

# Transforming Fisheries Development of Southeast Asia: SEAFDEC in Accord with the UN Sustainable Development Goals

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The idea of establishing the Southeast Asian Fisheries Development Center (SEAFDEC) was conceived during the First Ministerial Conference for Economic Development of Southeast Asia in April 1966 in Tokyo, Japan. During the said Conference, several regional concepts for agriculture and economic development were adopted including the establishment of a regional center for the promotion of fisheries as means of improving food situation in Southeast Asia. This paved the way for the unfurling of SEAFDEC in 1967 under the auspices of the Council of Ministers for the Economic Development of Southeast Asia.

Early on, the fishing industry in Southeast Asia was simple, where fishing activities were confined in near-shore areas using non-motorized or non-mechanized fishing boats, and the territorial seas lay only 12 nautical miles from shore. Fish landings were barely enough for domestic consumption although some countries attempted to produce fishery products for export. National planners viewed the fishery resources as inexhaustible and big national plans were made based on such perceptions. Many countries began to enhance their fishing capabilities using technologies transferred from the modern world, particularly in trawling to harvest as much fish as possible including sea bottom dwellers. Some Southeast Asian countries experienced the most successful results of the introduction of trawling leading to dramatic increases

in their respective fish landings. The region's national planners looked at the sea with much potential to be tapped. Heavy investments were made in terms of boats and fishing gear, then, returns of investment were proportional to increases in landings. All these efforts however, led to overfishing which became prominent as landings reached overall declines. Not obviously seen by national planners in the beginning until fishers started to feel the brunt of dwindling catch not only in terms of quantity but also in size. With too many fishing boats, fewer fish were caught, a situation that called for national planners to develop ways and means of properly managing and enhancing the fishery resources. As an answered prayer, SEAFDEC was established and became a reality.

Thus, started the era when fisheries development of Southeast Asia was transformed towards sustainability, and became aligned all the while, with the UN Sustainable Development Goal 14 or SDG 14 on the Conservation and Responsible Utilization of Lives below the Waters. While SEAFDEC continues to promote sustainable utilization and conservation of fishery resources in oceans, seas, rivers, lakes, wetlands and the like for food security in the Southeast Asian region, it also spotlights the other Sustainable Development Goals and their corresponding targets that interlink with the targets of SDG 14.

## Establishing a regional center for fisheries development in Southeast Asia

SEAFDEC was officially established as a regional center for fisheries development in Southeast Asia in December 1967, to promote, enhance and manage fisheries development in Southeast Asia for improving the region's food situation. Also in December 1967, the Agreement on the manner under which SEAFDEC would be organized and operated was finalized. Representatives from the Southeast Asian countries, duly authorized by their respective governments, approved and signed the *Agreement Establishing the Southeast Asian Fisheries Development Center* on 28 December 1967, namely: *H.E. M. Seki* for the Government of Japan; *H.E. R.H. Ho* for the Government of the Republic of Singapore; and *H. E. P. Sarasin* for the Government of the Kingdom of Thailand.

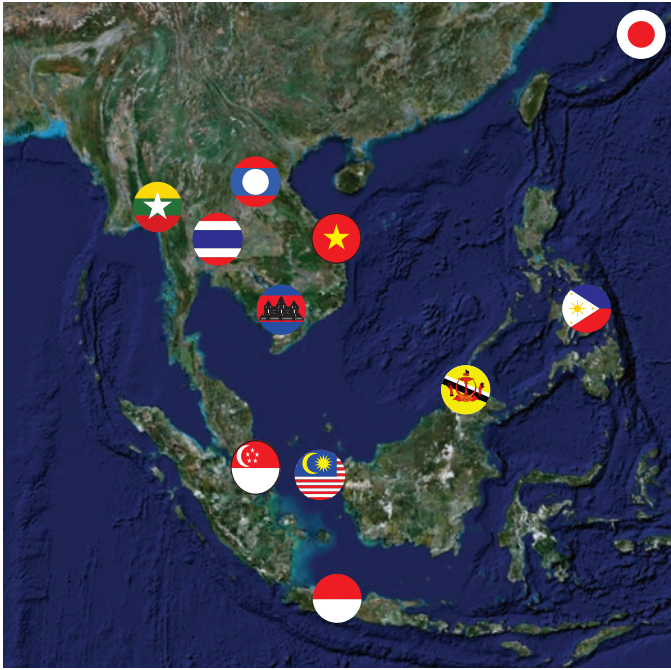
Subsequently, *H.E. President Ferdinand E. Marcos* signed the Agreement for the Government of the Republic of the Philippines, and *H. E. Tengku Ngah Mohamed* for the Government of Malaysia on 16 January 1968, while *H.E. D. Chinh* for the Government of the Republic of Viet-Nam

signed the Agreement on 26 January 1968. The Agreement includes provisions on the responsibilities and obligations of Governments hosting SEAFDEC Departments and those of the Government of Japan as a founding and donor Member Country.

The Agreement Establishing SEAFDEC also includes stipulations on the privileges, immunities and facilities to be accorded by the Member Governments to SEAFDEC, which are necessary to enable SEAFDEC to fulfill its objectives



1966 Ministerial Conference that led to the establishment of SEAFDEC



Member Countries of SEAFDEC

and carry out its functions efficiently. At the outset of its establishment, SEAFDEC had Japan, Malaysia, Philippines, Singapore, and Thailand, as its original Member Countries. In order that membership in SEAFDEC would cover the Southeast Asian countries, amendment was made to relevant articles in the Agreement Establishing SEAFDEC. The Protocol for effecting such amendment was signed by high officials from existing Member Countries in November 1994, paving the way for the admission of other Southeast Asian countries into SEAFDEC, namely: Brunei Darussalam, Indonesia, Cambodia, Lao PDR, Myanmar, and Viet Nam. To date, the Member Countries of SEAFDEC comprise all the ASEAN Member States (AMSs) and Japan.

