



# SEAFDEC NEWSLETTER

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## SEAFDEC participates in IYAF2022 Closing Ceremony for Asia



The Deputy Secretary-General of SEAFDEC, *Dr. Tomoko Nakazato*, together with SEAFDEC officials joined the IYAF2022 Closing Ceremony for Asia on 28 February 2023 via a hybrid format. Themed “Towards a new era of support for small-scale fisheries

and aquaculture,” the Ceremony was organized by the Department of Fisheries, Thailand in collaboration with Too Big to Ignore (TBTI) Global Foundation, and INFOFISH, with the technical support of the Food and Agriculture Organization of

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## EDITORIAL

After the COVID-19 pandemic restrictions were lifted in the first quarter of 2023, SEAFDEC started to organize several events in person including On-site Training on Chondrichthyan Taxonomy, Biology and Data Collection to enhance the skills of relevant human resources in elasmobranch taxonomy and biology as well as introduce the techniques in data collection and management and identification of sharks and rays; Training on the Principles and Methods of Quantitative Echosounder EK80 to build the capacity of the researchers to effectively utilize the equipment for fisheries acoustic surveys; Training on Gender Mainstreaming in Fisheries Sector for better understanding of gender aspects and tools for mainstreaming gender in developing fisheries programs and projects.

Nevertheless, SEAFDEC continued to organize some online events such *(Continued on Page 2)*

## SEAFDEC joins 10<sup>th</sup> Ocean Summit

SEAFDEC Secretary-General, *Ms. Malinee Smithrithee*, and the Policy and Program Coordinator of the SEAFDEC Secretariat, *Dr. Worawit Wanchana*, attended the 10<sup>th</sup> Ocean

Summit in Lisbon, Portugal from 27 February to 1 March 2023. Organized by The Economist, the Summit served as the venue for industry experts,

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*One of the panels at the 10<sup>th</sup> Ocean Summit, titled “Changing the Way Business Operates in the Ocean”*

## EDITORIAL

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as the Online Practical Workshop on eACDS for Myanmar which enhanced the capacity of the technical staff of the country in the utilization of the eACDS application.

SEAFDEC sustained the collaboration with other organizations by participating in several events including IYAF 2022 Closing Ceremony where SEAFDEC shared the achievements of its relevant activities to commemorate IYAF 2022; Regional Workshop on Implementation of the CITES for Seahorses in Asia where SEAFDEC shared its role in supporting the ASEAN Member States (AMSs) in addressing international fish trade-related issues including capacity enhancement on data collection, development of non-detriment findings, and stock enhancement; FAO Workshop on Aquatic Genetic Resources; FAO Regional Workshop on Fishery Stock Assessment where the regional stock assessment on neritic tunas in the Sulu and Sulawesi Seas as well as related SEAFDEC projects on anguillid eels, and Indo-Pacific mackerels were presented; MCS Sub-regional Group Workshop where the SEAFDEC regional programs and activities on MCS for combating IUU fishing was shared; 10<sup>th</sup> Ocean Summit; and the OECD-ASEAN Workshop on Food Security. SEAFDEC also welcomed the representatives from the U.S. Embassy Bangkok and USAID Regional Development Mission for Asia to discuss the workplan of USAID SUFIA especially on technical support to regional fisheries organizations in Southeast Asia.

One of the major activities this quarter was the kick off of the 50<sup>th</sup> Anniversary Celebration of SEAFDEC/AQD with a short event on aquaculture exhibition. 

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## SEAFDEC participates in IYAF 2022 Closing Ceremony for Asia

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the United Nations (FAO). *Dr. Nakazato* served as one of the speakers along with other representatives from relevant organizations.


In her message, *Dr. Nakazato* congratulated the FAO and partners for the successful celebration of IYAF 2022. She emphasized that SEAFDEC continues to play an important role in the promotion of sustainable development of fisheries and aquaculture in the Southeast Asian region, especially small-scale fisheries, which are in line with the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2030 as well as the FAO Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines). SEAFDEC had been undertaking numerous activities

including the promotion of small-scale fisheries management tools, resource enhancement, safety at sea, adaptation to climate change, post-harvest and marketing, as well as gender integration. Moreover, she also shared the significant activities and outputs of SEAFDEC to commemorate IYAF 2022 such as the publication “Small-scale Fisheries of Southeast Asia: A Regional Digest,” 2022 SEAFDEC Calendar featuring the small-scale fisheries and aquaculture activities of the region, Fish for the People 20-2 with the theme “Commendation of the significance of small-scale fisheries and aquaculture in the Southeast Asian region,” production of souvenir items (t-shirts, bags, etc.), among others. Finally, she expressed the commitment of SEAFDEC to continue the support to its Member Countries in the sustainable development of small-scale fisheries of the region. 

## SEAFDEC joins 10<sup>th</sup> Ocean Summit


(Continued from Page 1)

investment specialists, and conservation organizations to provide impartial insights on how to simultaneously benefit from and protect the oceans. During the Summit, a dedicated track on “cities and the ocean” was included where experts discussed how cities can utilize the ocean for economic growth and climate resilience while minimizing harm. In addition, panels were held on investment opportunities and innovations in aquaculture, plastics, renewable marine energy, and shipping.

