Improving marine fisheries management in Southeast Asia: Results of a regional fisheries stakeholder analysis

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ABSTRACT

A regional fisheries stakeholder assessment identified key regional issues and trends facing marine capture fisheries in Southeast Asia, as well as identifying relevant considerations and strategies in potentially addressing such regional issues and trends. The analysis 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 multistakeholder context. Several strategies are presented on how to address the priority issues and threats that face marine capture fisheries in the Southeast Asian region.

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1. Introduction

The coastal waters of Southeast Asia are among the most productive and biologically diverse in the world [1–4]. As a consequence, they are critical both for global economic and food security and as a conservation priority. Southeast Asians rely more heavily on fish as a primary source of dietary protein and income generation than any other people in the world. Furthermore, fish consumption continues to increase across the region, ensuring that the role of fisheries in providing livelihoods, trade, and food security to Southeast Asia will continue to grow. High rates of population growth and rapidly increasing food needs are putting enormous pressures on the region’s coastal and marine resources, as are uneven levels of economic development, resource use, and technological change.

It is now almost universally accepted that most of the nearshore fisheries in Southeast Asia are overfished and that fishing overcapacity is one of the leading causes of this overfishing [5,6]. Consequently, these waters are now experiencing increased levels of conflict and social unrest, affecting both regional security and environmental sustainability. If managed more effectively, capture fisheries can provide economic benefits to the countries of Southeast Asia.

In order to further inform its understanding and planning efforts related to regional marine and fisheries engagement, during 2014 the United States Agency for International Development – Regional Development Mission for Asia (USAID/RDMA) supported a fisheries stakeholder assessment in the Southeast Asia region focusing on commercial capture marine fisheries. This assessment followed off of a global Fisheries Opportunities Assessment which identified several key fisheries issues and opportunities that remain relevant to Southeast Asia today [3]. Related to these are a range of conditions and forces influencing Southeast Asian fisheries. These conditions and forces can be broadly categorized under the categories of weak governance, socioeconomic conditions, and ecosystem change. Recent research by Williams [7] provides information needed to develop a better understanding of the key multi-lateral and bi-lateral stakeholders including government, non-government, and private-sector bodies influencing (or positioned to influence) regional capture fisheries.

The topical scope of the fisheries stakeholder assessment was focused primarily on stakeholders operating within private sector commercial fisheries. Stakeholders under this scope included fishing companies, fish processors, fish brokers and middlemen, and in-country exporters. Commercial fishery associations (as well as federations of multiple fisheries associations) also fell under this scope. A secondary focus included small-scale commercial (often referred to by others in the region as “traditional”) fishers, many of who also fall into the stakeholder category of subsistence fishers.

The geographic scope of the fisheries stakeholder assessment was focused on trans-boundary and regional marine capture
Fig. 1. Map of the Sulu Sulawesi Marine Ecoregion.
fisheries (not national-specific), particularly those fish stocks shared between Southeast Asian fishing nations operating within the Sulu, Celebes, and Molucca Seas. The primary focus of the stakeholder assessment was within the three neighboring countries of the Sulu-Sulawesi Marine Ecoregion (SSME): Indonesia, Sabah, Malaysia, and the Philippines (Fig. 1). A secondary geographic focus included the countries neighboring the South China Sea and Gulf of Thailand: Cambodia, Thailand, and Vietnam (Fig. 2). In addition, a broad review of commercial fisheries was conducted across nine of the member countries within the Association of Southeast Nations (ASEAN): Brunei, Cambodia, Indonesia, Malaysia, Myanmar (Burma), the Philippines, Singapore, Thailand, and Vietnam.

The objective of the regional fisheries stakeholder assessment was to provide a comprehensive overview of national and regional fisheries-related actors and platforms that have a significant role, or the potential for playing a significant role, in improving the sustainable management of marine capture fisheries within the SSME, and more widely across Southeast Asia. More specifically, the regional fisheries stakeholder assessment was requested to identify key regional issues and trends facing marine capture fisheries in Southeast Asia, as well as identifying relevant considerations and strategies in potentially addressing such regional issues and trends. The assessment aimed to provide 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. In addition to private sector fisheries operations, associations, and other capture fishery stakeholders, this objective included assessment of regional fisheries organizations after Williams [7], among others, in order to better understand the current and potential role of these organizations in regional fisheries management, as well as any challenges and/or opportunities regarding enhancing their capacities and effectiveness.

The scope of actors involved in capture fisheries across the Southeast Asia region and their diverse interests is extensive. In order to focus the stakeholder assessment, emphasis was placed on assessing stakeholder characteristics and perceptions relating to the following three key questions posed by USAID/RDMA:

1. What are the most effective approaches and platforms for delivering capacity building support to regional fisheries management? Is it through an existing regional fisheries organization or technical working group, or through a different mechanism?
2. What is the potential for the establishment of sub-regional and/or species-specific and/or ecosystem specific Regional Fisheries Management Organizations (RFMOs) in the region? Through which governance systems would sub-regional management units be most effective? What sub-regions and species already have de facto trans-boundary management structures or regimes? Can these structures be strengthened, legalized, and is so, how?
3. What are private sector fishing industry interests and activities in the region, and how do they interface with regional fishery organizations?