## Unfolding the roles and functions of the SEAFDEC Technical Departments

To fulfill the task of SEAFDEC towards tapping the vast marine fishery resources in Southeast Asian waters, the **Marine Fisheries Training Department (TD)** was established in Samut Prakan Thailand in 1968 and the **Marine Fisheries Research Department (MFRD)** in Singapore a year later. TD was mandated to develop modern fishery technologies for better utilization of the marine resources, while MFRD was originally tasked to conduct research in marine fishery resources evaluation and oceanographic studies in the waters of the Southeast Asian region. To enable these two Departments to pursue their respective mandates, the Government of Japan donated in 1969, a fully-equipped 386-GT steel stern-trawler, the **M.V. Paknam** for TD to carry out its training activities onboard fishing vessel, and another fully-equipped 350 GT purse seiner, the **M.V. Changi** for MFRD to undertake fisheries research surveys in the Southeast Asian waters.



Few years later, the **Aquaculture Department (AQD)** was set up in the Philippines in 1973 for better management of fish harvests under controlled environments to enhance fish production, as production from marine resources had shown dwindling trend contrary to what had been originally thought of. When the M.V. Changi was out of commission in 1974, MFRD pursued a new direction towards the development of technologies on safety and quality of fish and fishery products. The responsibility of conducting marine fisheries resources surveys and oceanographic studies had since then been assumed by TD, while MFRD embarked on a post-harvest technology program focusing on fish preservation and upgrading the quality of traditional fish products. In order to reinforce the training facilities at TD, the Government of Japan donated to SEAFDEC in 1980 a 65-GT fiberglass purse seiner, the **M.V. Platoo**. In addition, TD also acquired in 1982 a 17-GT Thai-style trawler, the **M.V. Plalung**.



M.V. Paknam (top);  
M.V. Platoo (middle);  
and M.V. Plalung  
(left)



About a quarter of a century later, the **Marine Fishery Resources Development and Management Department (MFRDMD)** was established in Malaysia in 1992, to assist the Member Countries in the development and management of marine fishery resources in the waters of the Southeast Asian region. MFRDMD is specifically responsible for conducting research, training and dissemination of information on marine fishery resources focusing on biological studies of commercially important fish species, resource assessment and management, and conservation and management of aquatic species under international concern, such as sharks and marine turtles.

In December 1992, a fully-equipped steel-framed 1178-GT training and research purse seine vessel, the **M.V. SEAFDEC**, was granted to SEAFDEC by the Government of Japan, for the conduct of marine fishery resources surveys in collaboration with the SEAFDEC Member Countries, in the South China Sea, Bay of Bengal, Andaman Sea, and the Gulf of Thailand. When the *United Nation's Convention on the Law of the Sea (UNCLOS)* was signed in 1982 and came into force in 1994, signaling the opportunity for countries to extend their Exclusive Economic Zones (EEZs) to 200 nautical miles from shore, and as UNCLOS called for sustainable management and enhancement of the fishery resources, this new paradigm of development was adopted by SEAFDEC in pursuing its future research and development efforts. The roles of TD have been refocused towards the development of responsible fishing practices as well as on promotion of coastal and inshore fisheries management to assist the Southeast Asian countries in managing their respective small-scale fisheries to ensure stable supply of fish for food security in the Southeast Asian region. For its part, AQD continued to pursue programs on

sustainable development and responsible stewardship of aquaculture resources in Southeast Asia through research and promotion of appropriate aquaculture technologies and socio-economic strategies relevant to the sustainability of the region's aquaculture sector.

Considering the need to replace the aging M.V. Platoo, the Government of Japan donated to SEAFDEC in 2003 a 221-GT research and training vessel, the **M.V. SEAFDEC 2** under the Japanese Grant Aid to Eligible Countries. Since 2004, the vessel has been conducting fishery resources and oceanographic surveys in the waters of Southeast Asia in collaboration with the AMSs.

Throughout the years, attention given to inland fisheries had escalated in view of its potential to supply fish for the growing food needs of the region's populace especially the rural poor. Continued discussions on sustainable fisheries in the Southeast Asian region therefore included the need for SEAFDEC to address the region's concern on the responsible utilization and conservation of inland water fishery resources. Thus, SEAFDEC formally established the **Inland Fishery Resources Development and Management Department (IFRDMD)** in Palembang, Indonesia in September 2014 to pave the way for the SEAFDEC to become competent in working towards a holistic approach to sustainable fisheries development and management in Southeast Asia, not only in marine capture fisheries, aquaculture, fisheries post-harvest technology, but also in inland capture fisheries. IFRDMD takes charge of R&D activities that support the sustainable development and management of inland fisheries in the Southeast Asian region.



M.V. SEAFDEC (top) and M.V. SEAFDEC 2 (below)



SEAFDEC Secretariat and Departments: (1) Secretariat, Bangkok, Thailand; (2) TD, Samut Prakan, Thailand; (3) MFRD, Singapore; (4) AQD, Iloilo, Philippines; (5) MFRDMD, Terengganu, Malaysia; (6) IFRDMD, Palembang, Indonesia

## Overseeing the management of SEAFDEC

In accordance with the Agreement Establishing SEAFDEC, the Secretary-General is the Chief Executive of the Center, and is responsible to the governing body, the SEAFDEC Council of Directors. The Agreement further stipulates that the Secretary-General and Deputy Secretary-General shall be concurrently the Chief and Deputy Chief of one of the Departments, and throughout the years, this Department is the Training Department (TD). However, the need to set up an independent Secretariat was deemed necessary as SEAFDEC expanded its operations and necessitated to strengthen management of the Center. With the agreement that the Secretariat should be located separately from the Departments, the **Secretariat of SEAFDEC** was then moved to a new building provided by the Department of Fisheries of Thailand at Kasetsart University Campus in Bangkok, Bangkok in 1997. Since then, its new premises had been serving as the Headquarters for SEAFDEC administration and management.



SEAFDEC Headquarters at the Department of Fisheries compound in Kasetsart University Campus, Bangkok, Thailand

## Establishing the Strategic Vision for fisheries development in the Southeast Asian region

The future direction of SEAFDEC that takes into consideration the sustainable use of regional fishery resources, was outlined in the *SEAFDEC Strategic Plan* adopted by the SEAFDEC Council in 1998, which also stipulated the need to strengthen collaboration between ASEAN and SEAFDEC for sustainable fisheries development in Southeast Asia. Through the SEAFDEC Strategic Plan, implementation of projects and activities in the region had been harmonized and coordinated to respond to the changing paradigm in fisheries management and requirements of the SEAFDEC Member Countries. This led to the establishment in 1998 of the **ASEAN-SEAFDEC Fisheries Consultative Group (FCG)** as a mechanism for the ASEAN and SEAFDEC to address the regionally important issues and actions in sustainable fisheries development.