With over 180 speakers, the participants had the chance to hear from industry leaders and share success stories about changing the way businesses operate in the ocean. Networking was also the core feature of the event, as the Summit facilitated connections across ocean-based industries and conservation organizations. The participation of SEAFDEC underscored the organization’s commitment to the sustainable development of fisheries and aquaculture sector of Southeast Asia. 

## TD joins the celebration of Thailand Children’s Day

SEAFDEC Training Department (SEAFDEC/TD) joined Thailand in the celebration of its Children’s Day on 14 January 2023 at the Prachunlajomklao Navy Dockyard at the mouth of the Chao Phraya River in Samut Prakan, Thailand. Several groups of children, guided by their chaperons, were attracted to the information and game materials on fishery resource conservation displayed by SEAFDEC/TD.

The Children’s Day in Thailand is traditionally organized on the second Saturday of the year. It receives widespread attention from the public through the impressive shows staged by mostly government organizations, especially the Prime Minister and the military, for the benefit of children who are regarded as the future of the nation. 

## SEAFDEC participates in FAO workshop on aquatic genetic resources

SEAFDEC Secretary-General, *Ms. Malinee Smithrithee*, and Policy and Program Coordinator of the SEAFDEC Secretariat, *Dr. Worawit Wanchana*, attended the “Fourth Session of the Intergovernmental Technical Working Group on Aquatic Genetic Resources for Food and Agriculture” hosted by the Food and Agriculture Organization of the United Nations (FAO) in Rome, Italy on 21–23 February 2023. The Workshop focused on the recommendations put forward by the FAO to support the continued implementation of the Global Plan of Action for aquatic

genetic resources. These included the development of the Aquatic Genetic Resources Information System (AquaGRIS), completion of the Aquatic Genetic Resources (AqGR) glossary, and review and revision of the Voluntary Guidelines to Support the Integration of Genetic Diversity into National Climate Change Adaptation Planning.

In addition, the Workshop recommended convening a global multi-stakeholder workshop on climate change and Genetic Resources for Food and Agriculture. To support the SEAFDEC

Member Countries, SEAFDEC plans to organize a series of regional webinars or technical workshops, assist in capacity-building efforts, and review or regionalize the Voluntary Guidelines to Support the Integration of Genetic Diversity into National Climate Change Adaptation Planning as needed. These efforts will help the SEAFDEC Member Countries to effectively implement the Global Plan of Action and ensure sustainable management of aquatic genetic resources. ❖

## SEAFDEC shares role in addressing international fish trade-related issues in regional workshop on seahorses

Staff from the SEAFDEC Secretariat, Training Department (TD), and Marine Fishery Resources Development and Management Department (MFRDMD) participated in the “Regional Workshop on Implementation of the CITES for Seahorses in Asia” organized in Cebu, Philippines from 14 to 17 March 2023. The Workshop was co-organized by Project Seahorse, IUCN SSC Seahorse, Pipefish and Seadragon Specialist Group, and Zoological Society of London-Philippines in collaboration with the Philippine Bureau of Fisheries and Aquatic Resources and National Fisheries Research and Development Institute. The attendees of the Workshop include representatives from relevant government agencies (fisheries, forestry, coastal and marine resources, marine parks, environment) in Asia, experts from universities and local NGOs as well



*SEAFDEC representatives who attended the Workshop*

as representatives from FAO, TRAFFIC, and SEAFDEC.

The Workshop was intended to help the CITES Parties assess the aspects of CITES implementation for Appendix II species: non-detriment findings (NDFs), legal acquisition findings (LAFs), monitoring in support of adaptive management, and enforcement. During the Workshop, the situation of the respective countries were analyzed

based on these aspects with development of possible actions considering that exporting seahorses is legal and sustainable.

At the welcome session, SEAFDEC shared its significant role in supporting the ASEAN Member States (AMSs) in addressing international fish trade-related issues such as CITES. SEAFDEC have been undertaking several projects and activities to enhance the capacity of the AMSs on data collection of aquatic species under international concerns such as marine turtles, sharks and rays, sea cucumbers, tunas, anguillid eels, and others focusing on species identification, collection of data on catch/landings, stock assessment, socioeconomic assessment, development of non-detriment findings, aquaculture, and stock enhancement of the species (seahorses, eels, among others).



