



# SEAFDEC NEWSLETTER

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## SEAFDEC welcomes Ms. Malinee Smithrithee as its new Secretary-General

SEAFDEC welcomes *Ms. Malinee Smithrithee* as the new Secretary-General and Chief of the Training Department (TD), succeeding *Dr. Kom Silapajarn* who had served as the Secretary-General and Chief of TD for four (4) years from 1 January 2016 until September 2019.



Ms. Malinee Smithrithee,  
SEAFDEC Secretary-General

With a considerably long stint in the fisheries arena, *Ms. Malinee* started her career as Fishery Biologist at the Department of Fisheries (DOF) of Thailand in 1986. At the DOF, she acquired vast experience in coastal  
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## EDITORIAL

For the third quarter of 2019, SEAFDEC welcomed *Ms. Malinee Smithrithee* as the new Secretary-General and Chief of the Training Department starting October 2019 until September 2021.

In this quarter, one of the very important events was the “ASEAN-SEAFDEC Regional Meeting on the Resolution and Plan of Action for ASEAN Region Towards 2030” which came up with the draft RES&POA-2030 that accommodates emerging issues and anticipated fisheries priorities of the region in the coming decade. Several events were also organized toward sustaining the region’s fishery resources. The “Technical Consultative Meeting on Drafting a Regional Plan of Action for Management of Transboundary Species: Indo-Pacific mackerel in the Gulf of Thailand” was organized and came up with the draft Regional Action Plan to serve as direction toward appropriate management of the species  
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## SEAFDEC organizes regional meetings for the development of the Res&PoA Towards 2030



Participants of the regional meeting on the Res&PoA Towards 2030

To follow up the directives given by the SEAFDEC Council during its 50<sup>th</sup> Meeting in 2018 on the need to review the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020 (RES&POA-2020) adopted by the ASEAN-SEAFDEC Member Countries in 2011, SEAFDEC organized the first regional meeting on 1-2 May 2019

in Bangkok, Thailand to review the document and ensure that it is up-to-date and still accommodates emerging issues and anticipated priorities of the Southeast Asian region in the coming decade.

Based on the recommendations and views shared by SEAFDEC and

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## EDITORIAL

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based on scientific information generated from the countries in the region. The “Third Regional Meeting on Enhancing Sustainable Utilization and Management Scheme of Tropical Anguillid Eels in Southeast Asia” was organized as a final event of the two-year project “Enhancing Sustainable Utilization and Management Scheme of Tropical Anguillid Eels” supported by the Japan-ASEAN Integrated Fund (JAIF). SEAFDEC also organized the side event “SEAFDEC Experiences on Sharks” during the CoP18 of CITES to disseminate the experience of SEAFDEC and the lessons learnt on the conservation and management of sharks in the region.

Toward strengthening sub-regional cooperation, convened during this quarter were the “8<sup>th</sup> Meeting of the Gulf of Thailand Sub-region” and the “Meeting on the Development of MCS Network for the Southern Andaman Sea Sub-region” that discussed the ways forward on management of transboundary species as well as MCS network including sharing of data among countries in the sub-region. SEAFDEC also continued to conduct activities toward combating IUU fishing, including capacity building on port State measures and promotion of the ASEAN Catch Documentation Scheme. In addition, capacity building activities on sustainable fisheries and aquaculture were also carried out, e.g. on optimizing energy use and improving safety in fishing activities, aquaculture of several species, including through the Farmers’ Forum organized to commemorate the 46<sup>th</sup> Anniversary of AQD in July 2019.

Furthermore, in response to the approval of the SEAFDEC Gender Strategy by the SEAFDEC Council in early 2019, a number of activities were also carried out in this quarter toward supporting the integration of gender in fisheries as well as in SEAFDEC activities for future implementation. ❖

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## SEAFDEC welcomes Ms. Malinee Smithrithee as its new Secretary-General

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fisheries research and development including aquaculture and post-harvest management. When Ms. Malinee was appointed as the Director of Fishery Foreign Affairs Division of DOF in 2011, she also served as the SEAFDEC National Coordinator for Thailand until 2015 when she was transferred to the Fishery Industrial Technology Research and Development Division as its Director. In 2017, Ms. Malinee was designated again as the Director of Fishery Foreign Affairs Division, and in 2019 she was promoted to the position of Inspector General of the DOF. Recently, Ms. Malinee was nominated by the Government of Thailand to serve as the Chief of the TD and concurrent Secretary-General of SEAFDEC for a period of two (2) years from 2 October

2019 to 30 September 2021, and given the task of leading the operations of SEAFDEC and in the implementation activities in line with the directives of the SEAFDEC Council.

Ms. Malinee obtained her Bachelor and Master of Science degrees in Fisheries from Kasetsart University, Thailand; and also Master of Science (Aquaculture) from Ghent University, Belgium. Throughout her career, she had also enhanced her knowledge and experience in a wide range of subjects, e.g. coastal environment management, trade and food security, standards for fisheries and aquaculture products, through her participation in several international training courses and meetings. ❖

## SEAFDEC organizes regional meetings for the development of the Res&PoA Towards 2030

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the Member Countries during the first meeting, SEAFDEC subsequently developed a revised draft RES&POA Towards 2030 which was presented during the second “ASEAN-SEAFDEC Regional Meeting on the Resolution and Plan of Action for ASEAN Region Towards 2030” held on 10-11 September 2019 in Bangkok, Thailand.

This second regional meeting was attended by the Focal Persons designated for the revision of the RES&POA-2020, National Coordinators of the ASEAN-SEAFDEC Member Countries, resource

persons, representatives from relevant international/regional organizations, and officials of the SEAFDEC Secretariat and Departments. After the deliberations, the Meeting came up with the revised draft RES&POA-2030, which shall be submitted to the 42<sup>nd</sup> Meeting of the SEAFDEC Program Committee and the 22<sup>nd</sup> Meeting of the Fisheries Consultative Group of the ASEAN-SEAFDEC Strategic Partnership, scheduled in November 2019, for consideration and endorsement to the SEAFDEC Council and the ASEAN. ❖





## Baliao gets second term as AQD Chief



Mr. Dan Baliao, Chief of SEAFDEC/AQD gets to serve another two years until 6 September 2021 after his reappointment was approved by the SEAFDEC Council.

Baliao was endorsed by the Philippine Department of Agriculture and nominated by Philippine President Rodrigo Duterte to the SEAFDEC Council. His nomination was then approved by the Council Directors consisting of representatives from SEAFDEC Member Countries. Chief Baliao has been serving in this position since his first appointment on 7 September 2017. Prior to being Chief, he was a researcher and aquaculture specialist at AQD. He also currently heads the Department's Technology Verification and Commercialization Division. ✦

## Extension of Arrangement between SEAFDEC and Faculty of Fisheries, Kagoshima University

On 26 August 2019, the Extension of Arrangement for Academic and Educational Cooperation between SEAFDEC and the Faculty of Fisheries, Kagoshima University was signed by Dr. Yoshiaki Sakuma, Dean of the Faculty of Fisheries, Kagoshima University and Dr. Kom Silapajarn, SEAFDEC Secretary-General.

Collaboration between SEAFDEC and Kagoshima University was established since 2003, covering the scopes on: Collaboration of faculty and staff members for research, symposia and other academic pursuits; Exchange of staff members and students for education, training and research; and Exchange of data, documentation and research materials

in the field of mutual interests. Since the first establishment of the collaboration, extensions of the Arrangement have been made every five years.

Following the signing ceremony, a seminar was organized with lectures provided by faculty members of Kagoshima University, i.e. on joint activities by SEAFDEC and the University; collaborative research with SEAFDEC/AQD; and introduction of postgraduate program on tropical fisheries with international linkage. Dr. Kom also made a presentation on SEAFDEC initiatives towards combating IUU fishing in Southeast Asia for students attending in international programme of Kagoshima University. ✦



## SEAFDEC participates in the 32<sup>nd</sup> Session of INFOFISH Technical Advisory Board

The SEAFDEC Secretariat, represented by Ms. Nualanong Tongdee, attended as observer, during the "32<sup>nd</sup> Session of INFOFISH Technical Advisory Board (TAB)" held in Kuala Lumpur in Malaysia on 1 July 2019. During the Session, discussion was made on the progress of works undertaken by INFOFISH during the annual cycle of 2018-2019 as well as review of trade and market of fish and fishery products.