During the same period, the Government of Japan shifted its Official Development Assistance rendered to SEAFDEC from the Ministry of Foreign Affairs through Japan International Cooperation Agency (JICA) to the Japanese Trust Fund (JTF) Program of the Fisheries Agency of Japan. SEAFDEC pursued the implementation of regional fisheries projects aimed at promoting the development of sustainable fisheries in the Southeast Asian region with financial assistance from Japan that was channeled through the JTF. Under the FCG mechanism, SEAFDEC has been implementing programs and activities in the Southeast Asian countries that led to various achievements attained through rigorous research works, human resource development, information exchange and dissemination, and regional clarification of internationally-important fisheries issues. Such achievements have been recognized not only as regional initiatives but also used as basis for the formulation of national policies by the countries.

Considering the need to concretize the collaborative mechanism between the ASEAN and SEAFDEC to make sure that there is greater integration of ASEAN and SEAFDEC fisheries programs thereby avoiding duplication and enabling better utilization of resources, the ASEAN and SEAFDEC signed the Letter of Agreement on **ASEAN-SEAFDEC Strategic Partnership (ASSP)** in November 2007. This provided the framework for closer ASEAN-SEAFDEC cooperation in strengthening fisheries development for food security and poverty eradication in the region. Under the ASSP, SEAFDEC serves as the executing agency for the ASEAN in the implementation of fisheries programs in the AMSs, and assists the ASEAN in the formulation and implementation of fisheries policies and programs/activities that could address issues and concerns on fisheries under the ASEAN Economic Community.

## Pursuing quality technologies

SEAFDEC upholds the development and promotion of quality technologies in fisheries and aquaculture in the Southeast Asian region that transformed fisheries and aquaculture development towards sustainability. This quantum leap to quality technologies is an epic that revolutionizes the fisheries and aquaculture programs of SEAFDEC as it continues to



Bountiful harvest of unicorn leatherjacket fish (*Aluterus monoceros*) from Malaysian waters, especially in Terengganu State



**Table 1.** Fishery production of Southeast Asian countries by sub-sector from 2005-2014 (in million metric tons)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Marine Capture Fisheries	13.59	13.94	14.06	13.81	14.14	14.87	15.10	15.59	16.26	16.66
Inland Capture Fisheries	1.89	2.13	2.00	2.33	2.40	2.38	2.64	2.82	2.88	3.03
Aquaculture	7.51	8.43	9.24	11.06	12.38	14.19	15.75	21.16	20.90	22.53
<b>Total (Southeast Asia)</b>	<b>22.99</b>	<b>24.50</b>	<b>25.30</b>	<b>27.20</b>	<b>28.92</b>	<b>31.44</b>	<b>33.49</b>	<b>39.57</b>	<b>40.04</b>	<b>42.22</b>
<b>Total (World)*</b>	<b>151.4</b>	<b>152.9</b>	<b>156.8</b>	<b>160.1</b>	<b>164.3</b>	<b>168.2</b>	<b>177.3</b>	<b>182.4</b>	<b>191.1</b>	<b>195.7</b>

Source of Southeast Asian data: Fishery Statistical Bulletin for the South China Sea Area 2005-2007 (SEAFDEC, 2005-2010a) and Fishery Statistical Bulletin of Southeast Asia 2008-2014 (SEAFDEC 2010b-2016)

\*Source: FAO Fisheries and Aquaculture Information and Statistic Service

expand covering all aspects of fisheries, from marine capture to fish processing, aquaculture, and inland capture fisheries. While fisheries development in the past 30 or 40 years focused mainly on maximizing production particularly from capture fisheries, the development trend during the recent decade had been shifted towards ensuring the sustainable utilization of the region's fishery resources. The current fisheries production of Southeast Asia which annually contributed more than 19% to the global fishery production during the past ten years (Table 1), makes fisheries one of the very important sectors in the region, not only for national economic development and employment opportunities, but more importantly for its contribution to food security and the well-being of peoples of the Southeast Asian region.

Fisheries of the Southeast Asian region are characterized as multi-species, multi-gear and involve large numbers of fishers mostly engaged in small-scale operations, and the fishery resources is openly accessible to numerous users. This situation has created difficulties in promoting responsible fisheries in response to the requirements of international and regional fisheries policies and management efforts. In order to

address such issues, SEAFDEC initiated the *Regionalization of the FAO Code of Conduct for Responsible Fisheries (CCRF)* that also facilitated the adoption of the CCRF by the AMSs for the sustainable development and management of their respective fisheries (SEAFDEC, 2000; SEAFDEC, 2003; SEAFDEC, 2005a; SEAFDEC, 2005b; SEAFDEC, 2006). The efforts in promoting the adoption of the CCRF in the Southeast Asian region had earned for SEAFDEC the prestigious **Margarita Lizárraga Award for the Biennium 2006-2007** awarded by FAO in 2007.



With technical support from SEAFDEC, several countries in the region therefore improved their fisheries management particularly for small-scale fisheries through the introduction of management concepts such as co-management and community-based management, to gradually replace the open access to fisheries with controlled and limited access. Several countries have also been moving towards balancing the utilization of fish with the available resources through management of fishing capacity. Ecosystem approach to

The Regional Guidelines for Responsible Fisheries in Southeast Asia series, and the Margarita Lizarraga Award Medal for the Biennium 2006-2007 given to SEAFDEC

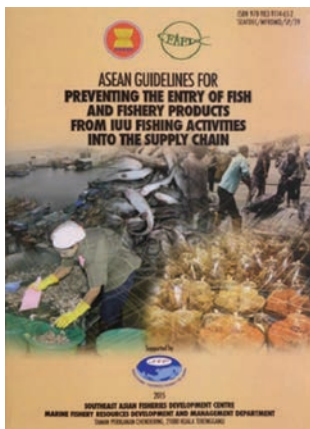
fisheries management has also been promoted to ensure that fisheries management takes into consideration, and balances the need from various aspects including the non-fisheries sub-sectors, and is undertaken with full involvement of wide range of stakeholders.