All seahorses had been listed in CITES Appendix II since 2002. During the 74<sup>th</sup> Standing Committee of CITES, in particular to seahorses, it was noted that Parties can meet their obligations to seahorses under the Convention by either “a) increasing their efforts to address illegal trade” or “b) ensuring that the seahorses being traded are sourced sustainably and apply the CITES Appendix II listing following precautionary approach.” ❖

# DEPARTMENTAL ACTIVITIES

## SEAFDEC pays a courtesy call to SEAFDEC Council Director for Cambodia and observes dai fishery in Tonle Sap



The Secretary-General of SEAFDEC, *Ms. Malinee Smithrithee*, together with the Policy and Program Coordinator of the SEAFDEC Secretariat, *Dr. Worawit Wanchana*, and the Head of Program Planning and Management Division of the SEAFDEC Training Department (TD), *Mr. Isara Chanrachkij*, paid a courtesy call to the SEAFDEC

Council Director for Cambodia and Deputy Director-General of Fisheries Administration (FiA) of Cambodia, *Mr. Ing Try*, Deputy-Director General of FiA of Cambodia, *Mr. Buoy Roitana*, and SEAFDEC National Coordinator for Cambodia, *Dr. Em Puthy*, on 30 January 2023 in Phnom Penh, Cambodia. The officials discussed the priority areas

of technical support that SEAFDEC could extend to Cambodia including capacity-building activities on catch assessment, electronic ASEAN Catch Documentation Scheme (eACDS), and implementation of the Agreement on Port State Measures (PSMA) as well as regional collaboration and information sharing to combat illegal, unreported and unregulated (IUU) fishing.

Moreover, SEAFDEC delegates also observed the operation of the stationary trawl (dai) fishery which was established over 140 years ago in Tonle Sap. The dai fishery is important in the fishery production of Cambodia, landing approximately 14 % of the annual catch from the Tonle Sap Great Lake system.



## Patent certificate on giant featherback cultivation tool



The Research Institute for Inland Fisheries and Extension (RIIFE) of the Ministry of Marine Affairs and Fisheries of Indonesia, in partnership with IFRDMD, successfully bagged the 10-year Patent Certificate on the cultivation tool of giant featherback (*Chitala lopis*). The Certificate was granted in January 2023 by the Ministry of Law and Human Rights of Indonesia through the Directorate of Patents, Layout Designs of Integrated Circuit, and Trade Secrets. With funding support from PT Pertamina International Refinery Unit III Plaju, RIIFE and IFRDMD developed a low-cost cultivation tool to conserve giant featherback by stabilizing the spawning technology. The cultivation tool is a pyramid

bamboo shelter placed in an aquarium to protect and allow fingerlings to grow as well as provide attachment for plankton organisms which are the natural food of the fingerlings. Giant featherback is one of the fish species with economic value in Indonesia. Besides being used as food, it is also widely used as an ornamental fish. However, the high market demand heightened the exploitation rate of this fish, while the degrading natural habitat impedes the sustainability of fish resources.



## Japanese graduate students, Thai lecturer visit TD



SEAFDEC Training Department (SEAFDEC/TD) welcomed two graduate students from Tokyo University of Marine Science and Technology (TUMSAT), Japan, and a lecturer from the Faculty of Fisheries, Kasetsart University, Thailand on 9 February 2023. The Japanese

students joined the collaborative program “Oversea Quality-Assured Education in Asian Nations for Ocean University Students Plus” between TUMSAT and Kasetsart University. During the visit, the guests increased their knowledge and experience in fisheries by learning about SEAFDEC activities and observing the fishing workshop and M.V. SEAFDEC.



## SEAFDEC visits Ministry of Marine Affairs and Fisheries and IFRDMD, Indonesia



*MMAF staff orients SEAFDEC officials and staff on SPEECTRA*

On 14 February 2023, the Secretary-General of SEAFDEC, *Ms. Malinee Smithrithee*, Policy and Program Coordinator, *Dr. Worawit Wanchana*, and Project Planning and Management Division Head of SEAFDEC Training Department (TD), *Mr. Isara Chanrachkij*, paid a courtesy call to the Chairman of the Marine and Fisheries Research and Human Resources Development Agency of Ministry of Marine Affairs and Fisheries (MMAF) of Indonesia and SEAFDEC Alternate Council Director for Indonesia, *Dr. I Nyoman Radiarta*; Head of Bureau for Public Relations and Foreign Cooperation and SEAFDEC National Coordinator, *Mr. Ari Prabowo*; as well as other senior officials of

the MMAF. The visit served as an opportunity to discuss the ongoing and future programs of SEAFDEC related to regional issues, collaborative projects, and capacity-building activities that support Indonesia and other SEAFDEC Member Countries. Additionally, the discussion also included the organization of the SEAFDEC Program Committee Meeting which will be hosted by the SEAFDEC Inland Fisheries Research Development and Management Department (IFRDMD) scheduled in the fourth quarter of 2023.

The next visit was to Patra Tani Village, Muara Belida District, Muara Enim Regency on 16 February 2023 to

observe one of the priority programs of the MMAF, namely SMART Fisheries Village (SFV), which is a concept of fisheries village and work unit development based on the application of digital technology to optimize the utilization of existing potential to strengthen village autonomy to be more productive and modern. SMART stands for Sustainable, Modernization, Acceleration, Regeneration, and Technology. The SFV in Patra Tani is also a Special Area for Conservation and Fish *Refugia* (SPEECTRA), a pilot model for floodplain fisheries management established by the IFRDMD and Research Institute of Inland Fisheries and Extension (RIIFE) which would be promoted by SEAFDEC to other Southeast Asian countries. Subsequently, SEAFDEC delegation visited the IFRDMD office in Palembang where the technical cooperation between the TD and IFRDMD was discussed, particularly the in-house capacity-building activities on hydroacoustic equipment with experts from IFRDMD to serve as resource persons. ✦

## AQD backs PH gov't bid to put up feed mill plants



*AQD feed mill workers spreading out the newly-formed wet pellets on a tray before placing them inside a dryer as part of the process to produce aquaculture feeds*

SEAFDEC/AQD has pledged its support to the Philippine Bureau of Fisheries and Aquatic Resources (BFAR) to construct commercial-scale aquaculture feed mills for cost-efficient feed in strategic locations throughout Panay Island as well as in Luzon and Mindanao in the Philippines. The project is under the National Fisheries Program of the Philippines which is set for implementation in 2023. BFAR

tapped the technical expertise of AQD, particularly on site selection, during a meeting between AQD and BFAR on 10 January 2023.