While initial cooperation between INFOFISH and SEAFDEC has already been pursued starting in 2019 with

exchange of information and materials particularly on trade information, more concrete cooperation would be explored in

the areas of mutual interest, e.g. combating IUU fishing towards enhancing trade in fish and fishery products. ✦



# DEPARTMENTAL ACTIVITIES

## SEAFDEC takes part in the Workshop on Smart and Sustainable Aquaculture

Ms. Saivason Klinsukhon, Senior Information Officer and Ms. Sunutta Pudtal, Information Officer represented SEAFDEC during the “Workshop on Smart and Sustainable Aquaculture Using Space Technologies and IoT” held in Bangkok, Thailand on 17 September 2019. Organized by Chulalongkorn University, this Workshop was participated by 70 representatives from government agencies, academia, institutions, private sector, and organizations.

During the Workshop, Ms. Saivason presented the current issues with regards to aquaculture in the Southeast Asian region. Her presentation also included the ongoing SEAFDEC activities related to aquaculture and regional policy framework on aquaculture. Moreover, the Workshop discussed about the new technologies, e.g. satellite remote sensing, artificial intelligence, among others that would help farmers improve farm efficiency, manage environmental risks, and increase business revenues.



Ms. Saivason Klinsukhon, Senior Information officer of SEAFDEC during her presentation

## TD welcomes visitors from Fisherischule School, Germany and Ministry of Foreign Affairs, Thailand

On 21 August 2019, SEAFDEC Training Department (TD) welcomed Dr. Karsten Zumholz, Director of Fischereischule School, Rensburg City, Germany and three staff from the Ministry of Foreign Affairs, Thailand under the project on cooperation with fisheries school for responsible and sustainable fisheries. During their visit, the role and activities of SEAFDEC in the region were presented. Moreover, the visitors observed TD facilities such as the fishing workshop, marine

engineering workshop, and the M.V. SEAFDEC.



## A teacher and students from fisheries high school in Japan visit TD

SEAFDEC Training Department (TD) welcomed the visit of one teacher and five students from the Yaizu Fisheries High School of Japan on 22 August 2019. The guests observed TD facilities such as the fishing and engineering workshops, TD library, and the M.V. SEAFDEC. Moreover, they also visited a shrimp and seabass farm, and mangrove area in Phrasamutchedi District and fish market in Paknam, Samut Prakan Province.



## Tailor-made Training on Application of EAFM for Sudan

The “Tailor-made Training on Application of Ecosystem Approach to Fisheries Management (EAFM)” for ten Sudanese was organized by SEAFDEC/TD in Krabi Province, Thailand from 19 to 24 August 2019.



The Training was sponsored by the Industrial Development Unit, PTC/ENV/IRE United Nations Industrial Development Organization. The Training aimed to build up the capacity and understanding of the trainees on EAFM by visiting the EAFM learning sites and observing the activities of ecological and alternative livelihood groups such as honeybee culture, eco-tourism, and fish processing by women group in Krabi Province.



At the end of the training, the trainees from Sudan expressed the desire to adopt the EAFM skills and experiences they learned to their country.





## SEAFDEC Mission to Japan held in conjunction with Inland Fisheries Technical Support Meeting

The Mission from SEAFDEC Secretariat, led by the Secretary-General *Dr. Kom Silapajarn*, together with the Deputy Secretary-General *Mr. Akito Sato* and Information Program Coordinator *Ms. Nualanong Tongdee*, paid a courtesy visit to agencies and institutions in Japan during 26-27 August 2019. During the Courtesy call to the Director-General of the Fisheries Agency *Mr. Hideaki Yamaguchi* and the SEAFDEC Council Director for Japan *Mr. Shingo Ota*, *Dr. Kom* reiterated his appreciation to the support from the Japanese Government to SEAFDEC, including the extension of assignment of several experts and funding support through the Japanese Trust Fund. Visits were also paid to other offices under the Fisheries Agency, such as those undertaking works on eco-labeling and fisheries engineering, as well as other agencies, *i.e.* the OIE Representative for Asia and The Pacific, Japan International Cooperation Agency (JICA) Office, and Tokyo University of Marine Science and Technology (TUMSAT) where areas of future collaboration were discussed.



*Dr. Kom Silapajarn with the Director General of the Fisheries Agency of Japan*



*During the discussion at the Tokyo University of Marine Science and Technology (TUMSAT)*



*Visits of SEAFDEC Secretariat and IFRDMD with the FRA*

On 28 August 2019, the Mission of SEAFDEC Secretariat joined the IFRDMD team led by the Chief *Dr. Arif Wibowo* and visited the Fisheries Research and Education Agency (FRA). During the discussion with the FRA President, *Mr. Masanori Miyahara* and other staff of FRA, *Dr. Kom* also expressed the appreciation to the support rendered by FRA to SEAFDEC, particularly in sending experts to support the technical activities of SEAFDEC throughout the past year.

During the same day, the group attended the “Inland Fisheries Technical Support Meeting” organized by the Marino-Forum 21 (MF21). The objectives of the Meeting were to exchange views and knowledge on inland capture fisheries between researchers and officials of IFRDMD and the National Research Institute of Fisheries Science (NRIFS). Subsequently, a Meeting was held with the Research Center for Bioinformatics and Biosciences Coastal and Freshwater Fisheries of NRIFS in Yokohama. The participants were welcomed by *Dr. Yukio Maeno*, the Director General of NRIFS. During the Meeting, the representatives

from IFRDMD made the presentations on: 1) inland fisheries research in Indonesia and Southeast Asia by *Dr. Arif Wibowo*; 2) tropical eel research implemented in Southeast Asia by *Ms. Ni Komang Suryati*; and 3) plankton research supporting primary production of freshwater areas in Indonesia by *Ms. Mirna Dwirastina*.

On 29 August 2019, another meeting was held with the Research Center for Coastal and Freshwater Fisheries of NRIFS in Nikko. The Director of NRIFS Nikko, *Dr. Tomoyuki Nakamura*, welcomed the participants. During the meeting, the IFRDMD Deputy Chief, *Dr. Takuro Shibuno*, made the presentation about SEAFDEC highlighting the job description of a Deputy Chief. Also, *Mr. Siswanta Kaban* presented the “Introduction of Inland Fisheries Research conducted in Indonesia,” while *Dr. Dina Muthmainnah* presented the “Introduction of inland fisheries management and conservation in Southeast Asia” based on results of the project “Promotion of Responsible Utilization of Inland Fisheries in Southeast Asia” supported by the JTF.



*During the 2019 Inland Fisheries Technical Support Meeting at NRIFS in Yokohama*



## Students and lecturers from Walailuk University visit TD

The SEAFDEC Training Department (TD) welcomed 27 students and five lecturers from Walailuk University, Thailand on 26 June 2019. During this study visit, the students learned the program and activities of SEAFDEC in the region and acquired knowledge on coastal management through lectures on fishing gear technology and oceanography. The students also toured the TD facilities such as the fishing workshop, marine engineering workshop, library, and the M.V. SEAFDEC. ❖



## Training on optimizing energy use and improving safety at sea

The SEAFDEC Training Department (TD) organized the “Regional Training Program on Optimizing Energy Used and Improving Safety in Fishing Activities” on 5-9 August 2019 in Samut Prakan, Thailand. Seventeen participants from the SEAFDEC Member Countries were briefed on the current situation, existing methods and techniques for optimizing energy use, and overview of safety at sea for fishing activities. The lessons learnt and case studies of several methods and techniques at regional and national levels were subsequently discussed. A field trip was also conducted to the pilot vessel site in Pattani Province, Thailand which emphasized on energy optimization use and safety at work established through monitoring the consumption of fuel use during engine vessel operation. At the end of the Training, the participants expressed the hope to transfer and utilize the knowledge and information on energy saving and safety at sea. ❖



## TD participates in the ICFE 2019

Four representatives from the SEAFDEC Training Department (TD) participated in the “International Conference on Fisheries Engineering (ICFE) 2019: Realizing a Healthy Ecosystem and Sustainable Use of the Seas and Oceans,” organized by the Japanese Society of Fisheries Engineering and Nagasaki University from 21 to 24 September 2019 at Nagasaki University in Japan. The Conference was attended by more than 80 participants including professors and students from various universities, namely Nagasaki University, Hokkaido University, University of Tokyo, Hirosaki University, University of the Highlands and Islands (UK), and representatives from relevant organizations. The Conference was aimed at reviewing the current researches on fisheries engineering and discussing the future direction of research. During the Conference, four representatives



from TD presented the papers on: 1) Installation of Fish Enhancing Devices in Southeast Asian Waters: Case Study in the Coastal Areas of Thailand; 2) Promotion Efficient Energy Use in Fishing Vessels: Improvement of hauling devices and freezing system: A case study in Pattani Province, Thailand; 3) Fishery Resources Survey in the Gulf of Thailand with Preliminary Findings on Marine Debris; and 4) Electronic System of ASEAN Catch Documentation Scheme: an Effective Fisheries Management Tool. ❖



## Tailor-made Training on Inland Fish Culture in Thailand

The “Tailor-made Training on Inland Fish Culture in Thailand” was organized by SEAFDEC Training Department (TD) from 5 to 12 August 2019 for 13 fishery officers from the State of Tamil Nadu, India.