Meanwhile, the continued promotion of responsible fishing technologies and practices by TD, led to the development of several measures and regulations that have been adopted by the countries in the region, such as restrictions on the use of fishing gears and closure of fishing areas and seasons, to ensure the sustainable exploitation of the fishery resources. Specifically for commercial fisheries, fishing gears and equipment have to be developed or modified to ensure selectivity of the gears and reduce the number of fishing crew onboard the vessels.

New design of fishing vessels has been considered so that that the requirements for better working conditions of fishers onboard is assured. Efficient energy use in fishing operations has also been promoted in the AMSs while issues on safety at sea, as well as working conditions onboard fishing vessels are being addressed for the sustainability of fishing operations in the future. Concerns on low quality of catch onboard the fishing vessels, have also been dealt with to enhance utilization of catch for human consumption and subsequently improve the returns and benefits that could be obtained by fishers.



Concerns on the illegal, unreported and unregulated (IUU) fishing, which is one of the major threats to sustainable fisheries development in the region, have also been addressed by SEAFDEC. While national initiatives in combating IUU fishing had been undertaken by the respective countries, the *ASEAN Guidelines for Preventing the Entry of Fish and Fishery Products from IUU Fishing Activities into the Supply Chain* (SEAFDEC/MFRDMD, 2015) has been developed and is now being



promoted in the region. The implementation of actions toward combating IUU fishing has been supported by various tools at regional level, such as the *Regional Fishing Vessels Record (RFVR)* for fishing vessels 24-meter in length and over (Saraphaivanich *et al.*, 2016), the *Regional Collaboration for the Implementation of Port State Measures* (SEAFDEC/TD, 2016), *Regional Plan of Action for the Management of Fishing Capacity: RPOA-Capacity* (Amornpiyakrit and Siriraksohon, 2016), as well as the development and implementation of *ASEAN Catch Documentation Scheme* (Siriraksohon *et al.*, 2016).

MFRD had been promoting sustainable post-harvest processing technologies with the objectives of preserving the catch for year-round consumption, addressing consumers' preference by enhancing product variety through value-adding, and improving the values of catch and returns to fishers and the fishing communities. In addition, standard methodologies for achieving food safety of fishery products had been developed and disseminated to the countries in the region to ensure that the products are safe for human consumption not only for international but also for domestic markets. Thus, the development of appropriate post-harvest technologies not only help enhance food safety, food security and competitiveness of products from the region, but also allow the harvested catch to be fully utilized, and at the end reduce fishing pressures on the limited fishery resources.

In order to obtain better understanding on the status of the fisheries resources as this could serve as scientific basis for sustainable fisheries management, MFRDMD has been exerting efforts to improve technical and scientific information, from data collection, analysis, interpretation and presentation, to create better understanding of the current situation as well as on the status and trend of the fisheries. For aquaculture, significant developments had been attained by AQD through the development of technologies for important aquaculture species; promotion of good aquaculture practices including environmental-friendly aquaculture technologies; ensuring the quality and safety of aquaculture products through the appropriate use of chemicals and drugs, proper fish health management including development of regional disease surveillance system; and improvement of traceability to ensure safety and facilitate trading of aquaculture products.

Concerns on continued use of by-catch and low-value fish as feed for aquaculture that on one hand could increase aquaculture production but on the other





hand, create considerable pressure to capture fishery resources and to food security as a whole, are being dealt with through research activities on the use of locally available plant-based ingredients as alternative sources of protein to make the aquaculture feed industry no longer be dependent solely on fish-based ingredients in the future. In addition to direct production of aquaculture commodities, aquaculture technologies could also be applied to support resources enhancement.

Difficulties in data collection on inland capture fisheries that result in statistics under-representation due to the nature of fisheries with large quantity of catches goes to household consumption are being tackled by SEAFDEC through its IFRDMD. Another issue being considered is the disconnectivity of habitats caused not only by construction of large-size hydropower dams, but also small-head weirs for irrigation purposes or even road construction affecting the survival of species particularly those that migrate during certain stages of their life cycles. In Southeast Asia, the compilation of statistics at regional level has been harmonized by SEAFDEC with inputs from countries in the region. It is therefore a big challenge for countries to enhance their systems of collecting fishery data and information in order to ensure that such data are accurate and reliable, and could serve as a basis for policy planning and management of fisheries.

Moreover, areas that are being addressed by SEAFDEC include conservation and rehabilitation of habitats, restoration of fishery resources and habitats such as through stock release, and the establishment of fish *refugias* as conservation areas, particularly during the critical stage of life cycle of important aquatic species. Issues on the impacts of climate change are also being dealt with as fishers and fishery communities are among the first groups that would be impacted from adverse climate events.

## Shaping national fishery policies in the ASEAN Member States

After the regionalization of the CCRF, SEAFDEC initiated a series of consultative processes to look at the CCRF from the Southeast Asian context and at the same time strengthen



the collaboration between the ASEAN and SEAFDEC for the sustainable development of fisheries in the region. Results from such fora led to adoption in 2001 of the **Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region** (SEAFDEC, 2001) and the subsequent **Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020** in 2011 (SEAFDEC, 2011) providing the common fisheries policy framework and policy actions for the sustainable development of fisheries in the Southeast Asian region. Midway during the aforementioned ten-year period, the **SEAFDEC Program Framework** was adopted by the SEAFDEC Council of Directors in 2009, and used by SEAFDEC in harmonizing and enhancing its programs and activities implemented in the Southeast Asian region.