In Panay Island, the project is planned to be located at AQD Tigbauan Main Station, with a proposed budget of PHP 30 million (USD 528,000). AQD, for its part, will provide a counterpart fund of PHP 250,000 (USD 4,400). The project

is a step closer to reality after AQD and BFAR forged an agreement for its feasibility study last 7 February 2023. The parties signed a Memorandum of Agreement stipulating that BFAR will allocate and transfer funds to AQD for the research center to conduct and prepare the feasibility study and related documents for the project. The amount will cover all costs such as professional fees, fieldwork activities, needed tests/analyses, communication, transportation, supplies, materials, and related expenses for the report and final document preparation. SEAFDEC, for its part, will perform market, technical, financial, socioeconomic, and management feasibility studies to determine whether the project is feasible. ✦

## Japan-funded research, training activities highlighted at AQD Annual Progress Meeting

The progress and achievements of 12 projects, consisting of research and training activities, all funded by the Government of Japan (GOJ), were highlighted during the GOJ-Trust Fund Annual Progress Meeting at SEAFDEC/

AQD on 1 February 2023 through face-to-face and online. The Director of the Tuna Culture Division of the Japan Fisheries Research and Education Agency, *Dr. Koh-ichiro Mori*, and Chief of the National Fisheries Laboratory

Division of the Bureau of Fisheries and Aquatic Resources, *Dr. Sonia Somga*, were invited as external evaluators.

AQD Chief, *Mr. Dan Baliao*, expressed his appreciation to the Japanese Trust Fund team, particularly GOJ-TF Manager and SEAFDEC Deputy Secretary-General, *Dr. Tomoko Nakazato*, and Deputy Chief of AQD, *Dr. Sayaka Ito*, for the longstanding partnership in aquaculture research. The GOJ-TF funded the studies that led to two of AQD's major breakthroughs in recent years including the spawning of round scud and slipper lobster in captivity. ❖



## AQD welcomes first batch of OJTs



Thirteen students from the West Visayas State University (WVSU) Main Campus and four students from Iloilo Doctors' College (IDC) began their on-the-job training (OJT) at SEAFDEC/

AQD Tigbauan Main Station on 16 January 2023. They were the first batch of OJTs for 2023 and are all Bachelor of Science in Biology students.

Their first day commenced with an orientation, followed by a tour of the AQD facilities and laboratories. The OJTs were then assigned to various laboratories and hatcheries.

AQD offers OJT to graduating students in fisheries and related fields to fulfill a school requirement for graduation. The goal is to provide students with practical aquaculture knowledge and skills to supplement their theoretical knowledge by allowing them to assist in research and verification studies. ❖

## AQD kicks off 50<sup>th</sup> anniversary celebration



Thousands of people enjoyed the spectacle of SEAFDEC Aquaculture Department's grand motorcade and mall exhibition on 24–26 March 2023, as it kicked off its 50<sup>th</sup> anniversary celebration.

On 24 March, the motorcade made its way from AQD headquarters in Tigbauan, Iloilo to the SM City Mall in Iloilo City where a short event and ribbon-cutting ceremony for the aquaculture exhibition were held. During the event, AQD awarded the winner of its anniversary

logo-making contest and announced the year-long series of activities, with the peak of its anniversary events scheduled in July 2023. The aquaculture exhibition was held until 26 March and catered to thousands of visitors who viewed live aquarium displays and scale models of the different species being studied at AQD.

SEAFDEC/AQD was established in 1973 and is now commemorating its 50<sup>th</sup> year with the theme, "50 years of championing science-based aquaculture technologies." ❖

## AQD expertise in formulating cost-efficient aquaculture feeds sought

With the fish feed mill facility in Aurora Province, Philippines nearing completion, the Bureau of Fisheries and Aquatic Resources-Central Luzon (BFAR-3) visited SEAFDEC/AQD's Tigbauan Main Station on 26 January 2023 to gain technical knowledge of feed mill operation practices and seek the expertise of AQD in developing a cost-effective feed formulation. The group of 12 staff from BFAR-3 was especially interested in AQD's low-cost feed formulation to help alleviate the burden on fish farmers caused by rising aquaculture production costs.



AQD staff (right) led the group of staff from BFAR-3 during their visit at the AQD Tigbauan Main Station

The formulated feeds for milkfish and tilapia, which use byproducts from corn and poultry abattoirs and coconut-

fermented copra meal are products of the research projects of AQD. These alternative ingredients partially substitute fish meal, an expensive component of feeds, as a protein source.

