Towards the Sustainable Development of Small-scale Fisheries and Aquaculture: the legacy of SEAFDEC

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In Southeast Asia, history has it in the past few decades or so that fishing operations were simple and conducted in near-shore areas using non-motorized or non-mechanized fishing vessels. Fish landings were barely enough for domestic consumption, but some countries dared to explore the export market with their fishery products that gave them in return, not only additional economic advantage but also the inspiration to enhance their fishing capabilities. Adapting the fishing technologies learned from more advanced countries, *e.g.* trawl fisheries, many Southeast Asian countries were able to increase their fish landings. Causing a domino effect, many fishing vessels were deployed to sea using a great variety of fishing gears, not minding their possible impacts on the fishery resources. Eventually, their catch started to get smaller not only in terms of quantity but also in size, prompting the governments to look for the ways and means of properly managing the fishery resources. In an effort to address the issues at hand, one of the major decisions made by the governments of the Southeast Asian countries was to agree on the establishment of the Southeast Asian Fisheries Development Center (SEAFDEC) in December 1967. With an initial task of promoting fisheries as means of improving the food situation in Southeast Asia, SEAFDEC has since then served as a catalyst for the transformation of the region's fisheries towards sustainability.

To enable SEAFDEC to carry out such gigantic tasks, the Southeast Asian governments also agreed to establish the SEAFDEC Training Department (TD) in 1968 in Samut Prakan, Thailand, with an initial task of training the officers and technical staff from the region to enhance their capabilities in directing and managing fishing activities. As the SEAFDEC responsibilities in the region progressed, TD in mid-1970s redirected its focus on the development of responsible fishing technologies and practices, and the promotion of marine and coastal fisheries management to ensure the stable supply of fish for food security of the region. Subsequently, the Marine Fisheries Research Department (MFRD) of SEAFDEC was established in Singapore in 1969 to conduct research on the actual conditions of the region's fishing grounds and improving the utilization of fishing grounds towards sustainability, a task that was taken over by TD before the end of the 1970s. By mid-1970s, as fish production of the region drastically increased necessitating the development of sustainable postharvest technologies, MFRD refocused its activities on the safety and quality of fish and fish products including the development of fish preservation protocols to upgrade the quality of the region's traditional fishery products, and on the proper utilization of trawl bycatch for the production of comminuted fishery products, *e.g.* surimi, and the development of surimi-based products. Meanwhile, as the adoption of culture technologies also flourished in the region, the Southeast Asian governments agreed to establish the SEAFDEC Aquaculture Department (AQD) in the Philippines in 1973 to make sure that the development and adoption of aquaculture technologies in the region, *i.e.* in coastal, brackishwater, and freshwater environments, are sustainable. Later, as the Southeast Asian countries needed assistance in the development and management of their marine fishery resources, the establishment of the SEAFDEC Marine Fishery Resources Development and Management Department (MFRDMD) in 1990 in Terengganu, Malaysia has addressed their concern. Furthermore, to also ensure the sustainable development and management of the region's inland fisheries, the SEAFDEC Inland Fishery Resources Development and Management Department (IFRDMD) was established in 2014 in Palembang, Indonesia.

Throughout its more than 50 years of existence as a regional center for R&D in sustainable development of fisheries and aquaculture of the Southeast Asian region, SEAFDEC unceasingly attained major advancements based on its mandates, *e.g.* in fisheries technologies, aquaculture, fisheries management, fishery resources conservation and enhancement, and fisheries post-harvest technologies, among others. With the SEAFDEC Departments spearheading such developments and improvements, the technologies have also been verified and disseminated to the Southeast Asian countries through human resource development programs as well as through dissemination of various information materials produced by SEAFDEC benefitting a wide-range of stakeholders. Based on such development, the countries were able to develop fisheries policy recommendations that had been used to improve and/or revise their respective countries' national policies, laws, and regulations relevant to the sustainability of their fisheries sector.

Through the more than 50 years, all efforts of SEAFDEC have always been catered to the small-scale fisheries and aquaculture niches of the Southeast Asian region, considering that most of fisheries operations in the region are small-scale. As a matter of fact, the majority of such fisheries operations and activities use relatively small production units with low inputs, and low capital investments. Notwithstanding such predicaments, small-scale fisheries contribute more than a quarter of world's catch, depicting the significance of this sector in food security and nutrition, poverty eradication, and sustainable resource utilization (FAO, 2005), especially in the Southeast Asian region, making it critical to develop and manage the region's small-scale fisheries in a sustainable manner for the benefit of the future generations.