Funded by the World Bank Project-Tamil Nadu Irrigated Agriculture Modernization Project (TN-IAMP), the Training was aimed at building the capacity and developing the skills of fishery officers from Tamil Nadu on inland fish culture. The coverage of the training program focused on inland fish culture that includes artificial breeding, hatchery and cage culture, pure line seed selection technology with respect to carps, low cost feed technology, intensive cage culture of *Pangasius*, intensive fish farming, and fish feed production. The Training was organized through study visits to related sites such as the Inland Aquaculture Research Institute in Bang Sai, Ayutthaya Province, and private breeding and hatchery farms in Pathum Thani Province in Thailand. ❖

## Study visits organized to increase income of women in fishing communities

SEAFDEC Training Department (SEAFDEC/TD) organized study visits from 5 to 9 August 2019 as part of the application of the EAFM in Ban Nai Nang, Krabi Province, Thailand. The purpose of the visits was to give ideas to the women of fishing community in Ban Nai Nang on how to increase their income. The 25 participants (20 women and 5 men) who were provincial fisheries officers and community members observed the activities of local women group in Phetchaburi Province, visited a fish processing facility at Nakhon Sawan Province, and learned honey bee culture in Supa Bee Farm and Agricultural Technology Promotion Center in Chiangmai Province. This activity was supported by the USAID-DOI. ❖

## Philippine Council Director for SEAFDEC and government officials from India visit AQD

SEAFDEC Council Director and National Director of the Philippine Bureau of Fisheries and Aquatic Resources (BFAR) *Eduardo Gongona* visited SEAFDEC/AQD’s Tigbauan Main Station on 1 August 2019.

Director *Gongona* and AQD Chief *Dan Baliao* had a meeting on the status of the collaborative project between AQD and BFAR to establish legislated multi-species hatcheries around the Philippines. Interested in learning more about AQD’s activities, Director *Gongona* toured the facilities including the Laboratory Facilities for Advanced Aquaculture Technologies and the Integrated Fish Broodstock Hatchery Complex.

On the other hand, 13 officials of the Department of Fisheries in Tamil Nadu, India visited the facilities of AQD in Binangonan, Rizal and Tigbauan, Iloilo to gain insight on aquaculture. The study tour of the Indian officials started at the Binangonan Freshwater Station (BFS) on 29 July 2019 where they were oriented about the aquaculture technologies being studied at the Station as well as



*Director Gongona (right) and Chief Baliao discuss the progress of the SEAFDEC-BFAR collaborative projects*

the facilities. They were also able to see the fish pens and cages at Laguna de Bay and visited the National Inland Fisheries Technology Center in Tanay, Rizal. Moreover, they also went to a private eel farm in Antipolo, Rizal on 30 July 2019. From 31 July to 2 August 2019, the Indian officials visited the research facilities at AQD’s Tigbauan Main Station and Dumangas Brackishwater Station in Iloilo and Igang Marine Station in Guimaras. In addition, an overview of the aquaculture technologies available in these stations as well as the training and information activities of the institution were also explained to the Indian officials by AQD officers. ❖

## AQD reports on Philippine eel research at international symposium

*Dr. Maria Rowena Eguia*, a scientist of SEAFDEC/AQD, gave a presentation on past and present research on Philippine anguillid eels as an invited speaker during the “Third International Symposium on the Tropical Eel Genus *Anguilla* (ISTEGA)” held from 1 to 3 August 2019. Apart from research studies, she also presented important information on eels including regulations, conservation, and management initiatives being undertaken by the Philippine Government. Moreover, *Mr. Isao Koya*, Assistant Project Manager of the Japanese Trust Fund programs, reported the results of the recently concluded project “Enhancing Sustainable Utilization and Management of Tropical Anguillid Eel Resources in Southeast Asia,” which also involved *Dr. Eguia* and other AQD scientists, *Dr.*

*Maria Lourdes Aralar*, *Dr. Frolan Aya*, and Deputy Chief *Dr. Koh-ichiro Mori*.

Organized by the Indonesian Society for Tropical Eels, the Symposium was conducted to serve as a venue for discussion about the science, conservation, and management of anguillid eel species around the world. ❖



*Dr. Maria Rowena Eguia (leftmost) during the Third International Symposium*



## Cost of hatchery operations seen to go down *via* technology for algal paste production

A dynamic settler unit which uses spiral plate technology was recently acquired by SEAFDEC/AQD, boosting its capacity to produce algal paste, an alternative to live algal food for fish larvae. Using algal paste lowers the cost of hatchery operations by eliminating the need for a laboratory facility and algal tanks which are expensive to build and maintain. The paste may be used directly as food for fish larvae or may be used as starter for algae culture.

The new harvesting equipment acquired is essentially a centrifuge but

is more efficient than the conventional models. It separates water from the live algae culture to produce paste from all types of microalgae at a rate of 200 to 400 grams per liter compared to 150 grams per liter using conventional centrifuges. In addition, it has a 100 percent retention of valuable cell components, leaving algae cells intact and undamaged.

AQD's Larval Food Laboratory is dedicated to serving the microalgal starter needs of hatcheries of the aquaculture industry, academe, and government institutions. The laboratory



*The dynamic settler used in microalgae production at AQD*

can produce 5-15 kg of microalgae paste daily. ❖

## AQD conducts eight training courses

For the third quarter of 2019, SEAFDEC/AQD conducted eight training courses with a total of 109 participants. Five out of the eight training courses conducted this quarter were on mangrove crab. Aside from the mangrove crab training course offered yearly, there were also three specialized courses conducted for officers of the Philippine Government, representatives from the private sector, and officers of the National Fisheries Authority of Papua New Guinea. Moreover, an on-

site training course on mangrove crab was also conducted in Catanduanes, Philippines.

Other training courses completed this quarter include the regular training course on marine fish hatchery, trainer's training on milkfish culture and management for the Philippine Bureau of Fisheries and Aquatic Resources, and small-scale inland freshwater aquaculture funded by Japan International Cooperation Agency. ❖



## AQD programs promoted through exhibitions



*AQD's AquaWeek exhibition in a shopping mall in Iloilo City*

Three exhibitions conducted from July to September 2019 helped promote SEAFDEC/AQD's programs by reaching out to stakeholders. Extending its reach to over 500 marine science experts and students attending the "15<sup>th</sup> National Symposium on Marine Science" held 4-6 July 2019 at Aklan State University,

AQD set up an exhibit booth to promote its laboratory services and distribute aquaculture publications. A symposium was also organized by the Philippine Association of Marine Science (PAMS) with AQD Associate Scientist *Dr. Jon Altamirano* as its current Vice President for Visayas. AQD also organized an

exhibition at SM City Iloilo, the largest mall in west central Philippines, from 15 to 19 August 2019 to reach out to the general public. Over 3,000 visitors viewed the artworks from the FishWorld Aquaweeek Sci-Art Contests. A digital library box was also on display along with select FishWorld specimens and scale models of aquaculture commodities.

Upon the invitation of the Philippine Bureau of Fisheries and Aquatic Resources (BFAR), AQD also participated in the "56<sup>th</sup> Fish Conservation Week" exhibition on 17-19 September where its FishWorld's activities related to biodiversity were displayed. Most of the visitors were students from local schools and BFAR personnel. ❖



## Expert establishes viability of giant freshwater prawn

After serving at SEAFDEC/AQD for more than 32 years, *Dr. Maria Lourdes Cavin-Aralar*, who recently retired as Scientist, shared in a memorial lecture her career achievements in establishing the commercial and environmental viability of producing giant freshwater prawns through cage culture.

