

Promoting Maritime Security in Southeast Asia through Sustainable Fishery Resources Management

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This article is based on the paper presented by Dr. Chumnarn Pongsri on the “Role of SEAFDEC in Promoting Maritime Security in Southeast Asia” during the Second Meeting of the ASEAN Maritime Forum on 17-19 August 2011 in Pattaya, Thailand. The Southeast Asian Fisheries Development Center (SEAFDEC) is an intergovernmental organization established in December 1967 for the purpose of promoting sustainable fisheries development in Southeast Asia. SEAFDEC is mandated to “develop the fisheries potentials in the region by rational utilization of the resources for providing food security and safety to the peoples and alleviating poverty through transfer of technologies as well as research and information dissemination activities”. SEAFDEC has 11 Member Countries, comprising the 10 member states of the ASEAN (Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam), and Japan. SEAFDEC undertakes research on appropriate fishery technologies, trains fisheries stakeholders, and disseminates information on fisheries, the major tasks being pursued by the SEAFDEC technical departments, namely: the Training Department (TD) in Samut Prakan, Thailand for marine capture fisheries development and management; Marine Fisheries Research Department (MFRD) in Singapore for the development of fishery post-harvest technologies; Aquaculture Department (AQD) in Iloilo, Philippines for aquaculture research and development; and the Marine Fishery Resources Development and Management Department (MFRDMD) in Terengganu, Malaysia for the management of fishery resources in the Member Countries. Although nowhere is it indicated in its functions and responsibilities that SEAFDEC would be directly involved in addressing issues related to maritime security of the Southeast Asian region, but since SEAFDEC has been conducting R&D activities on the sustainable development and management of the fishery resources of the region, it can offer solutions to certain impending problems related to maritime security by pursuing the advancement of sustainable fisheries development and management for food security and poverty alleviation in the Southeast Asian region.

When maritime safety and security is in place in the Southeast Asian region, countries can pursue not only their efforts related to their maritime interests but also the development and management of marine resources in an ecologically and socially sustainable and peaceful manner in accordance with international laws (Bateman



et al., 2009). The Southeast Asian region is oftentimes engulfed by maritime and food security challenges that continue to confront its peoples especially those engaged in activities that involved the marine waters and boats, in other words the fishers. Although maritime security denotes ensuring the protection of ports and related facilities, as well as the safety of boats/vessels plying the region’s marine waters and that of peoples working on the boats/vessels and facilities, it also conveys the message that navigation in seas and oceans should not create any negative impacts on the environment and biodiversity of the marine resources that leads to the degradation of the region’s fishery resources. In other words, the promotion of maritime security in the region should include the aspects of mitigating marine pollution and preventing illegal fishing activities to ensure the sustainability of the marine resources. The cross-cutting features of maritime security could therefore include enhanced and secured connectivity that boosts the establishment of an integrated ASEAN Economic Community by 2015; strengthened cooperation among all concerned for the safety and security of boats/vessels, fishers and crew; and intensified efforts for the sustainable development and management of the region’s marine resources. It is in the latter that the roles and functions of SEAFDEC could be promoted to attain maritime security in the region.

Food security could be attained when food is available for everybody’s access. In the Southeast Asian region, the fisheries sector has demonstrated its capacity to contribute to food security for its peoples through sustainable fishery

resources management. In order to enhance such capacity and sustain the contribution of fisheries to food security, it is necessary to conserve the natural resources where the fishers had always depended on for their livelihoods and push for environmental sustainability. From this point of view, maritime security in the region could also be promoted by conserving the marine fishery resources with the ultimate goal of attaining food security. When people are food secured, then maritime security could be assured.

Contribution of Fisheries to Food Security in the Southeast Asian Region

Fisheries had been playing an important role in providing food security to peoples at all levels in all corners of the world. In the Southeast Asian region, fisheries had always provided the much needed protein to the region's populace especially those in the rural areas where access to other sources of protein seems remote. Fish is produced in the region from marine and freshwater environments, with total production that had been constantly increasing in terms of quantity and value. From about 23.0 million metric tons valued at US\$ 16.4 billion in 2005, the region's total fisheries production in 2009 increased to 28.9 million metric tons valued at US\$ 29.2 billion, gaining an average annual increase during the five-year period of 5% in terms of quantity and 16% in terms of value (SEAFDEC, 2011).