Small-scale Fisheries in Southeast Asia: a situationer

The inadequate capacity of most fishers to venture in oceans and the high seas led to the concentration of fishing operations in coastal waters, but the increasing effort of fishers to harvest the fishery resources in coastal areas was feared to possibly result in over-exploitation. Thus, in mid-1990s, the Southeast Asian countries with technical support from SEAFDEC, exerted efforts to promote the sustainable development and management of small-scale fisheries in the region (SEAFDEC, 2006). Such efforts were not in vain as through the years, *e.g.* from 1970s to 2018, the total fisheries production of Southeast Asian had been increasing (**Table 1**) at an annual average increase of about 3.6 % although there were ups and downs along the way (**Table 2**).

According to FAO (2005; 2018), of the world's total fisheries production, about 50 % must have been generated by small-scale fisheries. Granting that the same trend also occurs in the Southeast Asian region, then the small-scale fisheries sector of Southeast Asia must have also contributed significantly to the region's total fisheries production as indicated in **Table 1**.

While the region's total population has also been increasing (**Table 3**), and considering that the average annual per capita consumption of fish by the Southeast Asian countries in 2018, for example, is 33.5 kg (Smithrithee *et al*., 2021; Chan *et al*., 2017), such requirements for food fish could be easily supplied by small-scale fisheries since the fisheries production from small-scale fisheries in 2018 is about 23,270 t. In order that the small-scale fisheries sector of the region could continue providing the necessary food fish for the region's populace, SEAFDEC therefore deems it necessary that this sector should

Table 1. Fisheries production of Southeast Asia by ten-year period* averages, in thousand tonnes (t)

	1970s–1980	1981–1990	1991–2000	2001–2010	2014	2015	2016	2017	2018
Marine capture fisheries	3,832	6,393	8,975	13,245	16,584	16,762	17,027	17,330	18,330
Inland capture fisheries	485	889	1,366	1,553	3,001	3,059	3.126	3,227	3,337
Aquaculture	310	872	3,622	5,834	22,530	24,177	25,183	24,940	24,872
TOTAL Production	**4,627**	**8,154**	**13,963**	**20,632**	**42,115**	**43,998**	**45,336**	**45,497**	**46,539**
Contribution of small-scale fisheries (FAO, 2005; 2018: about 50 %)	2,314	4,077	6,982	10,316	21,058	21,999	22,668	22,749	23,270

** until 2010*
Source: SEAFDEC (1976; 1980; 1990; 2000; 2012; 2020a)

Table 2. Average annual rate (%) of increase in fisheries production of Southeast Asia by ten-year period*

	1970s–1980	1981–1990	1991–2000	2001–2010	2010–2014	2014–2015	2015–2016	2016–2017	2017–2018
Marine capture fisheries	7.0	4.0	2.9	3.2	2.0	1.1	1.5	1.8	5.5
Inland capture fisheries	9.3	4.5	3.5	1.3	4.8	1.9	2.1	3.1	3.3
Aquaculture	2.5	6.5	7.6	3.8	7.4	7.3	4.0	-1.0	-0.3
TOTAL Production	**7.9**	**4.3**	**4.2**	**3.2**	**5.1**	**3.8**	**3.0**	**0.4**	**2.2**

** until 2010*

Table 3. World's population in 1970-2030 (UN estimates in million), and Southeast Asia's per capita fish consumption*

	1970	1980	1990	2000	2010	2018	2020	2030
World's population	3,683	4,433	5,327	6,143	6,957	7,714	7,795	8,501
Population of Southeast Asia	285	359	445	524	594	655	664	717
Ave. fish consumption (kg/person/year) of Southeast Asian countries	21.0	22.0	24.0	25.0	33.5	33.5	33.5	33.5

Source: Adapted from Laurenti (2007); Chan et al. *(2017); FAO (2020)*

be sustainably managed, by addressing the various issues and concerns that tend to impede its sustainable development and management.

In considering the role that the small-scale fisheries sector plays in stabilizing food security in the Southeast Asian region, Kato (2008a) had expected that small-scale fisheries would be given more attention by the global community and presumed that such initiative could be translated into the development of a global dedicated program on small-scale fisheries which could also provide the necessary momentum for its sustainable development. The promotion of the "Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication" (FAO, 2018) almost ten years later, is therefore a welcome development and answers the concern of Kato (2008a), and more specifically for the Southeast Asian region where small-scale fisheries is an important economic sector. Notwithstanding such development, SEAFDEC all the while, had exerted efforts to address the issues and concerns that impede the sustainable development and management of small-scale fisheries in Southeast Asia.