## Adjusting to the changing paradigm in fisheries development

While carrying out various activities in accordance with the series of Resolutions and Plans of Action, the Southeast Asian region continued to confront emerging issues and proposed for closer cooperation between SEAFDEC and the ASEAN to address their concerns, the most recent of which includes the stringent requirements of importing countries on export of fish and fishery products making sure that these are derived from responsible fishing practices and do not come from IUU fishing. Therefore, before reaching 2020, SEAFDEC considered it as an opportune time to conduct in 2016 an in-depth review of the emerging regional issues that hinder fisheries development and hamper the competitiveness of fish and fishery products from the region. As this requires identification and adoption of practical and harmonized approaches to ensure that the region's fish and fishery products do not come from IUU fishing and their competitiveness in the domestic and world markets is enhanced, the ASEAN and SEAFDEC organized the **High-level Consultation on Regional Cooperation in Sustainable Fisheries Development Towards the ASEAN Economic Community: Combating IUU Fishing and Enhancing the Competitiveness of ASEAN Fish and Fishery Products in**



August 2016. The High-level Consultation adopted the *Joint ASEAN-SEAFDEC Declaration on Combating IUU Fishing and Enhancing the Competitiveness of ASEAN Fish and Fishery Products* (SEAFDEC, 2016) which signifies ASEAN solidarity towards combating IUU fishing and enhancing the competitiveness of fish and fishery products from the Southeast Asian region.

## SEAFDEC and the Sustainable Development Goals

Based on the foregoing account of SEAFDEC programs and activities, it is clear that SEAFDEC has always been working towards the sustainability of fisheries in the Southeast Asian region. The various significant outputs from such SEAFDEC programs and activities (**Box 1**) point to the same aspects as in the Sustainable Development Goals (SDGs), more particularly SDG 14 (**Box 2**).

Specifically, one of the initiatives undertaken by SEAFDEC was the implementation of the project on the **Promotion of “One Village, One Fisheries Product” System to Improve the Livelihood of the Fisheries Communities in the ASEAN Region** or **FOVOP**, which primarily aimed to pave the way for the promotion of alternative livelihoods to mitigate poverty in the fishing communities. The project, which is clearly along the targets of SDG 1, SDG 2 and SDG 14, specifically aimed to support the AMSs in their efforts towards sustainable development of fisheries for food security and poverty alleviation.

Most AMSs have been improving their respective fisheries management systems to alleviate poverty, which continues to prevail in the region’s fishing communities. The promotion

of the FOVOP System was considered by SEAFDEC as a strategy to address such concern by developing the *Regional Guidelines for the Promotion of “One Village, One Fisheries Product” (FOVOP) in the ASEAN Region* (SEAFDEC, 2010).

Currently, SEAFDEC is implementing programs and projects classified into Program Thrusts of SEAFDEC, which was adopted by the SEAFDEC Council in 2007 as well as Special Projects, Departmental Programs and Other Programs (**Box 3**). Most of these programs and projects are in line with the targets of SDGs, especially SDG 14.

Meanwhile, the activities of SEAFDEC through its Program Thrusts that respond to the SDGs are summarized in **Box 4** (Paterson, 2017). Specifically, seven of the 17 SDGs are addressed by the activities of SEAFDEC under its Program Thrusts where Goals relating to Responsible Production and Consumption (**SDG 12**) and Life below Water (**SDG 14**) are focused in all the Program Thrusts, while Thrusts I and III aim to approach the Goals on No Poverty (**SDG 1**), No Hunger (**SDG 2**), and Good Jobs and Economic Growth (**SDG 8**), considering that the main objectives of Thrusts I and III include the promotion of responsible fisheries for poverty alleviation and the improvement of management concepts and approaches for sustainable fisheries. Moreover, the Special Projects add significant potential value in terms of contributions towards the Goals on Gender Equality (**SDG 5**) and Climate Action (**SDG 13**).

## Way Forward

For the past 49 years, SEAFDEC through its Secretariat and technical Departments, namely: TD, MFRD, AQD, MFRDMD, and IFRDMD, implement programs and activities that lead to the development of national policies serving as guides for the Southeast Asian countries in the sustainable development of their respective fisheries. As SEAFDEC continues to attain technological advances and disseminating the developed technologies to its Member Countries, it is also looking beyond the horizon to explore new frontiers and new resources for expanding its efforts towards the sustainability of fisheries. SEAFDEC would also continue to adhere to the strategic plans of the ASEAN towards



FOVOP Guidelines (*left*) and fishery products commonly found in local markets of the AMSs (*right*)



## Box 1. Significant outputs from SEAFDEC programs and activities responding to the SDGs

### Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020

The “Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020” were adopted by the Ministers and Senior Officials responsible for fisheries of the ASEAN-SEAFDEC Member Countries during the ASEAN-SEAFDEC Conference “Fish for the People 2020: Adaptation to a Changing Environment” in 2011. The Resolution and Plan of Action that comprises sections on Planning and Information; Fisheries Management; Aquaculture; Optimal Utilization of Fish and Fishery Products; Fish Trade; and Regional and International Policy Formulation, have been serving as policy frameworks for the implementation of activities by the countries in the region toward enhancing the sustainability of fisheries and its contribution to food security and poverty alleviation.

### Regional Guidelines for the Promotion of Responsible Fisheries in Southeast Asia

Implementation of responsible fisheries is crucial for ensuring the sustainability of fisheries especially in the Southeast Asian region. Since 1995, FAO has promoted the adoption of the Code of Conduct for Responsible Fisheries (CCRF) at the global level. In order to address the specificities of fisheries in Southeast Asia and encourage the countries to adopt the CCRF, SEAFDEC in cooperation with the Member Countries regionalized the CCRF, and came up with a series of “Regional Guidelines for Responsible Fisheries in Southeast Asia”, namely: Responsible Fishing Operations; Responsible Aquaculture; Responsible Fisheries Management; and Responsible Post-harvest Practices and Trade. In addition, Supplementary Guidelines on Co-management Using Group User Rights, Fishery Statistics, Indicators and Fisheries *Refugia* were also developed to assist the countries in adopting the most practical national systems on various aspects of fisheries to improve management through a responsible approach.

### Regional Guidelines for the Promotion of “One Village, One Fisheries Product” in the ASEAN Region

SEAFDEC in collaboration with the ASEAN Member States developed the “Regional Guidelines for the Promotion of “One Village, One Fisheries Product” (FOVOP) in the ASEAN Region” to provide a common framework for the countries in the region in promoting and bringing about a “One Village, One Fisheries Product” concept. Endorsed by the 42<sup>nd</sup> SEAFDEC Council and the 18<sup>th</sup> ASWGF in 2010, this initiative could serve as a means of creating economic activities in rural communities, specifically in carrying out alternative and supplemental livelihoods to alleviate poverty. At the same time, the initiative is anticipated to help in reducing fishing pressure and contributing to sustainable fisheries development and management as well as food security in the region.