This article presents the outcomes of the regional fisheries stakeholder assessment [8]. In section two, the methods used in the assessment are presented. Based on the analytical results generated out of this assessment, the findings to each of the three key questions asked by USAID/RDMA are addressed in section...
three. Proposed strategies to address the priority issues and threats that face marine capture fisheries in the Southeast Asian region are discussed in section four.

2. Methods

Both primary and secondary data were used to conduct the regional fisheries stakeholder assessment. The assessment was conducted during the period of February to July 2014. Secondary data collection occurred through desktop review of materials, reports, and websites relating to stakeholder groups, commercial fisheries statistics (national and regional), published reports and peer-reviewed journal articles, online news articles, and relevant grey literature. The United Nations Food and Agricultural Organization (FAO) provided significant contributions to existing data through online fisheries data profiles organized at the country level.

Secondary data was supplemented by primary data collection gathered from primary fishery stakeholders using semi-structured interview (SSI) techniques within Cambodia, Indonesia, Malaysia (Sabah), the Philippines, and Vietnam. Stakeholder interviews to be conducted in Thailand were not completed due to the military coup in May 2014, and subsequent suspension of USG travel and activities there. Under the approved scope of work, interviews were not conducted in Brunei, Myanmar (Burma), Peninsular Malaysia, and Singapore due to time and budgetary constraints.

Questionnaires used during the SSI process were designed during February 2014, based off of a set of stakeholder attributes/factors that were reviewed, revised, and approved by USAID staff. Questionnaires were finalized during March 2014, following the pre-testing and refinement of the USAID-approved questions. Standardized questionnaires were created for four stakeholder group categories, with questions varying slightly across each category. The four stakeholder group categories for the structured questionnaire were: (a) private sector entities and associations (13 questions); (b) governmental bodies (9 questions); (c) non-governmental organizations (including academia; 12 questions); and (d) regional organizations and intergovernmental associations (12 questions).

Primary fishery stakeholder groups were identified and stratified across the investigation countries where interviews were to occur. Primary fishery stakeholder groups were defined as having a significant role in and/or influence over the governance and decision-making of fisheries management within the Southeast Asian region. Representatives of primary fishery stakeholder groups in each country were selected and invited by telephone and/or email to participate in the regional assessment. Typical primary stakeholder group representatives invited to be interviewed included: fishery business owners and workers (capture, processing, trading, and exporting); fishing association leaders and members; local and sub-national government agency leaders; non-governmental organization representatives (including academics); and local decision-makers or elected officials who significantly influence local capture fishery operations. Background information regarding the purpose and outputs of the regional stakeholder assessment was provided to all invited stakeholders. All follow-on questions and comments raised by invitees during the invitation process were addressed.

Due to limited time and resources, a purposive sample of stakeholders were interviewed. It should be made clear that only a small representative sample of stakeholders were interviewed across five countries. Once confirmed, interviews were conducted either one-on-one or in small, organized focus groups through open-ended responses made on the standardized questionnaire. Interviews commenced following a short introductory statement that included acknowledgement of respondent anonymity, the provision of informed consent by the interviewee, and an opportunity for the respondent to ask any questions or offer any comments prior to commencing the interview. All interviews were conducted in national languages. In the case of Indonesia, Malaysia, and Vietnam, this was aided through the assistance of interpreters. A total of 144 stakeholder interviews were completed (Table 1).

3. Results

The assessment provided country- and regional-level stakeholder profiles and an overview of regional issues and trends, as well as addressing the three key questions posed by USAID/RDMA concerning regional fisheries management [8].

3.1. Regional issues and trends

Based on the country- and regional-profiles and associated stakeholder interviews conducted, a number of regional issues and trends within the fisheries sector were identified [8].

High rates of population growth and rapidly increasing food needs are putting enormous pressures on the ASEAN region’s coastal and marine resources, as are uneven levels of economic development, resource use, and technological change. It is now almost universally accepted that most of the near-shore fisheries in Southeast Asia are overfished, and that fishing overcapacity is one of the leading causes of this overfishing. IUU fishing negatively impacts environmental and civil security. Growing maritime security concerns over conflicting living/non-living marine resource ownership claims. Consequently, these waters are now experiencing increased levels of at-sea conflict and social unrest, affecting both regional security and environmental sustainability. Trade in fish represents a significant source of foreign currency earnings in Southeast Asia. Regional trade in fisheries products is also growing, in part as a result of the removal of tariffs and quotas. Non-tariff barriers — food safety regulations, quality standards — are becoming major factors affecting regional trade.