Harmonizing the divergent coverage and functions of small-scale fisheries

Early on, the FAO Glossary suggested that artisanal or small-scale fisheries refer to "traditional fisheries involving fishing households (as opposed to commercial companies), using relatively small amount of capital and energy, relatively small fishing vessels (if any), making short fishing trips close to shore, and produce fish mainly for local consumption." This is generally acceptable especially in Southeast Asia where capture fisheries are generally small-scale in nature, using varied types and sizes of vessels and fishing gears to capture the multispecies fishery resources. Nonetheless, in the absence of a concrete definition of small-scale fisheries that could be used in discussions and development of policy recommendations based on the Southeast Asian setting, Kato (2008) suggested that the cultural, social, and economic characteristics of the region's fisheries could be taken into consideration, *e.g.* the types and sizes of vessels, fishing gears and methods used, the species targeted which is generally multispecies, and postharvest technologies practiced, and that the value of the fisheries with respect to tourism and cultural heritage should also be considered. In short, he stressed that the role of small-scale fisheries should not be anchored only on its capability of producing fish and fishery products but also on the value of its existence and multi-function roles in the traditional ways of life in the coastal areas.

In the recent study by Smith and Basurto (2019) that reviewed the relevant literatures on small-scale fisheries in an attempt to find a definition of small-scale fisheries, the results indicated that about 25 % of the literatures did not mention any definition of small-scale fisheries. However, the nature and characteristics of the fisheries that include the vessels and fishing gears used had been referred to, and over time, technological dimensions have been mentioned like fishing vessels relative to socio-cultural characteristics of the fisheries operations.

SEAFDEC for its part, has not also attempted to develop a standardized definition of small-scale fisheries. Instead, a matrix showing the different perspectives of the respective small-scale fisheries operations in the Southeast Asian countries in certain fishing zones had been established (SEAFDEC, 2000; SEAFDEC, 2003). This was especially necessary when SEAFDEC carried out the "Regionalization of the Code of Conduct for Responsible Fisheries," and since then such matrix had been used extensively as reference material.

Valuating the true worth of small-scale fisheries through improved systems of collecting information

Compiling and analyzing data and information on small-scale fisheries, *e.g.* quantity and value of production, catch and effort, species produced, could provide the true value of small-scale fisheries but these had always been a gigantic task in the Southeast Asian region. Production from the region's small-scale fisheries is intended not only for local and domestic markets, but most often also for direct consumption within households. As a result, the total production is usually underreported in official statistical records.

The use of a wide range of simple fishing methods and gears, and small vessels also makes it difficult to compile any statistical data and information, especially on catch and effort. In inland waters, small-scale fishers are frequently shifting between different fishing methods and gears that suit the seasonality and availability of target species. Therefore, obtaining catch data at species or group levels necessary in understanding the status of the resources to support sustainable fisheries management remains a major concern. Absence of the necessary data has made it difficult for policy-makers to establish the value and true worth of small-scale fisheries

including its role in the socio-economic upliftment of the populace.

SEAFDEC has been improving the situation through capacity building of the region's concerned human resources, especially on the design, methods, and systems of collecting statistical data, as well as on the development of alternative methods of collecting and compiling information, especially for inland capture fisheries (Muthmainnah *et al*., 2020). These efforts are meant to provide real-time data on small-sale fisheries that could be used by policy-makers not only in formulating policies for the sustainable management of the fishery resources as well as on the conservation of the resources, but also for taking up measures to address such concerns as overcapacity and illegal fishing.

Generally, making available the necessary information and collection of data is typically inadequate because of the heterogeneity, diversity, and complexity of small-scale fishery activities. Frequently dispersed over large areas, the multiple landing points and direct informal markets make it difficult to record the production from the Southeast Asian region's small-scale fisheries operations, and especially because such production is meant mainly for household consumption. SEAFDEC has therefore strengthened collaborative and participatory approaches in data collection, while also continuing to explore alternative methods of quantifying the fishery resources and the contribution of small-scale fisheries to food security.

Alleviating poverty in small-scale fishing communities

In Southeast Asia, the majority of fishers and fishery workers are engaged in small-scale fisheries activities including pre-harvest, harvest, and post-harvest, fundamental to the social and cultural structures within and among fishing communities. Since small-scale fisheries communities are mostly located in remote areas where access to health, education, and other social services is limited, a large number of small-scale fishers remain impoverished and continue to be marginalized.