### Recommendations on Chemical Use in Aquaculture in Southeast Asia

The use of chemicals in aquaculture has become necessary to prevent and control diseases of farmed aquatic animals, or in some cases chemicals are added in feeds or feed ingredients as chemotherapeutic agents, as preservatives or as adulterants. To protect consumers from the adverse effects of residual chemicals in farmed aquatic species and to satisfy safety regulations imposed by importing countries, SEAFDEC/AQD has determined the withdrawal periods of commonly used antibiotics in aquatic species cultured in the region. Given such a scenario, AQD has also advocated for the accessibility of regulated chemical products that are safe and effective for fish farmers to use; and for fish farmers to apply such chemicals in manners consistent with their intended use, adopt best management practices, and follow relevant rules and regulations that aim to maintain environmental integrity and ensure the sustainability of their aquaculture operations.

### Regional Guidelines on Traceability System for Aquaculture Products in the ASEAN Region

In view of the significant volume of aquaculture fish and fishery products exported annually by the AMSs to regional and global markets, traceability of such products has become necessary especially for the export of these products to major markets, e.g. Japan, the European Union (EU) and USA. Such international requirements together with an increasing consumer awareness and demand for products that assure food safety, security and sustainability, have called for reliable traceability system to be established to ensure the sustainable development of the aquaculture industry. SEAFDEC/MFRD in close collaboration with the ASEAN-SEAFDEC Member Countries therefore developed the draft “Regional Guidelines on Traceability System for Aquaculture Products in the ASEAN Region” (SEAFDEC, 2016), which was endorsed by the 48<sup>th</sup> Meeting of the SEAFDEC Council and the 24<sup>th</sup> Meeting of the ASEAN Sectoral Working Group on Fisheries (ASWGF) in 2016.

### Regional Plan of Action of Sea Turtle Foraging Habitats in Southeast Asian Waters

The “Regional Plan of Action of Sea Turtle Foraging Habitats in Southeast Asian Waters” was developed by SEAFDEC/MFRDMD in collaboration with the Southeast Asian countries that have sea turtles landing and nesting on their beaches. This Regional Plan of Action is intended to ensure that sea turtles and the ecosystem of their foraging habitats are well managed and protected, and poaching of sea turtle eggs in nesting areas are reduced (Mahyam Mohd. Isa *et al.*, 2008). The Regional Plan of Action outlines the possible future actions, expected outputs and indicators in achieving objectives of protecting and conserving sea turtle foraging habitats; reducing direct and indirect causes of sea turtle mortality in foraging habitats; strengthening research and monitoring in sea turtle foraging habitats; enhancing community participation that may have direct impact on foraging habitats through information dissemination and education; strengthening integrated management of sea turtles at foraging habitats; and securing funding support for sea turtle conservation and management. The Regional Plan of Action was endorsed by the 17<sup>th</sup> FCG/ ASSP Meeting in 2014.

### Regional Policy Recommendations on Conservation and Management of Eel Resources and Promotion of Sustainable Aquaculture

The Regional Policy Recommendations on Conservation and Management of Eel Resources and Promotion of Sustainable Aquaculture were developed by SEAFDEC/IFRDMD and AQD, comprising action plans necessary for managing the utilization of eel resources and advancing eel aquaculture to eliminate illegal export of elvers and juvenile eels from the Southeast Asian countries. Based on results from surveys on eel (including glass eel) catch, commercial distribution and trade conducted in the region as well as scientific study on taxonomy of eel and development of data collection methodologies, information on the status of eel resources would be obtained to serve as basis for sustainable utilization of eels in the Southeast Asian region.

### Regional Plan of Action on Sustainable Utilization of Neritic Tunas in the ASEAN Region

The Regional Plan of Action (RPOA) on Sustainable Utilization of Neritic Tunas in the ASEAN Region elaborates the action plans necessary for determining the available data and information, improving data collection and developing key indicators; improving sustainable fisheries management; improving sustainable interaction between fisheries and marine ecosystem; improving compliance to rules and regulations and access to markets; addressing social issues; and enhancing regional cooperation. The “RPOA-Neritic Tunas” was endorsed for adoption in the region by the 47<sup>th</sup> Meeting of the SEAFDEC Council and the 23<sup>rd</sup> Meeting of ASWGF in 2015 (SEAFDEC, 2015).

## Box 1. Significant outputs from SEAFDEC programs and activities responding to the SDGs (Cont'd)

### ASEAN Guidelines for Preventing the Entry of Fish and Fishery Products from IUU Fishing Activities into the Supply Chain

The ASEAN Guidelines for Preventing the Entry of Fish and Fishery Products from IUU Fishing Activities into the Supply Chain is based on principles in relevant international and regional instruments, with the objective of ensuring that fish and fishery products from the region entering global supply chain do not come from IUU fishing activities, thus enhancing the credibility and competitiveness of the products. The Guidelines identified measures to be undertaken by countries, which include managing fishing activities within a country; regulating transshipment and landing of fish/catch across borders; preventing poaching in the EEZs of other countries; controlling illegal fishing and trading practices of live reef food fish, reef-based ornamental and endangered aquatic species; and strengthening the management of fishing in the high seas and RFMO areas. The Guidelines was endorsed by the 47<sup>th</sup> Meeting of the SEAFDEC Council and the 23<sup>rd</sup> Meeting of ASWGF in 2015 for subsequent implementation in the region.

### Regional Fishing Vessels Record (RFVR) for Vessels 24 m in Length and Over

The Regional Fishing Vessels Record (RFVR) is a collaborative initiative of the AMSs to facilitate sharing of information among AMSs on fishing vessels engaged in “International Fishing Operations” or those fishing operations in foreign countries’ EEZ or in the high seas. Covering initially fishing vessels 24 meters in length and over, the RFVR serves as practical tool for related authorities of AMSs to check and take corrective actions against inappropriate behavior of fishing vessels, thereby supporting all efforts to eliminate IUU fishing in the Southeast Asian region.