The proportion of people employed in fishery-related jobs in Asia has doubled since the 1970s. There are estimated to be more than 30 million fishers in the ASEAN nations. With average fishing households numbering five individuals, the segment of the population directly dependent on fisheries for food and income can be roughly estimated at 150 million people. Another 60 million people work in associated industries such as boat building, manufacture of fishing gear; bait preparation, marketing, and processing. Women constitute a large proportion of such workers, employed mostly in processing. The importance of fisheries to food security within the region cannot be overestimated. Approximately half of the people in the Southeast Asian region get more than 20 percent of their animal protein from fish.

Asian capture fisheries have generally been stable or increasing over the past decade. In Southeast Asia, the trend is for consistent

Table 1

<table>
<thead>
<tr>
<th>Country</th>
<th># of interviews conducted</th>
</tr>
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<tbody>
<tr>
<td>Cambodia</td>
<td>5</td>
</tr>
<tr>
<td>Indonesia</td>
<td>50</td>
</tr>
<tr>
<td>Malaysia (Sabah)</td>
<td>43</td>
</tr>
<tr>
<td>Philippines</td>
<td>31</td>
</tr>
<tr>
<td>Vietnam</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>144</td>
</tr>
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slight annual increases of 2–4 percent, with a decadal increase of 29 percent. The consistent increases in capture fishery production that are being achieved in the Southeast Asian region can be attributed to several effects, namely the increase in fishing effort, the expansion of the geographical range of fishing activities and the increase in the overall biomass of the fishery by fishing down effects (i.e. removing larger, longer-lived species and allowing a higher biomass of shorter-lived, small, fast-recruiting species). The expansion of new areas and the transshipment of fish between fishing areas complicates trend reporting by area and the determination of the status of stocks in specific localities. This may also lead to the false assumption that there remains significant potential for further expansion of fishing. Marine capture fisheries production is not expected to keep pace with demand, creating concerns for food security in Asia. Fish are becoming less available and relatively more expensive than other food items. The increasing demand for fish from the expanding population will create more stress on the already depleted coastal and inshore fishery resources targeted by small-scale fishers. This trend, which disproportionately affects poor people, is likely to continue. Access to or exclusion from fisheries resources may influence the vulnerability of people to both poverty and food insecurity.

A range of drivers that underlie these issues and trends and negatively impact Southeast Asian fisheries were also identified. Weak marine resource governance, including corruption, lack of participation, poor enforcement, weak institutional capacity, fishing overcapacity, inadequate information, IUU fishing, and growing maritime insecurity. Socioeconomic conditions, including poverty, globalization of trade and market access, technological advances, population growth, poor health infrastructure and vulnerability, political and economic marginalization, gender inequality, and human rights. Ecosystem change, including habitat loss and degradation, marine pollution, and climate and ocean change (including ocean acidification).  

3.2. What are the most effective approaches and platforms for delivering capacity building support to regional fisheries management? Is it through an existing regional fisheries organization or technical working group, or through a different mechanism?

It is first important to identify the target audiences for the capacity building support for regional fisheries management. While audiences will vary and be more and less specific, three general regional fisheries audiences exist in Southeast Asia including: (a) national government, (b) small scale fisheries sector, and (c) commercial fisheries sector. Each audience has their own capacity needs and approaches and platforms for delivering capacity building support.

For the national government, the most effective approaches and platforms for capacity building is through existing regional fisheries organizations such as Southeast Asian Fisheries Development Center (SEAFDEC), Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security (CTI-CFF), Illegal, Unregulated, and Unreported Regional Plan of Action (RPOA-IUU), Asia-Pacific Fishery Commission (APFIC) and Partnerships in the Environmental Management for the Seas of East Asia (PEMSEA). Each of the five regional fisheries organizations identified has specific strengths in capacity building and focuses on different audiences, although there is a good deal of overlap in the audiences. Two of these regional organizations have specific capacity building functions and units, while the other three organizations provide frameworks for capacity building. Williams [7] has pointed out that Southeast Asian states, along with other states with interests in the region, have created three multilateral fisheries relevant arrangements of agencies with overlapping but different memberships: the Regional Program of Action on Illegal, Unreported and Unregulated (IUU) Fishing; the ASEAN–Southeast Asia Fisheries Development Center Strategic (SEAFDEC) Partnership (ASSP); and the Coral Triangle Initiative. Each of these multilateral arrangements has the potential to help Southeast Asian states deal with fisheries-based issues more effectively by building polycentric coalitions and capacity. These three arrangements are principally technical support bodies rather than management organizations.