Moreover, the region's small-scale fishers and fish workers are generally self-employed, and their fishing activities are conducted full-time, part-time, or seasonally in combination with other agriculture activities such as farming of crops and rearing of livestock. In the case of small-scale aquaculture, where minimal investment is also involved and family labor is largely engaged, this sub-sector has been an important contributor to sustainable rural development as well as to the generation of livelihoods and the steady supply of fish and fishery products for the local populace. SEAFDEC through its Aquaculture Department has been promoting the sustainability of small-scale aquaculture for rural development (SEAFDEC Aquaculture Department, 2013). Meanwhile, traditional fish processing methods of fish preservation (*e.g.* smoking, sun-drying, salt-drying, among others) to extend shelf-life or to preserve the large amount of catch during peak season, are the usual practice adopted by the region's fishers and fish workers despite insufficient means and infrastructures. SEAFDEC through its MFRD has improved such traditional methods in terms of safety and quality, and in the technical aspects to make sure that processing could be easily managed under local conditions requiring minimal inputs (Pongsri *et al*., 2015). SEAFDEC also encourages small-scale fish workers to be engaged in other ancillary fishery-related income opportunities, especially in coastal and inland fishing communities, *e.g.* net making, boat building, vessel engine repair and maintenance, local handicrafts production. Through the development and

promotion of policy recommendations, SEAFDEC also makes sure that such ancillary activities are sustainable.

Taking into consideration the prevalent poverty situation in small-scale fishing communities in Southeast Asia and while supporting the Southeast Asian countries towards sustainable development of small-scale fisheries for food security, SEAFDEC initiated the promotion of "One Village, One Fisheries Product (FOVOP)" System with the main objective of improving the livelihood opportunities of the fisheries communities in the region (Kato, 2008b). With funding support from the Japan-ASEAN Solidarity Fund, such a system was patterned after the Japanese One Village One Product (OVOP).

Under the FOVOP System, local producers identify and promote unique and differentiated traditional fishery products and related services from particular fisheries communities (Kato, 2006; Wongsanga & Sulit, 2010). It should also be noted that in the promotion of FOVOP System, the role of women are properly recognized as they are the potential stakeholders in the rural economic activities, and the level of their involvement in the fisheries-related activities is clearly identified.

SEAFDEC has sustained its efforts in alleviating poverty in fisheries communities by enhancing human capacity development on-site at the community level. With funding support from donors and partners, regional fisheries and aquaculture expertise has been mobilized for such efforts while participation of relevant stakeholders maximized. As a result, SEAFDEC has been able to reach out to far-flung fisheries communities and promote sustainable fisheries development for poverty alleviation in those Southeast Asian communities.

Balancing utilization and conservation of small-scale fishery resources

Small-scale fishery activities are undertaken in "multi-use, multi-user" environment where both coastal and inland fishing communities compete for the resources with other users, resulting in habitat degradation. Ecologically sound measures such as the installation of artificial reefs, mangrove reforestation, coral plantation, fish passage construction, good aquaculture practices, stock enhancement, combating IUU fishing, and others are being undertaken by SEAFDEC in the Southeast Asian region to conserve the aquatic habitats and ensure the sustainability of the fishery resources.

The small-scale inland capture fishing activities of Southeast Asia are influenced by seasonal movements of fish between connected habitats, such as rivers, floodplains, rice fields, irrigation systems, and other inland bodies of water. Although inland capture fishing operations are conducted all year round, the highest abundance of fish captured could be achieved during rainy season when fishes migrate and are caught in their migratory path as well as during dry season when fishes take refuge in smaller pools and become easier to catch. SEAFDEC through its IFRDMD has been developing measures to ensure the sustainability of small-scale inland capture fisheries (Muthmainnah *et al*., 2017).

Meanwhile, the continued practice of overfishing prevents the recovery of fish stocks that eventually degrade the fishery resources. In addressing such concern, the Southeast Asian countries have been trying to control overfishing through the enforcement of relevant regulations, while SEAFDEC has been mitigating the impacts of overfishing by implementing enhancement programs and activities to safeguard the fish stocks. These programs have two-pronged objectives: improvement of the critical habitats and nursery grounds of the fishery resources; and direct enhancement of the fishery resources through artificial propagation techniques.