As speaker for the “27<sup>th</sup> Dean Domiciano K. Villaluz (DKV) Memorial Lecture” held on 11 July 2019 at AQD’s Tigbauan Main Station, *Dr. Aralar* said the cage culture of prawn is suited for marginalized fish farmers who have no land to develop into ponds because it requires very minimal start-up investment. With various refinements in stocking density and feeding techniques, cage culture of giant freshwater prawn can be a very feasible option for aquaculture farmers. It used to be a ‘neglected’ species as the market favored



*Dr. Maria Lourdes Aralar presents her research on giant freshwater prawn during the 27<sup>th</sup> Dean Domiciano K. Villaluz (DKV) Memorial Lecture on 11 July 2019*

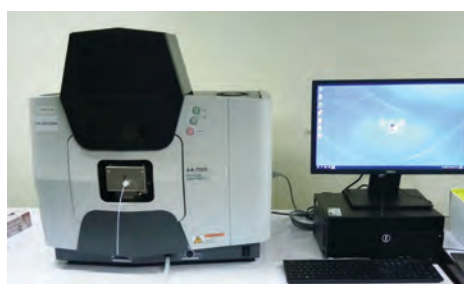
other marine crustaceans. However, *Dr. Aralar* presented the commodity as an alternate high-value crustacean species to freshwater commodities such as carp, tilapia, and catfish. To further prove its practicability, giant freshwater prawn can be polycultured with the other aforementioned species as

supported by related studies also done in AQD. *Dr. Aralar* also presented current problems including depleting wild stocks in many of the country’s inland waters despite the fact that this commodity is native to the Philippines. This is usually due to degradation of riverine routes to estuaries. She added that farming of this species will not only be good for fish farmers but also for the environment as it can be a way of bringing stocks back to the inland waters.

The annual DKV Memorial Lecture honors distinguished experts from different fields in aquaculture and is held every AQD anniversary in remembrance of the first AQD Chief. This year’s lecture was attended by 187 participants who were mostly local fish farmers, pond operators, government officials, and members of the academe. ❖

## Testing for metallic elements and heavy metals improved analytical services now available

The Laboratory Facilities for Advanced Aquaculture Technologies (LFAAT) at SEAFDEC/AQD now has the capability to detect heavy metals and other metallic elements in water and animal samples after it acquired an atomic absorption spectrophotometer (AAS). The new instrument will allow researchers to begin studies on the food safety of aquaculture products, particularly on the levels of heavy metal contamination. The AAS, a Shimadzu AA-7000 model, may also be used for the analysis of river effluent, sludge, airborne dust, semiconductors, ceramics, petroleum, oil, catalysts,



*The new atomic absorption spectrophotometer at the Laboratory Facilities for Advanced Aquaculture Technologies at AQD*

chemical products, blood, plants, drugs, and food products.

The laboratory’s capability to detect *Escherichia coli* and coliform bacteria also received a boost with the acquisition of instrumentation and its accessories to conduct a Colilert test. The internationally approved method is specific to *E. coli* and coliform, simultaneously detecting their presence and quantity within 24 hours. The laboratory also acquired a continuous flow analyzer (CFA), a Skalar SAN++, which now allows LFAAT to measure total ammonia-nitrogen in water samples. The CFA also improves the laboratory’s capability to measure ammonia, nitrate and nitrite. ❖

## Students and teachers compete in FishWorld’s marine conservation contests

Students and teachers from Panay Island joined the FishWorld’s annual Sci-Art Aquaweek from 29 July to 2 August 2019 at SEAFDEC/AQD’s Tigbauan Main Station in Iloilo. Primary, secondary, and tertiary schools participated in the contests that involved lectures, writing, drawing, creative dancing, photojournalism, installation

art, acting, and cooking. The series of science and art contests revolved around the United Nation’s Sustainable Development Agenda, particularly the “SDG 14 - Life Below Water: Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.”

FishWorld is AQD’s museum-visitor center dedicated to science and environment education, particularly about aquatic ecosystems and biodiversity, aquaculture, fisheries, and the aquatic sciences. ❖

## Fish farmers and private sector get important aquaculture update

As part of SEAFDEC/AQD's 46<sup>th</sup> anniversary celebration, a "Farmers' Forum" and "Aquaculture Clinic" were held for fish farmers and the private sector to update them on important aquaculture developments on bangus (milkfish) fry sufficiency, shrimp hatchery management, hatchery technology for mangrove crab, and the need to culture mud worm. The Forum, attended by more than 100 participants, was held on 10 July 2019 at AQD's Multi-purpose Hall in Tigbauan, Iloilo, Philippines.



(Clockwise) AQD experts Dr. Edgar Amar, Dr. Leobert de la Peña, Ms. Mary Anne Mandario, and Ms. Joana Joy Huervana talk about the updates of the research projects done at AQD

### **National Bangus Fry Sufficiency Program:**

Dr. Edgar Amar, Head of the Training and Information Division, shared to the attendees the concern that there is a scarcity of milkfish fry in the Philippines and that the solution to address this problem is to increase the local fry production through the "Bangus Fry Sufficiency Program" of the Philippine Government.

### **Shrimp hatchery management:**

On the other hand, Dr. Leobert de la Peña, Head of the Research Division, gave updates on shrimp hatchery management where he presented the shrimp hatchery and spawner/broodstock facilities at AQD. He shared how biosecurity measures are practiced in these facilities such as the use of foot bath and hand sanitizer, disinfection of tanks and paraphernalia, installation of black sacks between tanks to minimize contamination, and use of UV-sterilized seawater. He also shared the larval

rearing protocol being applied at AQD which prevented viruses from affecting shrimp stock.

### **Mudworm culture:**

Associate Researcher Ms. Mary Anne Mandario, presented the hatchery set-up and operation of mud worm *Marphysa* sp. at AQD and introduced to fish farmers the importance of the mud worm in aquaculture and why there is a need to culture this marine annelid locally known as "ulod-ulod." Mud worm has many uses in aquaculture. It is used in bioremediation and environmental monitoring studies, used as feed for shrimp broodstock to improve reproductive performance, and is a good alternative protein and lipid source in crustacean diets. She further explained that the depletion of the natural population of mud worms and the destruction of their natural habitat can also be prevented.

The natural habitats of mud worm are mangrove mudflats and brackishwater ponds but there is a need to culture it

to have a stable supply for aquaculture use. Moreover, cultured mud worm have improved nutrient quality and are pathogen-free.

### **Mangrove crab hatchery:**

Lastly, Ms. Joana Joy Huervana, Associate Researcher, talked about the hatchery technology for mangrove crab and explained that among the advantages of hatchery-reared crabs is that the sizes of crablets are similar and are available throughout the year as well as the growth of hatchery-reared crabs being comparable to wild crabs. She also shared to the fish farmers about the feeding and water management protocol for larval rearing practiced at AQD and emphasized that the private sector should invest in crab hatchery especially in areas where the crabs are cultured to increase the supply of crablets. Aside from the lectures, the participants also consulted the AQD experts during the Aquaculture Clinic regarding different problems and other concerns that they encountered in their farms.



## **Prof. Kumuzawa lectures on inland fisheries and biodiversity in Southeast Asia**

Prof. Yoshinori Kumuzawa, from Nagoya City University, Nagoya, Japan, served as the resource person for the "In-house Training on Inland Fisheries and Biodiversity in Southeast Asia" on 23 September 2019 in Palembang, Indonesia. The Training was organized by the Research Institute for Inland Fisheries and Extension (RIIFE) in collaboration with SEAFDEC/IFRDMD. The participants of the Training were



(Continued on Page 11)



## IFRDMD participates in the International Class on Inland Fisheries Research towards Sustainable Utilization

IFRDMD took part in the “International Class on Inland Fisheries Research towards Sustainable Utilization” which was hosted by the Research Institute for Inland Fisheries and Extension (RIIFE) of the Ministry of Marine Affairs and Fisheries (MMAF) on 9 September 2019 in Palembang, Indonesia.

This International Class was attended by representatives from several agencies and organizations in South Sumatra and Jakarta including marine fisheries officers and local stakeholders as well as representatives from the academe, research institutes, and private sector. The Class was meant to raise the understanding of inland fisheries sustainable utilization and enhance networking among government,



organizations, academic institutions, RIIFE, and SEAFDEC/IFRDMD on inland fisheries research.