In terms of quantity, about 49% of the total fisheries production in 2009 was contributed by the marine capture fisheries sub-sector, 8% by inland capture fisheries, and 43% by the aquaculture sub-sector. In terms of value, the marine capture fisheries accounted for 36%, inland capture fisheries 9%, and aquaculture by 55% of the total value of the year's fisheries production. This implies that marine



M.V. SEAFDEC, a 1178 GT purse seiner used for collaborative fishery resources assessment of the Southeast Asian waters as well as for regional shipboard training on fishing technology, marine engineering, navigation, and seamanship, and in the conduct of hydro-acoustic and fishery oceanographic surveys



A 200 GT trawler, the M.V. SEAFDEC 2 is used for research activities on fishery resources assessment, fishery oceanography, environment surveys as well as shipboard training in the aspect of responsible utilization of fishery resources in deep-sea and un-trawlable grounds within the EEZs of respective countries

capture fisheries had been contributing substantially to the total fisheries production of the Southeast Asian region especially in terms of volume although in terms of value aquaculture seems to have exceeded that from marine capture. Additionally, the total fisheries production of the region in 2009 accounted for about 20% of the world's total fisheries production of about 145.1 million metric tons (SEAFDEC, 2012).

With the region's population of 586.0 million in 2008 and average per capita consumption of fish at 26.5 kg/capita/year, it is eminent that the fisheries sector has made significant contribution to the much needed source of protein sufficient enough for the region's populace. However, there are apprehensions backed by scientific evidence that the rapid growth of the region's population at a projected rate of 41% from 2008 to 2025 coupled with the paradigm shift in food consumption, could lead to certain level of food insecurity in the future (Delgado *et al.*, 2003). Such situation could also add pressure to the natural resources and increase the competitiveness of the multiple uses of water resources. This could also reduce the ability of the fisheries sector to continue providing food security to the people especially in the Southeast Asian region which embraces mostly the fish-eating people of the world. Moreover, emerging issues in the changing environment not only in terms of the more stringent requirements for fish trade but also those that are brought about by the impacts of climate change could lead to general livelihood crisis among the fisherfolks. SEAFDEC is therefore, exerting efforts to address such situation.

Since its establishment in 1967, SEAFDEC has been conducting R&D programs and activities in the Southeast Asian region covering the areas of responsible fishing

technologies and practices, sustainable fisheries management, responsible aquaculture development, and fishery post-harvest technologies that ensure the safety and quality of fish and fishery products. In addition, SEAFDEC has also been supporting the ASEAN countries in the formulation of regional fisheries policies to safeguard the interests of the countries. The adoption of the Resolution and Plan of Action in June 2011 therefore paved the way for SEAFDEC to strengthen the development and implementation of programs and activities that support the sustainable development of fisheries in the region.

Specifically, the programs and activities being promoted by SEAFDEC could be grouped into strategies that aim to address the general realms of fisheries issues, such as: enhancing governance in fishery management; promotion of sustainable aquaculture; adoption of ecosystem approach to fisheries; development of post-harvest technologies for the safety of fish and fishery products; addressing emerging trade requirements for fish and fishery products; adaptation and mitigation of the impacts of climate change; improvement of livelihoods in fishing communities and of the prospects of employment in fisheries-related activities; and sustaining food supply from inland fisheries. These areas of concern were also expounded during the Technical Session of the June 2011 ASEAN-SEAFDEC Conference (SEAFDEC, 2011a; SEAFDEC 2012a) in order that SEAFDEC and the ASEAN countries would be able to implement doable programs and activities on the sustainable development of fisheries for food security. Through its programs and activities and with support from collaborating partners and donor countries, SEAFDEC continues to exert efforts to maintain the resources-based equilibrium of the region's fisheries sector through the promotion of well-balanced resource conservation and exploitation. This is meant to satisfy the fish demand of the region's increasing population on the one side, while sustaining fish supply for the export market on the other side to enhance the economies of the countries in the region. Eventually, it is the goal of SEAFDEC that food security in the region is put in place.