Nevertheless, the increasing demand for fish driven by rapid growth of human population and coupled with the deteriorating situation of the fishery resources has forced many fishers to practice illegal fishing activities not only in Southeast Asia but also outside the region. In fact, some fishers have been found to be poaching in seas beyond their national maritime borders. Such a situation had prompted SEAFDEC to establish a general direction to combat illegal, unreported and unregulated (IUU) fishing through the JTF-funded Project "Promotion of Sustainable Fisheries and IUU Fishing-related Countermeasures in Southeast Asia" (Smithrithee *et al*., 2020). With the collaboration of the ASEAN Member States (AMSs), SEAFDEC was able to initiate the development of several approaches to address those IUU fishing issues and concerns, *e.g.* the ASEAN Guidelines for Preventing the Entry of Fish and Fishery Products from IUU Fishing Activities into the Supply Chain, Regional Fishing Vessels Record (RFVR) and RFVR Database, Regional Plan of Action for the Management of Fishing Capacity (RPOA-Capacity), the ASEAN Catch Documentation Scheme (ACDS) and its electronic version eACDS.

As the looming emerging issues continue to impede the efforts of the AMSs in attaining sustainable fisheries, and while the importing countries impose stringent measures on export of fish and fishery products by making sure that these are not sourced from IUU fishing activities, SEAFDEC spearheaded the establishment of the "Joint ASEAN-SEAFDEC Declaration" that was signed by the Senior Officials of the ASEAN-SEAFDEC countries, to signify the countries' commitment to work towards addressing the issues caused by the practice of non-responsible fisheries operations, especially IUU fishing activities.

Staging management approaches to small-scale fisheries

The approach to small-scale fisheries management being promoted by SEAFDEC in Southeast Asia is ecosystem-based, integrated, holistic, and participatory. For sustainability of the fishery resources, the capacity of small-scale fishing communities in designing, planning, and implementing management measures is enhanced with special attention to equitable participation of women and men as well as the vulnerable and marginalized groups. Similarly, ecosystem-based would also be adopted for small-scale aquaculture development, considering the need to develop aquaculture sustainably in order that it could continue to provide food fish for the people.

The concept of ecosystem approach to fisheries management (EAFM) has been advanced by SEAFDEC in the Southeast Asian region through capacity building of the relevant stakeholders. With some selected countries serving as pilot sites, the experience that would be gained from the pilot sites would be used as inputs for the development of the Guidelines on EAFM for Extension Officers of the Southeast Asian region (Weerawat & Worranut, 2019).

Recognizing that developing the capacity of local human resources would lead to empowerment of the local people in community development and enabling them to manage the fishery resources toward sustainability, SEAFDEC continued to promote human capacity building in the Southeast Asian countries. Moreover, considering that resource-use conflicts are reduced and resources are efficiently managed when fishers and other stakeholders share the responsibility of looking after the fishery resources through their participation in the planning and implementation of fisheries management plans, SEAFDEC has been promoting the concepts of community-based fisheries management and co-management, especially in inland fisheries, to pave the way for fishers to have equal rights and access to the fishery resources as well as to the market of their fish and fishery products.

Typically, in the Southeast Asian scenario, men are engaged in fishery activities and women in fish processing and marketing as well as in near shore or coastal harvesting and culture activities, although men are also known to engage in fish marketing and distribution. Therefore, in formulating enhanced fisheries policies, SEAFDEC makes sure that gender equality and equity are being fostered by highlighting the roles and well-being of women and men in the region's small-scale fisheries and aquaculture.

Recognizing the importance of small-scale fisheries and assuring their sustainability

After the adoption of the global Code of Conduct for Responsible Fisheries (CCRF) in 1995, SEAFDEC with funding support from the Japanese Trust Fund (JTF) initiated the program "Regionalization of the CCRF (RCCRF)" starting in 1998. RCCRF was meant to make the global CCRF understandable and adaptable in the Southeast Asian region, by taking into consideration the region's specific fisheries context that encompasses the region's culture, fisheries structure, and the region's ecosystems. RCCRF therefore accommodated the specific regional fisheries concerns that the global CCRF might have failed to consider, especially the very nature and characteristics of the region's small-scale

fisheries which are multi-species and multi-gear. Moreover and under the framework of the CCRF, the issues of particular importance to the region were explained, clarified, and elaborated on in the series of Regional Guidelines produced through the RCCRF (SEAFDEC, 2000; SEAFDEC, 2003; SEAFDEC, 2005a; SEAFDEC, 2005b; SEAFDEC, 2006). These Regional Guidelines had been disseminated to the Southeast Asian countries and had been used as basis for the development and/or revision of their respective national laws and regulations with respect to the sustainable development of their fisheries sector.