The resource persons were: 1) *Dr. Simon Funge-Smith* from the Food and Agriculture Organization of the United Nations who presented the “Inland Fisheries Location, Production, Value and Contribution to Food Security and

Livelihoods”; 2) *Dr. Ir. Fahrurrozie Syarkowi* from the Sriwijaya University Palembang who presented the “Impact of Changing Environmental Factors on Inland Fish Production in South Sumatra”; and 3) *Dr. Dina Muthmainnah* from IFRDMD who presented the “Implementation of Inland Fisheries Management in Southeast Asia.”



## *Prof. Kumuzawa lectures on inland fisheries and biodiversity in Southeast Asia*

(Continued from Page 10)

the researchers from IFRDMD and RIIFE under the project “Promotion of Responsible Utilization of Inland Fisheries Resources in Southeast Asia,” while the objectives of the Training were to raise the understanding of the participants on inland fisheries sustainable utilization and to explore research collaboration with other organizations or institutions related to inland fisheries research.

During the Training, *Prof. Kumuzawa* presented the “Evolution and Biodiversity of Southeast Asian Freshwater Fishes” including biodiversity, ecosystems, genetic traits, and interspecific and species-environment interactions. He emphasized that genetic diversity is an important element of biodiversity, and that data on taxonomy, phylogeny, population genetics, and ecology are important in order to conserve the biodiversity. Furthermore, the participants learned several approaches to biodiversity conservation, *i.e.*, taxonomy, molecular phylogeny, population genetics, and ecology.



## IFRDMD participates in the Seminar on Fisheries Research Results 2019



In order to disseminate and increase the intensity and quality of fisheries research results, the Research Center for Fisheries, Agency for Marine and Fisheries Research and Human Resources organized the “Seminar on Fisheries Research Results 2019” in Jakarta, Indonesia on 26-27 August 2019. This activity served as a forum of scientific communication and evaluation of fisheries research activities prior to 2019, to screen the quality of scientific papers that would be published in accredited national and international journals. Attended by more than 100 researchers, the Seminar was opened by the Director of Research Center for Fisheries, *Mr. Waluyo Sejati Abutohir*. The Researcher from SEAFDEC/IFRDMD, *Dr. Dina*

*Muthmainnah*, presented the paper “The Aspect of Bio-ecology and Anguillid Eels Fishery in Cilacap Regency, Central Java” with co-author *Ms. Ni Komang Suryati*. The article was evaluated by Indonesian experts on fishery resources.

Moreover, Sriwijaya University organized the “Seminar on Suboptimal Lands” in Palembang, Indonesia on 5 September 2019 with the theme “Smart Farming with Environmental Insights for Farmer's Welfare.” This activity served as a medium of scientific communication for researchers, lecturers, and agricultural/fishery managers in disseminating their scientific papers to be published in the proceedings and Journal of Suboptimal Lands. The representative from IFRDMD, *Ms. Ni Komang Suryati*, attended the Seminar and presented the paper “The Characteristics of Fish Resources in Situ Gede, Tasikmalaya, West Java,” with co-authors *Ms. Sevi Sawestri* and *Dr. Dina Muthmainnah*. Her presentation focused on the limited fishery resources in the waters of Situ Gede and restocking activities.



# SPECIAL REPORT

## Chemical and Drug Residues in Fish and Fish Products in Southeast Asia – Biotoxins (ASP, AZA and BTX) & Harmful Algal Blooms (HABs) in the ASEAN Region

by SEAFDEC/MFRD

Fish and shellfish are important source of protein and income for people living in the Southeast Asian region. One of the food safety concerns for such seafood is marine biotoxins, which are poisonous substances naturally present in fish and fishery products or accumulated by the animals feeding on toxin producing algae. The consumption of these contaminated fish and shellfish may result in poisoning or even death.

Since 2009, the Marine Fisheries Research Department (MFRD) has implemented a project under the Japanese Trust Fund II with the objective of expanding and improving initiatives in monitoring, detecting, and sharing of information on marine biotoxins to reduce public health risks associated with the consumption of contaminated fish and shellfish. The project which covered several trainings on analytical methods for detecting Diarrhetic Shellfish Poisoning (DSP) toxins, lipophilic toxins, Paralytic Shellfish Poisoning (PSP) toxins, and Tetrodotoxin (TTX), as well as a monitoring survey on PSP toxin in ASEAN-SEAFDEC Member Countries was completed in 2012.

The Japanese Trust Fund VI which is an extension to the JTF II project addressed the needs of SEAFDEC Member Countries and continued with capability building on biotoxins and monitoring. The JTF VI focusing on other biotoxins like the Amnesic Shellfish Poisoning (ASP) toxin (Domoic Acid) and Azaspiracid (AZA) toxin. Brevetoxin (BTX), which was known to cause Neurotoxic Shellfish Poisoning (NSP), was also included as ASP, AZA and BTX, along with DSP and PSP, should be regulated according to CODEX for shellfish.

This project commenced in 2013 with the Regional Technical Consultation Meeting in Singapore on 24-25 July 2013 attended by 19 participants (9 females and 10 males) from the ASEAN-SEAFDEC Member Countries. The Meeting was organized to initiate the project and plan for subsequent project activities and came to a consensus on the national project leader (key project leader, KPL) for each country as well as the methods to be taught during the training course.

In the following year, a Regional Training Course on “Biotoxins Analyses” was organized on 2-6 June 2014 in Singapore. The training was jointly conducted by MFRD, SEAFDEC, and the Veterinary Public Health Laboratory, Agri-Food & Veterinary Authority of Singapore. A total of 21 participants (9 females and 12 males) from all ASEAN Member Countries attended the Training. The resource persons

were two biotoxins experts, namely: *Dr. Toshiyuki Suzuki* from the National Research Institute of Fisheries Science, Fisheries Research Agency, Japan, and *Dr. Dao Viet Ha* from the Institute of Oceanography, Viet Nam. The training course comprised general introduction to marine toxins, analytical tools for the detection, characterisation, and quantification of AZA, BTX and ASP via instrumental analysis as well as hands-on practical sessions on sample preparation and the use of High Performance Liquid Chromatography Tandem Mass Spectrometer (LC/MS/MS) method and High Performance Liquid Chromatography method for the detection of AZA, BTX and ASP.

Upon the completion of the course, the two-year biotoxins monitoring survey was conducted from 2015 to 2016. The survey was extended for another year (end of 2017) due to labor and technical constraints and this extension allowed the countries to complete their survey plans with more substantial data and results. Within the survey period, seven participating countries, namely: Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam took part in the monitoring survey and submitted their progress reports on a quarterly basis.

MFRD has also incorporated new activities under this project to enhance regional capabilities on the identification of toxic HAB species and strengthen the Member Countries’



*The RTC on Harmful Algal Blooms held in 2015*



proficiency in biotoxins monitoring. A Regional Technical Consultation Meeting was held in Singapore from 5-6 August 2015 with a total of 20 participants (11 females and 9 males). The Meeting discussed the individual training needs of each Member Country, identified the Key Project Leaders for each country as well as initiated the process of establishing a network or directory of responsible national authorities and HAB experts in the region.

With the consensus from the Meeting, a five-day Regional Training Course on “Toxic HAB Species Identification” was organized in collaboration with the IOC-WESTPAC on 18-22 July 2016 in Singapore. A total of 22 participants (13 females and 9 males) from the ASEAN Member Countries attended the training conducted by Japanese experts, namely: *Dr. Yasuo Fukuyo*, *Dr. Kazumi Wakita*, and *Dr. Mitsunori Iwataki* and regional experts, namely: *Dr. Sandric Leong* and *Dr. Lim Po Teen*. Positive feedbacks were received from the participants, indicating that the program was well conducted and beneficial to their work. However, the SEAFDEC Member Countries requested for additional training courses on specimen preservation and culturing techniques for identification and monitoring of HAB species. In view of this, the project was extended for two more years (2018-2019).

In the subsequent year, the Regional Training Course on “Identification of HAB Species in the ASEAN Region” was successfully conducted in collaboration with the Institute of Ocean & Earth Science (IOES), University of Malaya (UM) at Bachok Marine Research Station (BMRS) in Kelantan, Malaysia from 10-13 July 2017. The Training comprised lectures and practical activities on specimen preservation methods and techniques and use of fluorescence and electron microscopy and flowcytometry. The 22 participants (13 females and 9 males) who attended the training found that the training was well structured and relatively helpful to their course of work.