SEAFDEC, through its Training Department, provides a number of capacity building programs including training which emphasizes the promotion of coastal fisheries management to ensure responsible resource utilization and sustainable livelihoods in coastal communities, and the promotion of off-shore fisheries through the development of best fishing practices and energy optimization technology to ensure stable supply of food fish and reduce fishing pressure in coastal areas. PEMSEA, which emphasizes integrated coastal management, provides access to training and scientific and technical advice and assistance for Integrated Coastal Management (ICM) development, implementation and scaling up through the PEMSEA Resource Facility. ICM Learning Centers, Regional Centers of Excellence, Twinning Network for Integrated River Basin and Coastal Area Management, and Regional and National Task Forces.

The platforms provided by the CTI-CFF, RPOA-IUU, and APFIC allows for shared learning, training, and scientific and technical advice. The CTI-CFF has a shared vision through its Regional Plan of Action for poverty reduction through economic development, food security, sustainable livelihoods for coastal communities, and biodiversity conservation through the protection of species, habitats, and ecosystems. The CTI EAFM Technical Working Group is focused on promoting and providing guidance to ensure that an ecosystem approach to fisheries management and other marine resources is fully applied. The CTI EAFM Technical Working Group provides a platform for capacity building for fisheries leaders in the six member countries through regional exchanges, TWG meetings, and trainings. The RPOA-IUU supports actions covering conservation of fisheries resources and their environment, managing fishing capacity, and combating illegal, unreported, and unregulated (IUU) fishing. The RPOA-IUU provides a platform for countries to work closely and collaboratively through shared training and peer interaction and exchange to enhance and strengthen fisheries management. The Asia-Pacific Fisheries Commission works to improve understanding, awareness and cooperation in fisheries issues in the Asia-Pacific region. The APFIC provides a platform for capacity building through its Commission meetings and forums, publications, and training and extension activities.

At present, there is no existing regional organization or association specifically designed to deliver capacity building support to the small-scale fisheries sector within Southeast Asia. There has been limited engagement in capacity building for the small-scale fisheries sector through the five regional organizations mentioned above. Most of the capacity building by these organizations has been at the national or local level rather than a regional level. Through activities undertaken by the partner organizations of the US Coral Triangle Initiative, there was capacity building directly to small-scale fishers in the six countries on ecosystem approach to fisheries management (EAFM), marine protected areas (MPAs), and climate change adaptation. SEAFDEC has undertaken capacity building for small-scale fishers through its various departments. PEMSEA has undertaken capacity building on ICM for small-scale fisheries through its activities in its partner countries. Small-scale fisheries representatives have attended, on occasion, the meetings of the regional organizations. Capacity building to the small-scale fisheries sector is usually undertaken at the national and local level by government, non-governmental organizations (NGOs), or projects through national or local organizations and associations.
There is a need for a regional small-scale fisheries organization/association to serve as a platform to represent the sector and for capacity building. Existing regional bodies and associations are neither functionally designed nor strategically positioned to build regional small-scale fisheries management capacity at present. Investment in supporting a new regional body or organization to do so would allow for current limitations in building small-scale fisheries management capacity to be addressed, and eventually overcome. It is notable that FAO recognizes the importance of building capacity for small-scale fisheries management and highlights how “capacity development is a key building block for creating knowledge, empowerment, and enablement of effective participation in decision-making” of fisheries management [9].

Similar to the small-scale fisheries sector, there is no regional organization or association specifically for delivering capacity building support to the commercial fisheries sector in Southeast Asia. There has been limited engagement in capacity building for the commercial fisheries sector through SEAFDEC. There has been some limited engagement with the commercial fishing sector through the RPOA-IUU and APFIC at their meetings. There is a need to better engage with the commercial fisheries sector in the region. This engagement could be undertaken through existing regional organizations such as SEAFDEC, rather than developing a new organization. However, existing regional organizations are not designed to deliver capacity building support to the commercial fishing sector. In each of the Southeast Asian countries studied, the commercial fisheries sector is well organized through their own associations, be it fishing, processing, exporting or trading. During stakeholder interviews and consultations, it was clearly communicated that there is low to no interest from commercial fishery operators in the creation of a new regional body through which they would access capacity building support. Rather, operators expressed that operational capacity building efforts fell under the purview of company-led internal investment strategies and ‘re-investment schemes’ within a competitive market context. As such, most commercial stakeholders believe that regionally oriented capacity services would not be pursued by individual private interests, and only engaged through commercial associations at the national and sub-national (not regional) level. This inherent commercial operator focus on engaging through the national-level commercial associations to which they are members could provide an opportunity to convene national-level associations, regionally.

3.3. What is the potential for the establishment of sub-regional and/or species-specific and/or ecosystem specific Regional Fisheries Management Organizations (RFMOs) in the region? Through which governance systems would sub-regional management units be most effective? What sub-regions and species already have de facto transboundary management structures or regimes? Can these structures be strengthened, legalized, and is so, how?