### ASEAN Catch Documentation Scheme (ACDS): A tool for enhancing trade and combating IUU fishing in the Southeast Asian region

The ASEAN Catch Documentation Scheme (ACDS) is being developed to serve as tool for enhancing the traceability of fish and fishery products from the AMSs bound for intra-regional and international trade, and prevent the entry of fish and fishery products from IUU fishing activities into the supply chain of the AMSs. Focusing on marine capture fisheries at the initial stage, the ACDS delineates the catch flow and movement with agreed schemes for: Catch Declaration/Logbook/Logsheet (CD); Movement Document (MD); and ASEAN Catch Certification (ACC) for Exportation. While the Processing Statement for Re-exportation is necessary for imported fish before processing, the ACDS also includes Re-export Certificate for imported fish that are not to be processed. Such schemes would be made applicable for either large or small size fishing vessels in the region.

### Regional Plan of Action for the Management of Fishing Capacity in the ASEAN Region

The Regional Plan of Action for the Management of Fishing Capacity in the ASEAN Region (RPOA-Capacity) is being formulated considering that management of fishing capacity is one of the key elements that ensure sustainable utilization of fishery resources. The RPOA-Capacity is intended to provide guidance to the AMSs in formulating policies and providing enabling environment for effective management of fishing capacity at the national level, by eliminating excess fishing capacity and ensuring that levels of fishing effort are commensurate with sustainable use of fishery resources. The RPOA-Capacity also stipulates the need to strengthen sub-regional and regional cooperation in managing fishing capacity, particularly for the areas where trans-boundary management are required, such as in the Gulf of Thailand, Andaman Sea, Sulu Sulawesi Seas, and other sub-regional areas of Southeast Asia.

## Box 2. The Sustainable Development Goals (SDGs) with focus on SDG 14

**SDG 1: No Poverty** - End poverty in all its forms everywhere

**SDG 2: Zero Hunger** - End hunger, achieve food security and improved nutrition and promote sustainable agriculture

**SDG 3: Good Health and Well-being** - Ensure healthy lives and promote well-being for all at all ages

**SDG 4: Quality Education** - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

**SDG 5: Gender Equality** - Achieve gender equality and empower all women and girls

**SDG 6: Clean Water and Sanitation** - Ensure availability and sustainable management of water and sanitation for all

**SDG 7: Affordable and Clean Energy** - Ensure access to affordable, reliable, sustainable and modern energy for all

**SDG 8: Decent Work and Economic Growth** - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

**SDG 9: Industry, Innovation and Infrastructure** - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

**SDG 10: Reduced Inequalities** - Reduce income inequality within and among countries

**SDG 11: Sustainable Cities and Communities** - Make cities and human settlements inclusive, safe, resilient and sustainable

**SDG 12: Responsible Consumption and Production** - Ensure sustainable consumption and production patterns

**SDG 13: Climate Action** - Take urgent action to combat climate change and its impacts by regulating emissions and promoting developments in renewable energy

**SDG 14: Life Below Water** - Conserve and sustainably use the oceans, seas and marine resources for sustainable development

14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels



### Box 2. The Sustainable Development Goals (SDGs) with focus on SDG 14 (Cont'd)

14.4	By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics
14.5	By 2020, conserve at least 10 percent of coastal and marine areas, consistent with national and international law and based on the best available scientific information
14.6	By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation
14.7	By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism
14.a	Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries
14.b	Provide access for small-scale artisanal fishers to marine resources and markets
14.c	Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of "The Future We Want"
<b>SDG 15: Life on Land</b> - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	
<b>SDG 16: Peace, Justice and Strong Institutions</b> - Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	
<b>SDG 17: Partnerships for the Goals</b> - Strengthen the means of implementation and revitalize the global partnership for sustainable development	

fisheries development as its contribution to the integration of fisheries in the ASEAN Economic Community, thus, ensuring food security and economic stability in the Southeast Asian region. As SEAFDEC celebrates its Golden Anniversary in December 2017, it continues to be committed in enhancing the benefits that its Member Countries could obtain from its R&D activities. However, SEAFDEC would also need the enhanced cooperation of the Member Countries in developing its strategic vision beyond the 50 years of its existence.

As SEAFDEC is entering the threshold of its 50<sup>th</sup> Anniversary and taking the opportunity of the occasion as a platform to guide SEAFDEC towards its future direction, the SEAFDEC Program Committee during its 39<sup>th</sup> Meeting in 2016 suggested that a **Special SEAFDEC Council Meeting** should be organized with the objective of setting the future direction of SEAFDEC beyond its 50<sup>th</sup> year. SEAFDEC was therefore requested to prepare a draft of its desired future direction

based on the aforementioned background information for consideration by the SEAFDEC Council at its next Meeting in 2017 to facilitate speedy adoption during the aforesaid Special SEAFDEC Council Meeting.

Against the backdrop of the **UN Sustainable Development Goals**, the Draft Resolution on the Future of SEAFDEC: Functions, Vision, Mandate and Strategies Towards 2030 was therefore developed taking into account the Prioritized Issues for Future Regional Program Formulation adopted during the 46<sup>th</sup> Meeting of the SEAFDEC Council in 2014, and the Plans of Operation and Programs of Work of all SEAFDEC Departments and Secretariat adopted by the 47<sup>th</sup> Meeting of the SEAFDEC Council in 2015. The existing mandate of SEAFDEC adopted in 2009 that aims "To develop and manage the fisheries potential of the region by rational utilization of the resources for providing food security and safety to the people and alleviating poverty through transfer