*Regional Training Course on Identification of HAB Species held in 2017 in Kelantan, Malaysia*

Finally, in 2018, MFRD collaborated with the Institute of Ocean & Earth Science (IOES), University of Malaya (UM) again to organize the last of the series of three regional training courses “Culturing for HAB Species Identification and Toxin Characterization” at Bachok Marine Research Station



*Regional Training Course on Culturing for HAB Species and Toxin Characterization held in 2018 in Malaysia*

(BMRS) in Kelantan, Malaysia from 8-14 July 2018. Lectures and hands-on practical sessions were designed to expose the participants to several aspects of HAB monitoring and studies, and included fundamental knowledge of microalgal culturing and maintenance, species identification and detection using fluorescence, and electron microscopy and flow cytometry. A total of 20 participants (16 females and 4 males) from the AMSs attended the training who also expressed their satisfaction towards the course outline, acknowledging the capabilities of the resource persons.

The biotoxins monitoring survey results from the countries were collated into a Technical Compilation. This compilation covers respective countries’ survey methodologies and recommendations as well as the problems and challenges encountered during the survey, which provides a valuable learning tool for all AMSs. The project concluded with the End-of-Project meeting on 14-15 August 2019 where the technical compilation was also finalized for publication

The successful completion of the project sees the upgrading of regional laboratory capabilities and credibility in ASP, AZA and BTX biotoxins testing as well as the identification of toxic HAB species. In addition, the AMSs had also deepened their knowledge and understanding on the occurrences and incidences of biotoxins in fish and shellfish, and HAB species in the Southeast Asian region through the monitoring survey, and the publication offers a useful tool in the facilitation of information exchange among the AMSs. ✦



*Representatives from SEAFDEC Member Countries during the End-of-Project Meeting on Chemical and Drug Residues in Fish and Fish Products in Southeast Asia – Biotoxins and Harmful Algal Blooms in the ASEAN Region held in 2019 in Singapore*

# REGIONAL PROGRAMS

## Side event organized by SEAFDEC during CITES CoP 18 in Geneva, Switzerland

On 18 August 2019, SEAFDEC organized the side event “SEAFDEC Experiences on Sharks” during the CoP18 of CITES in Geneva to disseminate the experiences of SEAFDEC and the lessons learnt on the conservation and management of sharks in the Southeast Asian region. Focusing on capacity building, the programs of activities spearheaded by SEAFDEC in collaboration with international and national organizations as well as the SEAFDEC Member Countries include improvement of data collection on sharks, technical support on the implementation of NPOA-Sharks, and assistance for the development of Non-detrimental Findings on sharks.

The speaker from SEAFDEC Secretariat, the Policy and Program Coordinator *Dr. Worawit Wanchana*, was supported by the Senior Fisheries Officer and Head of the Marine Resource Management Office, CITES and Conservation of Endangered Species Unit of the Department of Fisheries Sabah in Malaysia, *Mr. Lawrance*

*Kissol, Jr.* in sharing the experiences of the Southeast Asian countries on the conservation and management of sharks.

It was very noticeable during the Side Event that strong support was expressed by the audience of CoP18 Parties including the observers, on the initiatives of the Southeast Asian countries in promoting the conservation and management of sharks. The more than 70 participants attending the Side Event congratulated SEAFDEC for carrying out a number of activities over a decade with technical support from FAO Headquarters in Rome, and Malaysia-based SEAFDEC Marine

Fishery Resources Development and Management Department. For its part, SEAFDEC is very thankful to the donors for providing financial support that enabled SEAFDEC to implement the shark programs, including the Japanese Trust Fund for SEAFDEC through the Fisheries Agency of the Government of Japan and the EU-CITES sharks program, among others. The expert from FAO Rome Headquarters who attended the Side Event congratulated SEAFDEC for fully utilizing the existing expertise on sharks and for developing effective manual and training packages in its capacity building activities for the benefit of the ASEAN Member States.



*Participants during the side event “SEAFDEC Experiences on Sharks”*

## Mission on eACDS implementation in Viet Nam

The SEAFDEC Training Department (TD) in collaboration with the Directorate of Fisheries (D-Fish), Viet Nam conducted several activities on the implementation of the electronic ASEAN Catch Documentation Scheme (eACDS) in Binh Thuan Province, Viet Nam.

From 8 to 12 July 2019, the implementation of eACDS and follow-up collection of Key Data Elements in Binh Thuan Province were discussed with the Sub Directorate of Fisheries (Sub D-Fish) in Binh Thuan and relevant authorities. Moreover, the training course for the use of eACDS application in Part I (port-in port-out) was organized for twenty officers aiming at imparting

knowledge and understanding on the use of eACDS application for port-in and port-out to issue Catch Documentation (CD) which is part of fishery product traceability system.

Subsequently, an on-site Training Course on the use of eACDS was organized from 12 to 16 August 2019 to build the capacity of fishery officers and fishermen in Binh Thuan on the use of eACDS application. The twenty-one participants are officers from Sub D-Fish and port authority as well as master fishermen and fishing vessel owners.

Moreover, from 9 to 13 September 2019, another on-site training on the

use of eACDS application for fishery officers, port authorities, fish buyers and fish processors was organized at Sub D-fish in Binh Thuan. This training aimed to improve the knowledge and understanding on the use of eACDS application for the part of port-in and port-out to issue Catch Declaration (CD), Movement Documentation (MD) and Statement of Catch (SC) which is part of fishery product traceability system. Participants were also trained on how to create the account (username and password) for port control authorities and use the application for port-in and port-out issuance. They also practiced on issuing the Movement Document (MD) and Statement of Catch (SC). ❖



## Capacity building on port State measures

The SEAFDEC Training Department (TD) organized the “Regional Training on Port State Measures (PSM) Implementation for Inspectors in Southeast Asia” from 22 to 26 July 2019 at TD premises in Samut Prakan, Thailand. The Training was conducted in collaboration with SEAFDEC partners, namely: Department of Fisheries (DOF) Thailand, Australian Fisheries Management Authority (AFMA), Food and Agriculture Organization of the United Nations (FAO), National Oceanic and Atmospheric Administration (NOAA), and United States Agency for International Development (USAID). There were 40 participants who are

engaged in implementing PSM and/or port control activities at inspection level representing the AMSs excluding Lao PDR, as well as from non-AMSs such as India and Sri Lanka in the Training.

Focused during the Training were updates on inspection activities on port control and PSM of AMSs based on the information shared by SEAFDEC partners. The Training also provided a study trip to observe PSM inspection at port for tuna vessels. At the end, the participants increased their knowledge, skills, and experience on inspection to support PSM and port control implementation. ❖



## Finalization of the Practical Guide for Gender Analysis

The “Experts Consultation Workshop on Finalization of the Practical Guide for Gender Analysis in Small-scale Fisheries and Aquaculture in Southeast Asia” was conducted by the SEAFDEC Training Department (SEAFDEC/TD) from 10 to 11 July 2019 at SEAFDEC/TD, Samut Prakan, Thailand with support from the SEAFDEC-Sweden Project. The 40 participants (32 females and 8 males) of the Workshop were representatives from the ASEAN Member States (AMSs), SEAFDEC Gender Working Team, and regional organizations and partners such as Food and Agriculture Organization (FAO), the Oceans and Fisheries Partnership (USAID Oceans), Mekong River Commission (MRC), and Sustainable Development Foundation (SDF).

The Workshop came up with the final draft of the Practical Guide for Gender Analysis which is expected to be tested in the AMSs in 2020 before its final publication. ❖

## Eighth Meeting of the Gulf of Thailand Sub-region

For over a decade, the SEAFDEC-Sweden Project supported the Gulf of Thailand countries in gathering annually to build up sub-regional cooperation, exchange knowledge, and update on the progress of national and sub-regional efforts in the promotion of marine fishery resources sustainability and combating

IUU fishing in the sub-region. The “8<sup>th</sup> Meeting of the Gulf of Thailand Sub-region” was convened on 4-5 September 2019 in Chonburi Province, Thailand. As the last session with funding support from the SEAFDEC-Sweden Project, the Meeting was attended by more than 30 representatives from the Gulf of Thailand

countries namely: Cambodia, Malaysia, Thailand, and Viet Nam as well as from FAO, UNEP/GEF Fisheries *Refugia* Project, and SEAFDEC Secretariat, TD, and MFRDMD.