Although there is some general interest among stakeholders interviewed to engage in regional fisheries management discussions, there seems to be limited potential for the establishment of sub-regional and/or species-specific and/or ecosystem-specific RFMOs within the region. Part of the low level of interest has to do with inherent disinterest by private companies and investors with increased levels of regional management and/or new layers of fisheries management engagement and oversight of the commercial sector. In addition, there is little interest to finance a new RFMO through – at least in part – funding, human resources, and time contributions provided by the private sector in designing, establishing, and operating a new, commercial fishery-focused RFMO for Southeast Asia. Instead, commercial operator stakeholders interviewed consistently suggested that this was the role of local (sub-national) and national commercial fisheries associations, not individual operators.

However, stakeholder interviews conducted with commercial fisheries associations at local and national levels indicated their interest in serving as the national-based host or clearinghouse for capacity building and/or regional fisheries management efforts, pursuant with the relevant human and financial resources being provided to them by an external source (i.e., non-commercially financed). A few stakeholders indicated that the model of an “[regional] association of [national and local] associations” could be a possible vehicle through which regional management and commercially-focused capacity building efforts might be feasible. This finding further highlights the opportunity for a regional initiative to convene national-level commercial associations.

The live reef food fish trade (LRFFT) is an example of the difficulties in establishing a new RFMO. The CTI Regional Plan of Action in 2009 [10] listed, as a regional action, “establishing a CTI Forum on management of, and international trade in, coral-reef based organisms”. There has been coordinated progress since 2009 towards the formation of a CTI-CFF live reef food fish trade (LRFFT) multi-stakeholder forum. A 2013 forum [11] on the Live Reef Food Fish Trade concluded that:

• That the RFMO model for the consultative regional forum is not appropriate at this time for a variety of reasons relating to time (and cost) required to develop and enter into force the necessary legal Convention as its foundation, the complexity of the LRFFT itself and the number of issues to be resolved before an RFMO could be considered. Reassurance would also need to be provided concerning the level of high-level commitment and political will necessary to support the RFMO model going forward.

• That the progress made to convene an inaugural forum in the “regional advisory body with Secretariat” format should be maintained, with SEAFDEC proceeding to be proactive in “drafting the roadmap, developing the terms of reference (TOR), and identifying the organizational requirements of the Forum”, assuming that an MOU between CTI-CFF Secretariat and SEAFDEC will be approved and appropriate instruments of cooperation signed.

• That the national fora envisioned as key parts of the consultative forum process should be scoped and developed as soon as possible, preferably in the first half of 2014, and possibly involving Indonesia, Philippines, and Malaysia in the first instance. These fora may have local sub-divisions as required.

• That the first regional forum be convened before the end of 2014, following all necessary approvals for partnership agreements, TOR, structure and functions, with national fora also having been convened and providing initial input to the first regional forum.

The only formal RFMO operating in the Southeast Asian region is the Western and Central Pacific Fisheries Commission (WCPFC). The WCPFC was established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPF Convention) which entered into force on 19 June 2004. The WCPF Convention draws on many of the provisions of the UN Fish Stocks Agreement [UNFSA] while, at the same time, reflecting the special political, socio-economic, geographical and environmental characteristics of the western and central Pacific Ocean (WCPO) region. The WCPFC Convention seeks to address problems in the management of high seas fisheries resulting from unregulated fishing, over-capitalization, excessive fleet capacity, vessel re-flagging to escape controls, insufficiently selective gear, unreliable databases and insufficient multilateral cooperation in respect to conservation and management of highly migratory fish stocks. A framework for the participation of fishing entities in the Commission which legally binds fishing entities to the provisions of the Convention, participation by territories and possessions in the work of the Commission, recognition
of special requirements of developing States, and cooperation with other Regional Fisheries Management Organizations (RFMO) whose respective areas of competence overlap with the WCPFC reflect the unique geo-political environment in which the Commission operates. The Commission supports three subsidiary bodies: the Scientific Committee, Technical and Compliance Committee, and the Northern Committee, that each meet once during each year. The meetings of the subsidiary bodies are followed by a full session of the Commission. A Finance and Administration Committee assists the work of the Commission.Commercial stakeholders interviewed clearly expressed their view that their participation in WCPFC processes and “acquiescence” with regional fisheries management decisions and standards represented a “sufficient” or “maximum” level of regionally focused management guidance and oversight. There was little to no interest expressed by commercial operator interviewees to expand regional management efforts beyond the WCPFC.