Contribution of Fisheries to Maritime Security

The sustainability of fishery resources in the Southeast Asian region is being threatened by the incessant practice of Illegal, Unreported and Unregulated (IUU) fishing by many fishers, creating negative impacts on the economic, social and ecological aspects of fisheries and affecting food security as well as maritime security in the region. This is considering that IUU fishing contributes to over-exploitation of fish stocks impeding all attempts to manage



the fishery resources. SEAFDEC for its part has been collaborating with partner agencies for the establishment of regional and sub-regional arrangements in advancing sustainable fishery resources management by addressing over-fishing capacity and fishing effort, in order that measures to combat IUU fishing could be put in place.

More importantly, SEAFDEC cooperates with the Indonesian-based Regional Plan of Action (RPOA) to Promote Responsible Fishing Including Combating IUU Fishing, for the management of fishing capacity as well as in combating IUU fishing in the region. Parallel with the efforts of the ASEAN Maritime Forum, SEAFDEC is also collaborating with various organizations and agencies in order to sustainably improve energy security as means of boosting the efforts of the countries in the region in addressing maritime-related issues. Specifically, SEAFDEC has embarked on an enhanced engineering technology program for the development of technologies towards energy-efficient fisheries and aquaculture operations in the Southeast Asian region, focusing on the improvement of the design and operations of fishing gears and vessels as well as those of aquaculture facilities and practices. It is envisaged that this program will not only lead to improved energy efficiency and conservation but also contribute to the efforts of reducing carbon footprints from fisheries and aquaculture.

Maritime Security vis-à-vis Food Security in Southeast Asia

Most of the problems in maritime security in Southeast Asia are brought about by several factors that include loose and unclear maritime boundaries in most parts of the region's marine waters. Although EEZs had been defined to extend beyond 200 nautical miles from the countries' shorelines, there are many countries where the EEZs could include contiguous zones and sometimes overlap. Meanwhile, fishers continue to maximize the exploitation

of marine resources resulting in the depletion of most fish stocks. Instead of losing their basic means of livelihood, fishers are often lured into illegal fishing activities, which pose problems among countries in terms of enforcement because of unclear and undefined water boundaries. Nevertheless, many transboundary countries are exerting their efforts to combat illegal fishing to ensure food security in the region through trilateral or bilateral arrangements. For example, Indonesia and the Philippines have entered into an agreement to adopt measures of addressing IUU fishing in their shared waters, while Indonesia, Malaysia and Singapore are regularly conducting collaborative enforcement activities to combat IUU fishing in the Strait of Malacca through the MALSINDO program and the joint air patrol “Eye in the Sky” (Poernomo *et al.*, 2011). These efforts are aimed not only at maintaining maritime security but also ensuring food security from fisheries in the Southeast Asian region.

Nevertheless, the region continued to experience unfavorable incidents in one of its major seas. In the South China Sea recently, territorial tension occurred which could be due to over-aggressiveness and misinterpretations of the measures that address maritime-related issues. Nevertheless, many countries bordering the South China Sea especially the Southeast Asian countries, consider this marine area very significant in view of its rich fishery resources on the one hand and on the other hand, because it is the second most used sea lanes in the world.

Moreover, the South China Sea has also been reported to have considerable quantities of oil reserves as well as natural gas. Many studies also indicated that this body of water holds about one-third of the entire world’s biodiversity especially because it embraces part of the so-called coral triangle which is the global epicenter of marine biodiversity, making the South China Sea which comprises one of the most important seas of the Southeast Asian region, truly a very important area of the world’s marine ecosystem. It can therefore be gleaned from such scenario that several countries could be interested in this body of water and thus, have launched their respective territorial claims over the South China Sea. The disputes that seemed to have escalated risk not only the maritime security in the region but most importantly food security as well.

In any case, food security of the peoples in the Southeast Asian region should be considered the priority and foremost concern because when food security is in place, maritime security could be attained. SEAFDEC therefore supports the efforts of the ASEAN Maritime Forum in addressing the urgent maritime-related issues to ensure maritime and food security in the region. This could mean capturing a clear

picture of the status of the marine environment in the region through intensified sharing of information and collaborative data banking of such information, which could be achieved through bilateral or multi-lateral arrangements or through sub-regional and regional agreements.