During the Meeting, the participating countries and organizations were updated on the progress on the management of fishery resources (*e.g.* Indo-Pacific mackerel, neritic tunas), national laws, regulations, and actions for fisheries management, and strengthening of the MCS network in the Gulf of Thailand sub-region. In addition, the countries were also informed about the future opportunities to strengthen the Gulf of Thailand sub-region platform through on-going and new project formulations. ❖



## Meeting on the Development of MCS Network for the Southern Andaman Sea Sub-region

The SEAFDEC-Sweden Project convened the “Meeting on the Development of Monitoring, Control and Surveillance (MCS) Network for the Southern Andaman Sea Sub-region” on 20-21 August 2019 in Bangkok, Thailand. A total of 33 (11 women and 22 men) delegates from various fisheries, enforcement, and maritime security agencies of Indonesia, Malaysia, and Thailand, FAO, SEAFDEC, and Regional Fisheries Policy Network members attended the Meeting.



To follow-up the suggestion from the “Third Sub-regional Consultative Workshop of the Joint Fisheries Management around the Southern Andaman Sea” held in November 2017,

the Meeting made sure that the countries share ideas on common priority areas for data exchange and coordination in relation to MCS around the Southern Andaman Sea, discussed the ways forward on strengthening MCS network,

and suggested some communication mechanisms for information exchange in connection with the existing cooperation initiatives in the Southern Andaman Sea Sub-region. ❖

## National Forum on sharing lessons learned and knowledge of fisheries communities on fisheries resources and habitat management convened

The SEAFDEC-Sweden Project, Sustainable Development Foundation (SDF) of Thailand, and Burapha University Chanthaburi Campus co-hosted the National Forum to share lessons learned and knowledge of fisheries communities on fisheries resources and habitat management on 6-7 August 2019 at Burapha University Chanthaburi Campus, Chanthaburi Province, Thailand. The National Forum aimed to: 1) exchange experiences and lessons learned from the activities implemented by the SEAFDEC-Sweden Project with relevant organizations/sectors and youth; 2) raise the awareness of the coastal communities on livelihood, fisheries, and coastal ecosystem; and 3) enhance the relationship among government, organizations, academic institutions, and communities. The Forum was participated by more than 120 stakeholders from the government, communities, conservation groups, lecturers and students as well as representatives from Cambodia.



The National Forum highlighted on the results of the activities under the project “Towards an Ecosystem-based

Approach to Fisheries Management in Trat Bay” carried out by the SEAFDEC-Sweden Project in collaboration with SDF during 2016-2018 in Trat Province in Eastern Thailand. Activities under this project focused on: 1) strengthening and building the capacity of the communities on the development of local organizations, habitat restoration; 2) raising awareness of the benefits of local knowledge; and 3) addressing gender and climate change issues and relevant sustainable development goals. Through the project’s interventions, the small-scale fishers established the Trat Bay Fishers Network. The project also supported local women to form groups to

enhance their status and strengthen their roles in the development and management of community livelihood enterprises.

In addition, the SEAFDEC-Sweden Project and SDF Team, and representatives from Cambodia visited the study sites in Mai Root Sub-district and Leam Krad Sub-district in Trat Province on 8 August 2019. During the visit, the participants learned, shared, and exchanged knowledge on the relevant activities in the coastal communities including waste management, crab bank, rehabilitation of fishery resources, and alternative livelihoods (homestay and eco-tourism, fish products, and so on). ❖



## Regional Training Course for the Improvement on Management of Inland Fisheries in Vientiane, Lao PDR

SEAFDEC/IFRDMD organized the “Regional Training Course for the Improvement on Management of Inland Fisheries” in Vientiane, Lao PDR on 25-26 July 2019 in collaboration with the Department of Livestock and Fisheries, Lao PDR. The 18 participants (11 women and 7 men) were fisheries officers from the SEAFDEC Member Countries, namely: Cambodia, Indonesia, Lao PDR, Myanmar, Thailand, and Viet

Nam as well as staff from the SEAFDEC Secretariat and Training Department. As one of the activities of the project “Promotion of Responsible Utilization of Inland Fisheries in Southeast Asia,” the Training was supported by the Japan Trust Fund VI.

The resource person *Dr. Sonny Koeshendrajana*, Senior Researcher of the Center for Marine and Fisheries

Social and Economics Research, Agency for Marine and Fisheries Research and Development, Ministry of Marine Affairs and Fisheries, Indonesia, delivered the lecture on the “Improvement on the Management of Inland Fisheries: An EAFM to Inland Fisheries Management.” During the Training, the participants also discussed a case to analyze the problem on inland fisheries management using the ecosystem approach.



On the day prior to the Training, IFRDMD convened a meeting with the local government, enumerators, and fishery management community at Nam Xouang Reservoir, Naxaythong District and presented the preliminary results of the project. ❖

## SEAFDEC participates in the Workshop on Gender Concepts, Tools, and Advocacy in Sustainable Fisheries Management

The SEAFDEC Gender Focal Person (SGFP) from SEAFDEC Secretariat, *Ms. Saivason Klinsukhon*, participated in the “Workshop on Gender Concepts, Tools and Advocacy in Sustainable Fisheries Management” organized by the USAID Oceans and Fisheries Partnership on 6-9 August 2019 in Manado, Indonesia. The Workshop was attended by representatives from several agencies and organizations in Indonesia, including the Ministry of Marine Affairs and Fisheries (MMAF), Marine and Fisheries Office, local government, local stakeholders, academic and research

institutions, private sectors, and the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF).

The aim of the Workshop was to enhance the understanding of the basic concepts of gender sensitivity and responsiveness in fisheries, and develop gender action plans which include gender-sensitive indicators. During the Workshop, the SGFP from SEAFDEC Secretariat presented the “Regional Experiences in Gender Integration in Fisheries” which include a review of the progress in the application of



gender perspectives, *e.g.* capacity building programs, research programs, tools, SEAFDEC Gender Strategy, and information materials related to gender in fisheries. ❖

## Workshop on SEAFDEC Gender Strategy

The SEAFDEC Training Department (TD) with support from the SEAFDEC-Sweden Project, conducted the “Workshop on the Development of the Action Plan for SEAFDEC Gender Strategy” on 9 July 2019 at TD in Samut Prakan, Thailand. There were a total of 31 participants (22 females and 9

males) including the SEAFDEC Gender Focal Persons (SGFPs), members of the Regional Fisheries Policy Network (RFPN), Division and Section Heads from TD and Secretariat.

Through the discussion, the Workshop successfully developed the

Action Plan to be undertaken by the SEAFDEC Secretariat and Departments and identified indicators for monitoring the progress in the implementation of the SEAFDEC Gender Strategy. The Workshop also came up with the ways forward to implement the Gender Strategy. ❖