Nonetheless, in order that the Southeast Asian countries would be able to adopt the Regional Guidelines, SEAFDEC with support from the SEAFDEC-Sweden Project, provided the platform for capacity building of the region's human and institutional resources. This has led to the development and promotion of the most practical national systems on the various facets of fisheries, especially small-scale fisheries that are meant to improve fisheries management though responsible approaches.

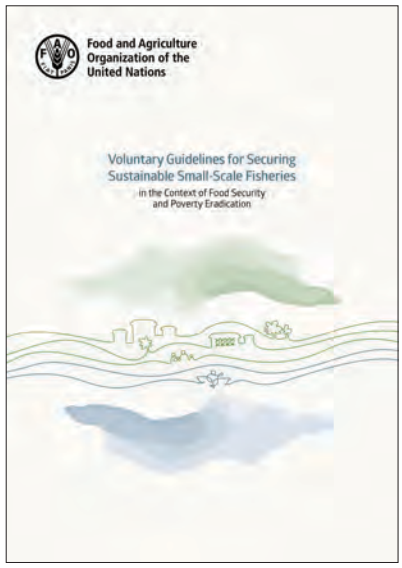
Concerned that the unsustainable fisheries practices could negatively impact on the future fish supply risking food security and socioeconomic stability of peoples in the Southeast Asian region, the ASEAN and SEAFDEC spearheaded the formulation and adoption of the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region in 2001 (RES&POA-2001) (SEAFDEC, 2001). With the CCRF serving as the guiding principle, RES&POA-2001 (SEAFDEC, 2001) has served as guide in the development and implementation of programs and activities carried out by SEAFDEC in the Southeast Asian region that aim towards sustainable fisheries for food security. The subsequent ASEAN-SEAFDEC Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020 (RES&POA-2020) (SEAFDEC, 2011), a revitalized version of the RES&POA-2001 to address the emerging issues and adapt to the changing environment, had been instrumental in the development and promotion of various actions undertaken by the AMSs leading to significant achievements that were attained during the periods from 2001 to 2020, specifically with respect to the ASEAN-SEAFDEC policy documents that have been developed during such period (Smithrithee *et al*., 2020a). In 2020, SEAFDEC and the AMSs reviewed the RES&POA-2020 and assessed the emerging issues and challenges that seem to impede the development of the region's fisheries sector taking into consideration the paradigm changes in the fisheries sector of the region. Results of such review had been used as inputs to the ASEAN-SEAFDEC Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2030 (RES&POA-2030) (SEAFDEC, 2020b). While the RES&POA-2030 reiterates the regional cooperation to combat

IUU fishing and enhance the competitiveness of the ASEAN fish and fishery products, it also includes major additional aspects that deal with emerging issues.

Way Forward

For the past 53 years, SEAFDEC through its Departments had been implementing programs and activities that led to the development of national policies serving as guidelines for the Southeast Asian countries in the sustainable development and management of their respective fisheries sector. SEAFDEC therefore remains committed to continue attaining fisheries technical advancements and disseminating the developed technologies to the AMSs while also looking beyond the horizon to explore new frontiers and new resources for expanding and enhancing its efforts towards the sustainability of the region's fisheries and aquaculture endeavors. The series of RES&POAs have paved the way for the future works of SEAFDEC, however, SEAFDEC would also heed to the call for continued setting up of its future activities towards food security and socioeconomic stability, and could specifically include: 1) The sustainable development and management of small-scale fisheries in the Member Countries of SEAFDEC with in-depth consideration of coastal area management and the use of an ecosystem approach in the management of fishery resources; 2) Issues relevant to the transboundary fish stocks or shared stocks on the Sunda Shelf, with a view to launching cooperative study programs and formulating appropriate management measures to effect their sustainable production, with special reference to Article 63 of the Law of the Sea of the United Nations; 3) Establishment on a permanent basis of a centralized and efficient regional database for fisheries information and reliable fishery statistics for use in the planning and implementation of programs and projects for the sustainable development and rational utilization of fishery resources of the AMSs; and 4) Strengthening of the human resource capacity of the AMSs to enable them to achieve the long-term goal of good governance and sustainable fisheries development (Menasveta, 2017).

The promotion of the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication is indeed timely as it serves as reference for the AMSs and also for SEAFDEC to boost the sustainable development of small-scale fisheries. The Guidelines could also provide the guiding principles for the AMSs and SEAFDEC to continue setting its future activities towards food security and socio-economic stability, and be able to carry out the abovementioned recommended future activities.



FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication

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