Nonetheless, SEAFDEC would continue to promote sustainable fisheries development to address food security in the region in the light also of addressing maritime-related issues that hang like a Damocles sword over the Southeast Asian region. In this regard, SEAFDEC could offer its assistance in the form of capacity building in the areas of fisheries management for food security, safety at sea of small-scale fishing vessels and crew, and information exchange and dissemination on the status of the marine resources through the conduct of joint marine surveys to assess the fisheries potentials of the waters in the Southeast Asian region that could ensure improved livelihoods of the region’s fisheries communities. Considering that SEAFDEC cannot carry out these activities by itself, the cooperation and collaboration of relevant organizations and agencies would be sought.

ASEAN-SEAFDEC Collaborative Mechanism

Under its mandate to undertake a regional approach to program formulation in response to anticipated global threats, SEAFDEC has been coordinating with the ASEAN to establish a working mechanism in order to boost the promotion of sustainable fisheries development in the Southeast Asian region. As a result, the ASEAN-SEAFDEC collaborative mechanism was initiated in 1998 through the constitution of the ASEAN-SEAFDEC Fisheries Consultative Group for the Sustainable Development of Fisheries in Southeast Asia or FCG. In furthering the efforts of the ASEAN and SEAFDEC towards addressing the challenges that impact on the development and management of fisheries in the region and to revitalize the existing collaborative mechanism, the ASEAN-SEAFDEC Strategic Partnership or ASSP was established in 2007. Through such strengthened partnership, a number of programs and activities have been implemented towards the sustainable development of fisheries and upliftment of the economic well-being of the peoples of the Southeast Asian region.

Through the said ASEAN-SEAFDEC collaborative mechanism, the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security in the New Millennium: “Fish for the People” was organized in November 2001, which adopted the 2001 Resolution and Plan of Action to provide the regional policy direction and guiding principle for the development of programs relevant

to the sustainable development of fisheries in the ASEAN region. Ten years later, the sequel ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment” was organized in June 2011 also under the umbrella of the ASEAN-SEAFDEC collaborative mechanism. The latter Conference adopted the revitalized Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020 (SEAFDEC, 2011c). SEAFDEC and the ASEAN would continue to join hands in addressing the issues that tend to impede the realization of maritime security as well as food security in the Southeast Asian region.

Way Forward

In order to ensure a bright future, sustainable fisheries development should be guided not only towards a single direction but also towards the cross-cutting facets of socio-ecological circumstances in the whole aspect of resources management. Meanwhile, in anticipation of the establishment of the ASEAN Community, the achievements of the three pillars, *viz*: ASEAN Security Community, ASEAN Economic Community, and ASEAN Socio-Cultural Community, should be boosted.

Specifically for the ASEAN Economic Community, of which regional economic integration is aimed to be completed by 2015, the region would then be characterized by having a single market and production base with free flow of goods, services, capital investment and skilled labor; being a highly competitive economic region with equitable economic development; and being fully integrated into the global economy. This could therefore be an opportune time for the countries of the region to boost the performance of their respective fishery sector by enhancing connectivity in terms of physical infrastructures such as land and marine transportation systems to facilitate the flow of goods like fishery products within and outside the region, and promote cross border trade thereby improving the countries’ respective economies. It is in this aspect that maritime safety and security could also be ensured.

The potentials of fisheries to contribute to food security in the Southeast Asian region also play a major role in attaining maritime security. The peoples in the region are fish-eating, and when food fish is nutritionally adequate in terms of quantity, quality and variety for all peoples at all times, then the peoples are food secured. The root cause of food insecurity is poverty, and those who are most susceptible to food insecurity are the people living in rural areas including the fishers. Therefore, rooting out the main cause of poverty in the fisheries communities should be

pursued in order that the fisheries communities could attain food security. This could be achieved through collaboration among the countries as well as among agencies concerned for the sustainability of the marine resources and thus, attain food security.

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