Several trans-boundary management or regimes have been assessed or implemented. To ensure the effective protection and sustainable development of the Sulu–Sulawesi Marine Ecoregion (SSME), the governments of Indonesia, Malaysia, and the Philippines entered into a memorandum of understanding (MOU) on 13 February 2004 [12]. The three countries agreed to adopt the ecoregion approach to conservation embodied in the Ecoregion Conservation Plan (ECP) that will facilitate the realization of the four fundamental goals of biodiversity conservation: representation, sustainability of ecological and evolutionary processes, viability of species and populations, and resiliency. There are 10 objectives that the ECP hopes to attain in alignment with its 50-year vision. The signing of the MOU led to the creation of the Tri-National Committee for the SSME. Three subcommittees were created: the Threatened, Charismatic, and Migratory Species Subcommittee; the Sustainable Fisheries Subcommittee; and the Marine Protected Areas and Networks Subcommittee. The action plans of the three subcommittees were launched in 2008.

A potential sub-region for a trans-boundary management structure or regime could be the four large marine ecosystems in the region – Gulf of Thailand (35), South China Sea (36), Sulu-Celebes Sea (37) and Indonesian Sea (38). Governance of the Gulf of Thailand, for example, is shared with four countries (Cambodia, Malaysia, Thailand and Vietnam). The Gulf of Thailand LME falls under the UNEP administered East Asian Regional Seas Program. There are currently no LME projects underway in these four LMEs. A potential model of an LME trans-boundary management structure or regime is the Bay of Bengal Large Marine Ecosystem project currently being implemented by FAO.

Through a sub-regional approach, the SEAFDEC-Sweden project has been providing avenues for the SEAFDEC Member Countries bordering the Gulf of Thailand, namely: Vietnam, Cambodia, Thailand, and Malaysia, to discuss and look for effective ways of improving the management of fisheries to sustain the fisheries resources in the sub-region. Meetings have been convened among the countries to discuss their mutual interest in developing a collaborative fishery resources management, understanding that the nature of fisheries, migration of fish, and mobility of people and vessels in the fisheries sector. Information on transboundary/ shared stocks, systems, and procedures of vessel registration and deregistration, as well as issuance of licenses to fishers and landing of catches by foreign fishing vessels, among others, were shared.

3.4. What are private sector fishing industry interests and activities in the region, and how do they interface with regional fishery organizations?

The primary private sector interests regarding regional fisheries management are focused around business growth (i.e., maximizing profit and/or securing new markets) and economic (i.e., increased competitiveness and leverage, and/or market viability). Nearly all stakeholders interviewed have an inherent, long-term (i.e., multigenerational) financial interest in maintaining and growing the commercial fishing industry, often supported through long-term family business interests (including non-fishery enterprises) and a vision of business growth. The private sector consistently voices their concerns with the current reduction in catch rates, their increasing costs of operation, the increasing prices that they must factor into their balance sheet, and the consequential disappearing profit margins that they are experiencing at present. As a result, they clearly acknowledge private sector willingness to “bend the rules” in order to decrease costs, increase supply of raw material, and increase profits from the fishery. Processors are reporting that due to insufficient and/or inconsistent raw materials (i.e., landings), they increasingly need to source raw materials from distant fisheries and non-traditional suppliers, some of who are insufficiently regulated or unregulated. Many of the private sector companies are global players in the fishing industry, and are regularly exposed to various debates about sustainable seafood and complex proposals to ensure product traceability. However, as they explain at the end of each day the simple calculus that they must face in order to stay in operation is having sufficient raw materials sourced at a low enough cost in order to meet present demand (orders placed) at a fair price; thus providing a margin through which they can continue to exist, and ideally (but not typically) grow.

The private sector has periodic interface and limited engagement with RFMOs. They will engage when invited, but do not seek out engagement as they report that they often feel that they are targeted as the “cause of the problem” or the “bad guy” by conservation and environmental advocacy groups, rather than as a strategic partner who must be included as part of the solution. They report not feeling any strong sense of investment or ownership in the RFMOs, and that their engagement is intended more to “make the effort” and “show face” with the international management community, rather than to deeply and legitimately engage this community. They do not feel it necessary to engage with RFMOs unless there is a financial incentive for them to do so. The private sector tends to be well organized in each country through existing local (sub-national) and national fisheries associations and federations of associations. It is usually government representatives who are invited to trainings or meeting rather than private sector representatives. This lack of legitimate, equitable private sector engagement and accepted voice further alienates private sector interests from RFMO activities and procedures. As some commercial operators indicated during interviews, they see RFMOs as a western-driven process through which importing country special interest groups and advocacy organizations can advance their agenda internationally, within Southeast Asia. Some private sector representatives went further to note that such western interests and agendas are advanced through existing RFMOs without transparency and sanctioned with impunity through bi- and multi-lateral government relationships that do not interface adequately or appropriately with the private sector in the region.