BFAR-3 further requested assistance from AQD in feed formulation for them to utilize locally sourced and readily available materials such as “kangkong” (water spinach), “malunggay” (moringa), “ipa” (rice husk), and copra. The group targets zero importation through the use of all local materials. ❖

## Oil spill-affected fishpond operators, fish farmers learn freshwater aquaculture



The Training on Broodstock Management and Culture in Captivity of Indigenous Freshwater Fishes at the Provincial Demonstration Farm, Victoria, Oriental Mindoro was organized from 27 to 29 March 2023. A total of 30 fishpond operators and fish farmers in Oriental Mindoro Province, Philippines, who were affected by a recent oil spill in the area attended the Training. The Training aimed to impart information and skills on indigenous freshwater aquaculture technologies.

SEAFDEC/AQD scientist, *Dr. Frolan Aya*, served as the resource person for the Training and lectured on the biology and reproduction, broodstock management, and hatchery and nursery operations of catfishes (*Clarias* spp.) and silver therapon (*Leiopotherapon plumbeus*). The cost-benefit analysis of the silver therapon hatchery operation was also discussed. Practical activities included sex identification of catfishes and silver therapon, hormone preparation for induced spawning, and demonstration

of injection or hormone administration. The Training also included lectures and hands-on activities related to the production of Naujan white goby (*Glossogobius* sp.). Lastly, *Dr. Aya* encouraged the participants to avail of the internship training on the culture of freshwater commodities, such as silver therapon, at the Binangonan Freshwater Station of AQD.

The Training was organized by the Fisheries and Coastal Resource Management Division, Provincial Agriculturist Office, Calapan, Oriental Mindoro, after a fuel tanker carrying 800,000 L of industrial oil sank off the coast of Oriental Mindoro last February 2023, causing a massive oil spill that covered more than 120 km of shoreline and threatened the marine biodiversity and livelihood of the local people. ❖

## AQD FishWorld holds demonstration on taxidermy, specimen conservation



Five staff from Northern Negros State College of Science and Technology (NONESCOST) in Sagay City, Negros Occidental, Philippines engaged in a benchmarking activity on 23 February 2023 at SEAFDEC/AQD FishWorld Museum and learned about taxidermy and museum management.

Taxidermy refers to the practice of preserving the body of an animal through techniques such as mounting or stuffing, typically for the purpose of exhibiting or studying it. AQD FishWorld has a broad experience with taxidermy, having preserved fishes, sea turtles, dugongs, dolphins, and other aquatic animals. ❖

# SPECIAL REPORT

## Reviving the Seas: confiscated fishing vessels as artificial reefs in Malaysia

Muhammad Amirullah Al Amin Ayob, Hamizah Nadia Alias@Yusof, Mazalina Ali, and Abd Haris Hilmi Ahmad Arshad  
SEAFDEC/MFRDMD

Since 2006, the Department of Fisheries Malaysia (DoFM) has been successful in producing various innovations of artificial reefs (ARs) using concrete and steel (Ahmad *et al.*, 2018). Building on this expertise, the DoFM, SEAFDEC Marine Fishery Resources Development and Management Department (MFRDMD), and Malaysian Maritime Enforcement Agency (MMEA) conducted a study in 2019 on the resilience of confiscated foreign fishing vessels as artificial reefs (ARs) and their impacts on the fish species diversity and biomass. A total of 18 vessels were sunk in the waters of Kuala Kemasin, Kelantan in July–November 2019 while five vessels were deployed in Pulau Kapas, Terengganu in March 2019. The water depth, distance from the coastline, traffic of domestic vessels, water visibility, and substrate of the sites in Kelantan and Terengganu were found to be suitable for ARs.

All preparation before and during the sinking of these vessels were monitored by MFRDMD researchers complying with the standard operating procedures approved by DoFM. The vessels used were made of wood and coated with approximately 5 cm of fiberglass. Before sinking, all the vessels were cleaned of pollutants, particularly hydrocarbon fuel. Then, the fish storage boxes of each vessel were filled with gravel weighing between 80 t and 120 t to act as ballast to ensure that the vessels would sink and not be carried away by strong currents. Moreover, two holes were drilled, one in the bow and one in the stern, to allow water to enter and sink the vessels to the target location and settle properly on the seafloor. The sinking time of each vessel ranged from 15 min to 20 min depending on the size and weight of the vessel. After the deployment process, an echosounder was used to

