcome opposing national priorities centered on the establishment and enforcement of national sovereignty in maritime and territorial disputes.\textsuperscript{138} A contemporary news report appears to confirm continuing bilateral maritime disputes between Chinese industrial-level fishing efforts and local fishing communities of individual ASEAN member States in the region, in this case - Indonesia.\textsuperscript{139}

On the other hand, a recent fisheries stakeholder assessment exercise identified key regional issues and trends facing marine capture fisheries in Southeast Asia, as well as relevant considerations and strategies in potentially addressing these key issues and trends.\textsuperscript{140} This assessment first confirmed that many fisheries issues in Southeast Asia are indeed transboundary in nature and will thus benefit from improved management involving regional dialogues and strategies. This in turn requires States in the region to develop and support regional alliances and networks, as well as seek partnerships with the private sector to ensure effective implementation of agreed strategies.\textsuperscript{141} Based on this survey, intra-ASEAN cooperation over shared fishery resources afford greater opportunities for success. However, these (more) positive scenarios are always operating within the shadow of the looming presence of the Chinese State-sponsored, industrialized fishing effort. Notwithstanding, the analysis from this stakeholder exercise assessment provided a better understanding of the interplay between stakeholders; identifying key points of influence as well as strengths and weaknesses within the framework of promoting sustainable fisheries in a multi-stakeholder context.\textsuperscript{142} Several strategies on how to improve regional fisheries management in the Southeast Asian region were then proposed by this stakeholder exercise, as follows: Strengthening transboundary fisheries management; engaging with the private fisheries sector; implementing the ecosystems approach to fisheries management; addressing maritime security issues; and last but not least, addressing globalization of trade and market access issues.\textsuperscript{143}

Many of the above proposals for the improvement of Southeast Asian fisheries sustainability in general, dovetail with the conclusions from the analysis in the present study on transboundary fisheries management from the Malaysian perspective. In particular, it is notable that holistic strategies based on the ecosystem approach to fisheries management, and a ‘bottom-up’, stakeholder

\textsuperscript{138} US NIC report (2016), \textit{ibid.}, at 18.


\textsuperscript{141} \textit{Ibid.}, at 20 & 22.

\textsuperscript{142} \textit{Ibid.}, at 23-25.

\textsuperscript{143} \textit{Ibid.}, at 27-28.
approach to fishing communities, are gaining favour in the region as a whole, and specifically in Malaysian interactions with her neighbouring States, especially within the Sulu-Celebes/Sulawesi Seas sub-region. At the legal and institutional level, despite the continuing lack of formal transboundary fisheries agreements, there are strengthening levels of informal regional and sub-regional organizations and arrangements for co-operation over fisheries in relation to the above approaches. Overall, therefore it is possible to conclude that Southeast Asian transboundary fisheries co-operation and management is progressing along the right pathways but needs more co-ordination between regional, sub-regional and national levels to achieve its goals.