The private sector faces a number of issues: primary among them is the need to address overcapacity in the fisheries. There is increasing competition and conflict between small-scale and commercial scale operators for remaining fishery resources, and commercial stakeholders consistently cited that this conflict is both expected and accelerating. Commercial fisheries state the priority need to find alternative livelihoods for small fishers in order to move them out of fishing and reduce competition with commercial interests. It was consistently stated by commercial interviewees that small-scale fishers largely focus on short-term interests and needs (e.g., meeting dietary needs and/or immediate...
household income requirements), while the commercial fishers inherently think long term, both in terms of sustaining fish populations that can be extracted from, as well as sustaining and growing their business over multiple generations. Commercial fishers express their concerns with increased illegal fishing operators and piracy directed against compliant commercial operators. As a result, commercial operators report having no choice but to adapt, often working together in groups (coordinated through associations) to quietly prepare for inevitable tactical engagement and self-defense measures at sea. Coupled with concerns regarding the at-sea trafficking of humans, narcotics, and small arms, commercial operators report that maritime security is an increasing issue, and one that elected officials and the general public are poorly aware of and/or equipped to address. As a result, fisheries associations are becoming de facto forward operating bases for groups of commercial fishing operations, through which the latest at-sea intelligence, security and self-defense measures, and tactical strategy and navigational and operational adaptation techniques are shared among association members.

4. Proposed strategies for improved regional fisheries management

Based on the results, there are several strategies to consider in terms of how to address the priority issues and threats that face marine capture fisheries in the Southeast Asian region.

4.1. Strengthening transboundary fisheries management

A potential strategic direction could be to strengthen transboundary fisheries management within specific, sub-regions of Southeast Asia (e.g., SSME and the Gulf of Thailand) through direct engagement with the commercial capture fisheries sector via established commercial associations, with the goal of reducing illegal fishing and overfishing in these sub-regions while simultaneously increasing maritime security and strengthening coastal community livelihoods. Through a sub-regional private-public partnership program of action, existing national and sub-national capture fisheries associations could be engaged and strengthened. Through such direct engagement with the private sector, regional dialogues on fisheries management and improved governance could directly engage the voice of the private sector, as well as providing technical support to regional commercial alliances and networks in the areas of policy and regulatory development and capacity building for sustainable fisheries management. Commitment to such strategic direction would not only represent a new focus on direct engagement and partnership with private sector interests within capture fisheries in the region, but would also require new outreach and partnership with civil society partners (including non-governmental organizations) investigating and working to address non-traditional, transnational threats facing coastal and marine resource management, particularly fishing overcapacity, IUU fishing, maritime security issues, and fisheries-associated human rights abuses. For example, although many of the fishing capacity issues of the region are demonstrably national issues and lie within the jurisdiction and responsibility of individual states, there is a clear need for a transboundary coordinated approach as many vessels move across borders throughout the region to fish. There is a dearth of effective regional institutions for cooperation in sustainable fishery management, especially in capacity reduction programs. Scoping and design for such a strategic direction would require a rapid, in-depth assessment to build upon and more deeply investigate, document, and propose solutions to address the regional issues and trends. Solutions identified would need to focus along all points along the fishery product value addition chain, from the supply end of the chain through to demand side.

4.2. Engagement with the private fisheries sector

The primary private sector interests regarding fisheries management are focused around business growth (i.e., maximizing profit and/or securing new markets) and economic (i.e., increased competitiveness and leverage, and/or market viability). Nearly all private sector stakeholders have inherent, long-term (i.e., multi-generational) financial interest in maintaining and growing the fishing industry, often supported through long-term family business interests (including non-fishery enterprises) and a vision of business growth. The private sector tends to be well organized in each country through existing local (sub-national) and national fisheries associations and federations of associations. Many of the private sector companies are global players in the fishing industry, and are regularly exposed to various debates about sustainable seafood and complex proposals to ensure product traceability. However, as they explain at the end of each day the simple calculus that they must face in order to stay in operation is having sufficient raw materials sourced at a low enough cost in order to meet present demand (orders placed) at a fair price; thus providing a margin through which they can continue to exist, and ideally (but not typically) grow. The private sector do not seek out engagement as they often feel that they are targeted as the “cause of the problem” or the “bad guy” by conservation and environmental advocacy groups, rather than as a strategic partner who must be included as part of the solution.

4.3. Ecosystem approach to fisheries management

The increased understanding of the interactions among different components of marine ecosystems such as fish, people, habitats, and climate has led to a growing recognition of the need to manage fisheries through an ecosystem-based approach to fisheries management (EAFM) [13]. An EAFM is a widely accepted concept and various international instruments support its application. At the international level, the principles of an EAFM are reflected mainly in voluntary instruments such as the UN Conference on Environment and Development, the Convention on Biological Diversity, the FAO Code of Conduct for Responsible Fisheries, and the 2002 Plan of Implementation of the World Summit on Sustainable Development. These instruments have been adopted by each of the Southeast Asian countries, although they have not been fully integrated into their national fisheries laws and policies. While there is yet no EAFM-specific legislation in any Southeast Asian country, there are laws and policies that provide support for the guiding principles of an EAFM [14]. The six countries of the Coral Triangle Initiative, for example, are implementing an EAFM but in an incremental manner through various projects and programs, often with technical assistance and support from external agencies or organizations. An effective EAFM can be implemented at multiple spatial, temporal and governance scales reflecting the natural hierarchy of the ecosystem and the prioritized goals and objectives of management (e.g. from transboundary, large marine ecosystems such as the South China Sea in East Asia to small estuaries such as San Miguel Bay in the Philippines to local communities). Increased, meaningful engagement with the private sector is necessary for EAFM to succeed regionally.