### Box 3. SEAFDEC Programs and Projects (2016-2017) and the SDGs

Programs based on the SEAFDEC Program Framework	Lead Department	SDG Targets
<b>Thrust I: Developing and Promoting Responsible Fisheries for Poverty Alleviation &amp; Food Security</b>		
1. Human Resource Development for Sustainable Fisheries	TD	14.a
2. Optimizing Energy Use/Improving Safety Onboard in Fishing Activities	TD	14.b
3. Promotion of Sustainable Fisheries Resources Enhancement Measures in Critical Habitats/Fishing Grounds in Southeast Asia	TD	14.2
4. Environment-friendly, Sustainable Utilization and Management of Fisheries and Aquaculture Resources	AQD	14.1
5. Enhancement of Sustainability of Catadromous Eel Resources in Southeast Asia	IFRDMD	-
6. Promotion of Responsible Utilization of Inland Fisheries in Southeast Asia	IFRDMD	14.b
Enhancing Coastal Community Resilience for Sustainable Livelihood and Coastal Resources Management	MFRDMD	14.b

**Box 3. SEAFDEC Programs and Projects (2016-2017) and the SDGs (Cont'd)**

<b>Programs based on the SEAFDEC Program Framework</b>	<b>Lead Department</b>	<b>SDG Targets</b>
<b>Thrust II: Enhancing Capacity &amp; Competitiveness to Facilitate International and Intra-regional Trade</b>		
7. Chemicals and Drug Residues in Fish and Fish Products in Southeast Asia - Biotoxins (ASP, AZA, and BTX) and Harmful Algal Blooms (HABs) in the ASEAN Region	MFRD	14.1
8. Cold Chain Management for Seafood	MFRD	-
9. Reinforcement and Optimization of Fish Health Management and the Effective Dissemination in the Southeast Asian Region	AQD	-
<b>Thrust III: Improving Management Concepts and Approaches for Sustainable Fisheries</b>		
10. Strategies for Trawl Fisheries By-catch Management	TD	14.4
11. Promotion of Counter Measures to Reduce IUU fishing activities	TD	14.4
12. Combating IUU Fishing in the Southeast Asian Region through Application of Catch Certification for Trading of Fish and Fishery Products	MFRDMD	14.4
13. Establishment and Operation of a Regional System of Fisheries <i>Refugia</i> in the South China Sea and Gulf of Thailand	TD	14.2
<b>Thrust IV: Providing Policy &amp; Advisory Services for Planning &amp; Executing Management of Fisheries</b>		
14. Fisheries Resource Survey and Operational Plan for M.V. SEAFDEC 2	TD	-
15. Offshore Fisheries Resources Exploration in Southeast Asia	TD	-
16. Enhancing the compilation and Utilization of Fishery Statistics and Information for Sustainable Development and Management of Fisheries in Southeast Asian Region	TD/SEC	14.c
17. Comparative Studies for Management of Purse Seine Fisheries in the Southeast Asian Region	MFRDMD	14.c
18. Research for Enhancement of Sustainable Utilization and Management of Sharks and Rays in the Southeast Asian Region	MFRDMD	14.a
<b>Thrust V: Addressing International Fisheries Related Issues from a Regional Perspective</b>		
19. Assistance of Capacity Building in the Region to Address International Trade Related Issues	SEC	14.a
20. Strengthening SEAFDEC Network for Sustainable Fisheries	SEC	-
<b>Special Projects</b>		
1. Fisheries and Habitat Management, Climate Change and Social Well-being in Southeast Asia	SEC	14.2, 14.3
2. USAID-SEAFDEC "Oceans and Fisheries Partnership"	SEC	-
<b>Departmental Programs</b>		
1. Quality seed for sustainable aquaculture	AQD	14.1
2. Healthy and wholesome aquaculture	AQD	14.1
3. Maintaining environmental integrity through responsible aquaculture	AQD	14.1
4. Adapting to climate change impacts	AQD	14.3
5. Meeting social and economic challenges in aquaculture	AQD	14.b
6. Promotion on Strengthening of SEAFDEC Visibility and Image	TD	-
7. Tailor-made Training Programs	TD	-
8. Improvement of Fisheries Technology and Reduction of the Impact from Fishing	TD	14.3
<b>Other Programs</b>		
1. Coastal Area Capability Enhancements in Southeast Asia (SEAFDEC/RIHN Collaborative Project)	TD	14.2
2. Application of Fish Passage Design Principles to Enhance Sustainability of Inland Fishery Resources in the Southeast Asian Region (ACIAR supported Project)	TD	-
3. Enhancing Sustainable Utilization and Management Scheme of Tropical Anguillid Eel Resources in Southeast Asia	TD	-

**Note:**

The SEAFDEC Program Framework adopted by the SEAFDEC Council in 2009, comprises five Program Thrusts (Thrust I: Developing and Promoting Responsible Fisheries for Poverty Alleviation & Food Security; Thrust II: Enhancing Capacity & Competitiveness to Facilitate International and Intra-regional Trade; Thrust III: Improving Management Concepts and Approaches for Sustainable Fisheries; Thrust IV: Providing Policy & Advisory Services for Planning & Executing Management of Fisheries; Thrust V: Addressing International Fisheries Related Issues from a Regional Perspective)



#### Box 4. SEAFDEC Program Thrusts and the SDGs

SEAFDEC Program Thrusts	SDGs
Developing and Promoting Responsible Fisheries for Poverty Alleviation & Food Security	1, 2, 8, 12, 14
Enhancing Capacity & Competitiveness to Facilitate International and Intra-regional Trade	12, 14
Improving Management Concepts and Approaches for Sustainable Fisheries	1, 2, 8, 12, 14
Providing Policy & Advisory Services for Planning & Executing Management of Fisheries	12, 14
Addressing International Fisheries Related Issues from a Regional Perspective	12, 14
Special Projects	5, 13

of new technologies, research and information dissemination activities” is also proposed to be modified in order to align it with the proposed new SEAFDEC Vision and Strategies.

Moreover, in order to achieve the alignment of SEAFDEC activities with the SDG 14 and enhance its contribution to SDG 14, a “*results tracking framework*” could be developed as it would facilitate reporting of the activities of SEAFDEC and Member Countries that are aligned with the SDGs, and could be reflected in relevant international fora (SEAFDEC, 2017). Furthermore, during the Ocean Conference on 5-9 June 2017 in New York, SEAFDEC together with relevant organizations will take active part in the Side Event on “Coral Triangle – Partnerships to Achieve SDG 14 in the World’s Epicenter of Marine Biodiversity,” where the efforts of SEAFDEC in this aspect would be reflected and promoted to the world audience.

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