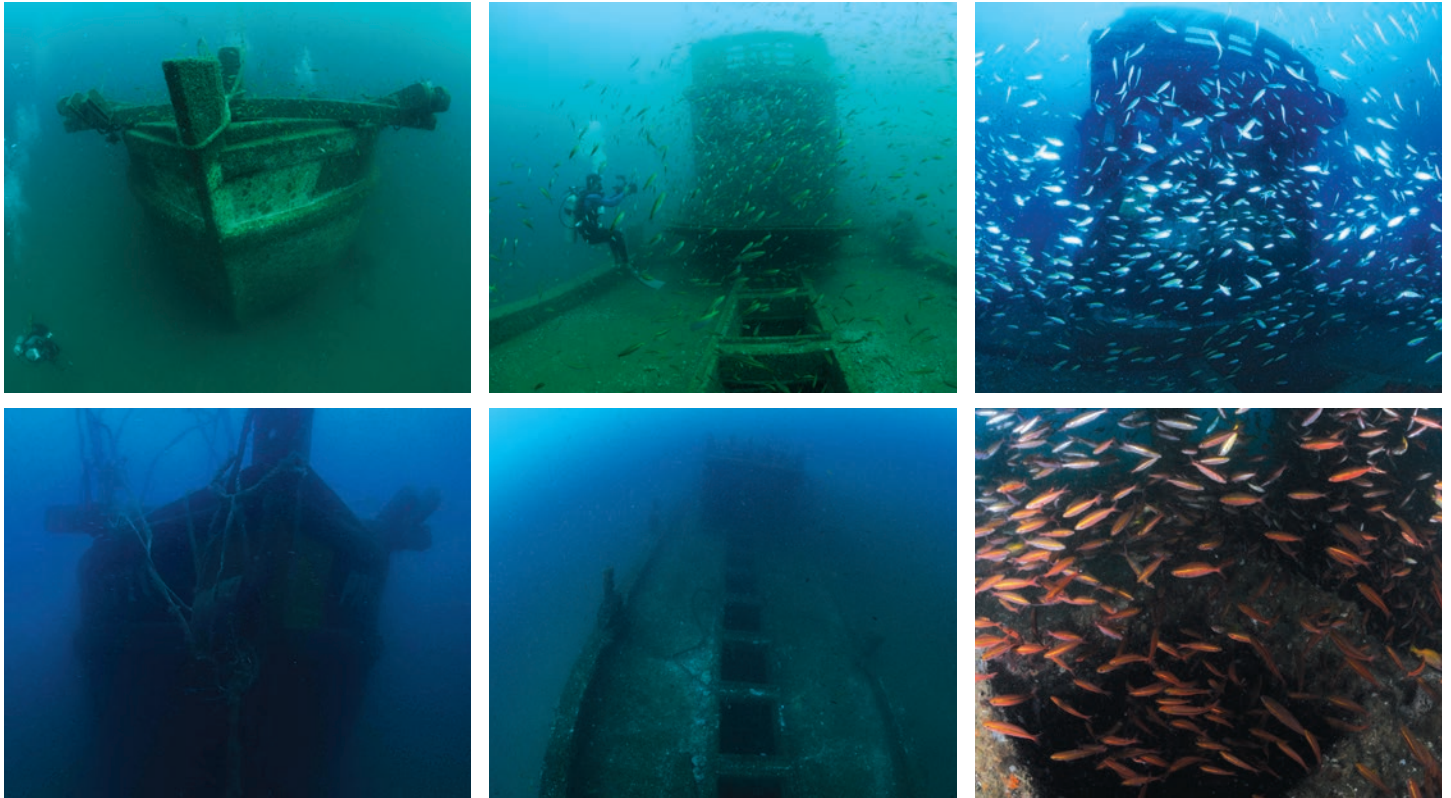
check whether each vessel sunk properly on the seafloor *i.e.* settled in an upright position or rested on its left/right side. On the other hand, the vessels that did not sink properly were marked and additional efforts were done to sink them properly on the seafloor. After a few days, a group of divers inspected the vessel structure for any breakage or damage. Sinking the vessels properly was critical to their success as ARs as it determines their structural stability and suitability for marine life to inhabit and thrive.

Subsequently, the researchers from MFRDMD conducted an underwater video census to assess fish biodiversity and biomass in eight randomly selected vessels deployed in Kuala Kemasin on 21–22 September 2019. A total of 22 families consisted of 32 species of commercial fish and 14 species of coral fish. The total biomass of commercial fish was estimated to be 5,005 kg. The most common commercial fish species include the goldband fusilier (*Pterocaesio chrysozona*) with around 36,000 individuals, yellowtail scad (*Selaroides leptolepis*) with 18,000 individuals, yellow snapper (*Lutjanus lutjanus*) with 14,400 individuals, and Madras snapper (*Lutjanus madras*) with 7,200 individuals. For coral fish species, the most common were the barred cardinalfish (*Archamia fucata*) with around 19,980 individuals, golden cardinalfish (*Apogon aureus*) with 13,320 individuals, and bluespotted damselfish (*Neopomacentrus cyanomos*) with 12,600 individuals (Muhammad Amirullah *et al.*, 2020).