4.4. Addressing maritime security issues

Increasingly, non-traditional threats to security are linked to the issue of resource scarcity. Effective maritime governance and a
smoothly functioning infrastructure ensure the viability of the ocean commons, whereas gaps in maritime security can enable the proliferation of security threats. In the absence of effective maritime governance, state and non-state actors can engage in piracy, illicit commerce (smuggling and human trafficking), illegal fishing, environmental pollution, support for insurgency, or acts of terrorism, while exploiting a country's territorial waters and exclusive economic zone. Recent investigations conducted by the Environmental Justice Foundation [15] highlight the role that commercial fisheries play in human trafficking and indentured servitude (slavery) within the region. Williams [7] states that cross-border illegal fishing is one of Southeast Asia's most prominent maritime security problems. Thus, illegal fishing, now commonly combined with unreported and unregulated fishing, generates diplomatic, territorial, military, food, fisheries, and environmental security threats across Southeast Asia, while perpetuating human rights abuses. In order to address such transnational threats, law enforcement authorities and civil society partners must work together to more deeply investigate and analyze regional maritime security issues in order for targeted interventions to be tested, refined, and deployed sub-regionally.

4.5. Addressing globalization of trade and market access

The globalization of trade creates both opportunities and risks for the fishers of Southeast Asia. In some cases, it puts the decision-making beyond the fisher and those involved in other fishing activities. The market both provides and restricts livelihood opportunities for fishers and traders. The constraints to market access for fishers in the region include weak bargaining power, poor marketing strategies, monopolies among wholesalers, poor product-holding infrastructure, difficulties meeting quality standards, and a lack of market information. Market based approaches to improving the environmental sustainability of fisheries have included the certification of fisheries harvested by sustainable means, traceability of products, and the eco-labeling of fish and seafood products from certified fisheries. While there is growing interest and focus by actors and donors from northern, developed, seafood importing nations to apply consumer demand approaches to encouraging traceability and sustainability of seafood products to market (e.g., seafood product labeling and certification), such importing nation demand-side approaches must be balanced with supply-side interventions designed to address overfishing, illegal fishing, and maritime security issues at their source. Failure to do so will not effectively address current issues and trends, which at present continue to result in significant social and economic consequences for millions of people living in fishing communities, including increased maritime conflict and instability.

5. Conclusions

Each day, fisheries issues and trends in Southeast Asia impact upon the food and livelihood security of millions of primarily poor people, both positively and negatively. Increasing fishing effort and increased competition between artisanal and commercial fishers over remaining fish stocks exacerbates destructive and overfishing that severely impact marine and coastal biodiversity and ecosystems resilience, while fueling social problems and illegal activities that destabilize maritime security and increases civil conflict. These problems will only worsen if national governments and international donors continue to give low priority to engaging and partnering with the private sector to address capture fisheries issues, particularly on the supply-side.

Many fisheries issues in the Southeast Asian region are trans-boundary in nature due to fish stock distributions, habitat linkages, and global trade. Regional strategies to address overfishing and overcapacity are necessary given that many of the national fishing fleets in ASEAN and adjacent Asian countries stray into neighboring countries’ exclusive economic zones (EEZs) to find fish—as their own waters are already overfished—creating maritime enforcement problems throughout the region. Illegal fishing activities commonly cross national borders, leading to maritime security threats. This has created additional regional issues exacerbating many of the existing tensions between nations due to numerous unresolved maritime boundary disputes and contested ownership claims over in situ living and nonliving natural resources.

Improved fisheries management in the Southeast Asian region will involve promoting regional dialogues on fisheries management and improved governance. It will also involve developing and supporting regional alliances and networks and national fishery associations in the areas of policy and regulation development and capacity building. Many capture fishery operators and fishing associations within Southeast Asia are open and willing to engage with and support regional fisheries management efforts that safeguard their long-term business interests through the promotion of marine resource sustainability, decreased fishing capacity, and increased maritime security. Doing so effectively will not only advance the strategic economic and environmental interests of Southeast Asian nations over the coming decades, but also further advance mutually-beneficial economic and political partnerships between the ASEAN economies and those countries with a strategic interest in the region.

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References

[4] Coastal Resources Center at the University of Rhode Island and Florida International University, Fisheries Opportunities Assessment, Coastal Resources Center at the University of Rhode Island and Florida International University, Kingston and Miami, 2006.