# FUTURE ACTIVITIES

Date	Venue	Title	Organizer(s)
<b>2019</b>			
2-4 October	Bangkok, Thailand	Capacity Development Workshop on Stock Status Assessment and Estimation of SDG Indicator 14.4.1 for the Asia Pacific Region	TD
3-4 October	Samut Prakan, Thailand	Regional Core Experts Meeting on Tropical Anguillid Eel Information Sharing	Secretariat
7-8 October	Bangkok, Thailand	Regional Workshop on Lesson Learned in Application of EAFM in Learning Sites	TD
8-9 October	Bangkok, Thailand	1-Year Shark Data Collection Validation Workshop (under the SEAFDEC-EU/Shark Project Phase 2)	Secretariat
8-10 October	Jakarta, Indonesia	Workshop on 5-Year of IFRDMD's Achievement	IFRDMD
15-17 October	Philippines	20 <sup>th</sup> Meeting of SEAFDEC Information Staff Program (ISP)	Secretariat
22-24 October	Sakon Nakhon Province, Thailand	Regional Workshop on Facilitating Fisheries Activities Information Gathering through Introduction of CBRM/Co Management in Southeast Asian Region	TD
30-31 October	Bangkok, Thailand	End-of-Project Meeting of the SEAFDEC-Sweden Project: Fisheries and Habitat Management, Climate Change and Social Well-being in Southeast Asia (2013-2019)	Secretariat
31 October	Bangkok, Thailand	Workshop on Thailand Fisheries Traceability Supply Chain Analysis	USAID/Oceans
4-8 November	Samut Prakan, Thailand	Regional Training Course on Fish Handling Technique Applicable to Various Fishing Operations in Southeast Asia	TD
5-6 November	Sarawak Malaysia	2 <sup>nd</sup> Project Steering Committee Meeting for the SEAFDEC/UNEP/GEF Project on Fisheries <i>Refugia</i>	SEAFDEC & UNEP/GEF
11-13 November	Chiang Mai, Thailand	42 <sup>nd</sup> Meeting of SEAFDEC Program Committee (PCM)	Secretariat & TD
14-15 November	Chiang Mai, Thailand	22 <sup>nd</sup> Meeting of the Fisheries Consultative Group of the ASEAN-SEAFDEC Strategic Partnership (FCG/ASSP)	Secretariat
25-29 November	Vigo, Spain	17 <sup>th</sup> Session of the FAO/COFI Sub-Committee on Fish Trade	FAO
25-30 November	Krabi, Thailand	E-EAFM Training Course for DOF Fisheries Officers	TD
26-28 November	Cambodia	12 <sup>th</sup> RPOA-IUU Coordinating Committee Meeting	RPOA-IUU
27-28 November	Lao PDR	Meeting on Analysis for Strengthening the Effective Management of Inland Fisheries and Aquaculture in AMSS with GIS and RS Technology	Secretariat
9-12 December	Kep, Cambodia	Regional Workshop on Fisheries Resource Enhancement and Habitat Conservation Measures in Southeast Asian in Kep Province, Cambodia	TD
13-14 December	Bangkok, Thailand	2 <sup>nd</sup> ASEAN Meeting on Combating IUU Fishing in Partnership with the EU	Thailand
16-19 December	Maldives	34 <sup>th</sup> INFOFISH Governing Council Meeting	INFOFISH
16-20 December	Phnom Penh, Cambodia	E-EAFM Training Course	TD, USAID & NOAA
16-20 December	Hai Phong, Viet Nam	Practical Workshop on Stock and Risk Assessments of Yellowfin Tuna and Skipjack Tuna in the South China Sea using Software on CPUE Standardization, A Stock-Production Model Incorporating Covariates (ASPIC), Kobe Plots, and Risk Assessments	TD
18 December	Palembang, Indonesia	JTF Annual Progress Meeting	IFRDMD
<b>2020</b>			
4-7 February	Bangkok, Thailand	SEAFDEC Inter-Departmental Information Workshop	Secretariat
10-14 February	Bali, Indonesia	28 <sup>th</sup> Session of the Asia and Pacific Commission on Agricultural Statistics	FAO/RAP
10-15 February	Samut Prakan, Thailand	Practical Workshop on Stock and Risk Assessments of Longtail Tuna and Kawakawa in the Southeast Asian Waters	Secretariat
17-20 February	Thimphu, Bhutan	35 <sup>th</sup> Session of the FAO Regional Conference for Asia and the Pacific	FAO/RAP
12-14 March	Krabi, Thailand	36 <sup>th</sup> Session of the Asia-Pacific Fishery Commission	APFIC
6-9 April	Fukuoka, Japan	52 <sup>nd</sup> Meeting of the SEAFDEC Council	SEAFDEC
13-17 July	Rome, Italy	34 <sup>th</sup> Session of FAO Committee on Fisheries (COFI)	FAO



## IFRDMD convenes the 2019 Semi-annual Meeting

SEAFDEC/IFRDMD convened its 2019 Semi-Annual Meeting in Palembang, Indonesia on 6 September 2019. The Meeting reviewed the outputs during 2015-2019 and ongoing activities in 2019 of the Japanese Trust Fund (JTF) VI projects. Moreover, the Meeting discussed the proposed projects for 2020-2024 under the JTF VI Phase 2.

The Meeting was chaired by the IFRDMD Deputy Chief and Assistant JTF Manager, *Dr. Takuro Shibuno*, and attended by IFRDMD researchers and administrative staff. The two projects in 2015-2019, namely: "Promotion of Responsible Utilization of Inland Fisheries in Southeast Asia" and "Enhancement of Sustainability of Catadromous Eel Resources in Southeast Asia" as well as the two new projects in 2020-2024 namely, "Management Scheme of Inland Fisheries in the Southeast Asian Region" and "Sustainable Utilization of Anguillid Eel in the Southeast Asia Region" were reviewed. During the Meeting, suggestions were made to improve the preparation and presentation of documents at the Annual Meeting scheduled at the end of 2019. ❖



## Cambodia celebrates National Fish Day

The National Fish Day in Cambodia is organized every 1<sup>st</sup> of July by its Fisheries Administration (FiA) to promote and raise awareness of the importance and benefits of fisheries to people. The FiA invited SEAFDEC Deputy Secretary-General *Mr. Akito Sato* together with the RFPN Member from Cambodia, *Mr. Ngin Kamsan*, to attend the event at the Boeung Snaur Reservoir in Samraong Municipality, Oddor Meanchey Province.

The event this year was presided over by the Deputy Prime Minister of Cambodia, *H.E. Yim Chhaily* and was attended by government officers, monks, teachers, students, armed forces, villagers, NGOs, and national and international honorable guests. After reporting about the status of fisheries



in Cambodia, the Deputy Prime Minister and other guests released live fish and prawns into the Boeung Snaur Reservoir to increase stock that will benefit the villagers nearby. ❖

### Note for contributors

The SEAFDEC Newsletter publishes quarterly news on all aspects of fisheries in Southeast Asia. The Editors reserve the right to accept and/or abridge articles based on available space. Anyone wishing to submit an article to the SEAFDEC Newsletter is requested to send it to the Editor in Chief or Editors at the given addresses.

Information in this Newsletter may be quoted only if reference is made to SEAFDEC.

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## Third Regional Meeting on Enhancing Sustainable Utilization and Management Scheme of Tropical Anguillid Eels in Southeast Asia



Participants of the Third Regional Meeting on Enhancing Sustainable Utilization and Management Scheme of Tropical Anguillid Eels in Southeast Asia

Upon the completion of the two-year Project “Enhancing Sustainable Utilization and Management Scheme of Tropical Anguillid Eel Resources in Southeast Asia” supported by the Japan-ASEAN Integrated Fund (JAIF) since July 2017, SEAFDEC organized the “Third Regional Meeting on Enhancing

Sustainable Utilization and Management Scheme of Tropical Anguillid Eel Resources in Southeast Asia” on 22- 23 July 2019 in Bangkok, Thailand. The Meeting was attended by 39 participants that representing the ASEAN Member States and Japan, experts on anguillid eels, members of the Assessment

Committee, and representatives from SEAFDEC/IFRDMD, AQD, and the Secretariat.

Presentations of the achievements and results of the activities from the beginning until the completion of the project were made, and the results were subsequently scrutinized and evaluated by the experts and members attending in the meeting. Suggestions for improving the program and solving the problems encountered through the project implementation were also raised. Lastly, the meeting provided comments on the draft final project report which will be submitted to the ASEAN Secretariat and published in the form of publication and on the SEAFDEC website, respectively. ❖

## Joint effort on the Sustainability of Transboundary Species: Indo-Pacific Mackerel (*Rastrelliger brachysoma*)

Indo-Pacific mackerel (*Rastrelliger brachysoma*) is an economically important species of the Southeast Asian region, which migrates around the Gulf of Thailand (GOT). However, the trends are declining and catches are becoming unstable. Aiming toward sustainable fishery resource, healthy habitats as well as improved well-being of fishing communities, the “Technical Consultative Meeting on Drafting of the Regional Action Plan for Management of Transboundary Species: Indo-Pacific Mackerel (*Rastrelliger brachysoma*) in the Gulf of Thailand Sub-region” was held on 12-13 September 2019 in Chonburi Province, Thailand. The attendees of the Meeting were representatives from the countries of the Gulf of Thailand and South China Sea sub-regions, including Cambodia, Indonesia, Malaysia, Philippines, Thailand, and Viet Nam, resource persons from Sweden, Burapha University, as well as SEAFDEC officials and Regional Fisheries Policy Network members.



This Meeting was a joint effort between the SEAFDEC-Sweden Project and SEAFDEC/UNEP/GEF/ Fisheries *Refugia* Project to develop the draft

Regional Action Plan for Indo-Pacific mackerel management for the Gulf of Thailand. Both Projects have also conducted several relevant activities such as DNA studies, data collection, among others to understand the stock and habitats of *R. brachysoma*. It is expected that the Regional Action Plan would provide a direction within and among countries of the Southeast Asian region to work together in assuring appropriate management of Indo-Pacific mackerel based on the available scientific information. ❖