In Pulau Kapas, MFRDMD carried out an underwater video census at all vessels on 3–4 November 2019. A total of nine families composed of 13 species of commercial fish and four species of coral fish were recorded. The total biomass of

	Kuala Kemasin, Kelantan	Pulau Kapas, Terengganu
Period of AR installation	July–November 2019	March 2019
Site coverage area (m <sup>2</sup> )	1,836	336
Distance from coastline (nm)	8.9	4.1
Water depth (m)	24	25
Substrate	Muddy sand	Sandy
Vessels (ARs) deployed (number)	18	5
Vessel weight (GRT)	> 70	< 60
Average size (m) of vessels (L × W × H)	25.5 × 4.0 × 8.0	19.2 × 3.5 × 5.0
Date of fish surveys	21–22 September 2019	3–4 November 2019
Fish diversity (number of species)	46	17
Commercial fish biomass (kg)	5,005	129





*MFRDMD conducting fish visual surveys in artificial reefs made of confiscated foreign fishing vessels installed in Kuala Kemasin, Kelantan (top row) and Pulau Kapas, Terengganu (bottom row) in Malaysia*


commercial fish was estimated at 129 kg. The most common commercial fish species include mangrove red snapper (*Lutjanus lutjanus*) with an estimated 1,000 individuals, Madras snapper (*Lutjanus madras*) with 800 individuals, yellowstripe snapper (*Lutjanus vitta*) with 700 individuals, and goldband fusilier (*Pterocaesio chrysozona*) with 500 individuals. The most abundant coral fish was yellowtail damselfish (*Neopomacentrus cyanomos*) with about 500 individuals, followed by damselfish (*Neopomacentrus* sp.) with 250 individuals (Muhammad Amirullah *et al.*, 2020).

It can be inferred that using fiberglass-coated wooden vessels as ARs could also attract both commercial and coral fish species when compared to other reefing materials such as concrete. It was found that the size and number of vessels deployed directly correlated with the fish species diversity and biomass. Specifically, the use of a larger and greater number of vessels seemed to attract more diverse fish species resulting in higher fish biomass. This finding is supported by the study conducted by Saharudin *et al.* (2012) who suggested a positive correlation between the coverage area of ARs towards fish species diversity and biomass in Peninsular Malaysia.

MFRDMD and DoFM will continue to regularly monitor the fish species diversity and biomass in ARs in both sites. Also, the stability and durability of the deployed ARs would be monitored to prevent the structures from turning into marine debris and causing pollution in the sea. Through regular

monitoring, MFRDMD would take appropriate measures to ensure the longevity of the deployed ARs, thus preserving the marine ecosystem. Although official guidelines have not yet been developed, DoFM approved the guidelines for reefing of confiscated fishing vessels for research purposes by MFRDMD under this pilot study. The outputs of this study will be used as a reference for the official guidelines that will be developed in the future.

## References

- Ahmad, A., Rafezi, H., Nur Iskandar, T., Nor Azman, Z., Muhammad Amirullah Al Amin, A., & Mohd Saki, N. (2018). Penyelidikan dan Pembangunan Reka Bentuk dan Pembinaan Tukun Tiruan Di Malaysia (1975–2017). SEAFDEC/SP/37.
- Muhammad Amirullah Al Amin, A., Ahmad, A., Hamizah, N., A., Mohd Saki, N., Nor Azman, Z., Mohd Sukri, M., & Wahab, D. (2020). Study on biomass, value and biodiversity of fishes by underwater videography at selected artificial reefs in Peninsular Malaysia. Kuala Terengganu, Terengganu, Malaysia. SEAFDEC/MFRDMD
- Saharudin, A.H., Ahmad, A., Lokman, M.H., & Wan Salihin, W.A. (2012). Historical development and management of Malaysian Artificial Reefs (ARs). Proceedings of MTS-IEEE Oceans, 2012, Yeosu, Korea. 28 pp. 

# REGIONAL PROGRAMS

## SEAFDEC stock assessment activities presented in the FAO Regional Workshop

Three SEAFDEC staff, including Senior Policy Officer, *Ms. Pattaratjit Kaewnuratchadasorn*, Fishery Oceanographer and Fish Stock Assessment Researcher, *Dr. Supapong Pattarapongpan*, and Senior Project Planning and Management Officer, *Ms. Suwanee Sayan*, participated in the “FAO Regional Workshop for a Network of Practitioners on Fishery Stock Assessment” from 23 to 25 January 2023 in Bangkok, Thailand. The Workshop was aimed at providing a broad background on the status of stock assessment along with the science-based fishery management practices in South and Southeast Asia including an overview of the fish stock status in Asia, understanding the assessments

that are being carried out in Southeast Asia, Southern Asia, and management strategies in Southern China.

During the Workshop, *Dr. Supapong* presented the regional stock assessment conducted by SEAFDEC on neritic tunas in Sulu and Sulawesi Seas (SSS), and related projects on anguillid eels,



Indo-Pacific mackerels, tagging, purse seine, among others. In addition, he also served as the facilitator of the Southeast/East Asia group to discuss “Future networking and capacity-building for enhancing stock assessment in Asia” and presented the outputs of the working group to the Final Plenary Session. Finally, the Workshop summarized the results from each working group to the Plenary Session including key technical observations, recommendations, communication, future networking between regions and organizations, economics, regional and sub-regional networking, and other needs related to stock assessments.



## SEAFDEC participates in MCS Sub-regional Group Workshop

Relevant staff from the SEAFDEC Training Department (SEAFDEC/TD) participated in the online “Regional Plan of Action to Promote Responsible Fishing Practice including Combating Illegal, Unreported and Unregulated Fisheries (RPOA-IUU) Monitoring, Control, and Surveillance (MCS) Sub-regional Group Workshop” from 16 to 17 March 2023 organized by the Department of Agriculture, Fisheries, and Forestry of Australia in collaboration with the RPOA-IUU Secretariat. The Workshop was aimed at strengthening the capacity of sub-regional MCS groups and RPOA-IUU structure. On this occasion, the representative from

TD, *Mr. Kongpathai Saraphaivanich*, presented the SEAFDEC regional program and activities on MCS for combating IUU fishing in Southeast Asia. The presentation highlighted the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Toward 2030 (RES&POA-2030) and key aspects of programs and activities, including: 1) strengthening coordination and cooperation among the ASEAN Member States and other agencies in combating IUU fishing, 2) increasing capacity and awareness to combat IUU fishing, and 3) supporting the implementation of effective MCS measures.



## SEAFDEC partakes in OECD-ASEAN Workshop on Food Security



The SEAFDEC Program and Policy Coordinator, *Dr. Worawit Wanchana*, made a presentation during Session 4 (Fisheries)–Sustainable Support to Fisheries of the “OECD-ASEAN Workshop on Food Security: Sharing Evidence and Policy Experiences,” a virtual event jointly organized on 2 February 2023 by the Organization for Economic Co-operation and Development (OECD) and the Association of Southeast Asian Nations (ASEAN). In his presentation entitled “Regional Cooperation in Sustainable Fisheries Development Towards the

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## IFRDMD promotes Smart Fisheries Village in Lao PDR and Thailand



IFRDMD visited Lao PDR on 13 March 2023 and Thailand on 17 March 2023 to introduce the Smart Fisheries Village (SFV) program of the Ministry of Marine Affairs and Fisheries of Indonesia. Smart stands for Sustainability,

Modernization, Acceleration, and Technology. SFV is a concept of developing fisheries villages and work units based on applying high-quality seeds, information and communication technology, proper management,

sustainability, and economic growth in line with the aquaculture village program and Innovation Village/Partner Village. SFV is also an integrated, innovative fisheries village development model through collaboration with relevant stakeholders, including central and local governments, academia, industry, and communities. Moreover, IFRDMD also promoted the SFV in Patra Tani Village, South Sumatra, Indonesia which is a Special Area for Conservation and Fish *Refugia* (SPEECTRA) established by IFRDMD in 2020 in collaboration with the Research Institute for Inland Fisheries and Extension. ❖

## Students visit Smart Fisheries Village in Patra Tani, Indonesia



IFRDMD in collaboration with the Research Institute for Inland Fisheries and Extension (RIIFE) welcomed 16 elementary school students from West Java Province who visited the Smart Fisheries Village (SFV) in Patra Tani in South Sumatra, Indonesia on 16 February 2023. The students learned about giant

featherback, fish conservation concept in Special Area for Conservation and Fish *Refugia* (SPEECTRA), fish preservation, and fishing gear. Moreover, they explored the pool by raft boat, and fed the fish.

On 21 February 2023, a total of 22 of junior high school students from South

Sumatra Province visited Patra Tani to learn about entrepreneurship and catfish farming in buckets. This is to equip the younger generation to recognize the business world from an early age. Besides, the students also went on a brief excursion of the tourist destination.

SFV is a program of the Ministry of Marine Affairs and Fisheries of Indonesia. The SFV in Patra Tani was developed for education and tourist purposes under the auspices of the RIIFE. IFRDMD supports the SFV in Patra Tani through the establishment of SPEECTRA and other educational facilities. ❖

## SEAFDEC partakes in OECD-ASEAN Workshop on Food Security

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ASEAN Economic Community,” Dr. Worawit highlighted the priority issues and challenges in sustaining fisheries and aquaculture in the Southeast Asian region through the regional fisheries collaborative programs of SEAFDEC including fish stock assessment, IUU fishing, commercially exploited aquatic species under international concern, traceability system for fish and fishery products, responsible and sustainable aquaculture, among others.

The objective of the Workshop was to foster a policy dialogue on food security between ASEAN and OECD member countries. It was part of a wider project between OECD and ASEAN that aims to discuss priorities and key challenges related to food security in the Southeast Asian region; encourage cooperation in data collection; continue policy analysis and reporting activities planned for the region; and develop a network that can sustain a long-term policy dialogue

between the OECD and ASEAN. The Workshop focused on the best ways to monitor and evaluate trade and domestic policies and markets for agriculture; prospects for agricultural commodity and fish markets at the national, regional, and global levels; how countries can improve border procedures and reduce trade costs; efforts to reform government support to fisheries; and best practices to improve fish stock health and fisheries management. ❖

## Baseline Survey and Verification of Key Data Elements for eACDS in Cambodia



Under the project “Strengthening Regional Cooperation and Enhancing National Capacities to Eliminate IUU Fishing in Southeast Asia,” SEAFDEC Training Department (SEAFDEC/TD) in collaboration with Fisheries Administrative (FiA) of Cambodia conducted a baseline survey on the electronic Catch Documentation Scheme (eACDS) at the fishing port in Koh Kong Province, Cambodia and verification of Key Data Elements (KDEs) for

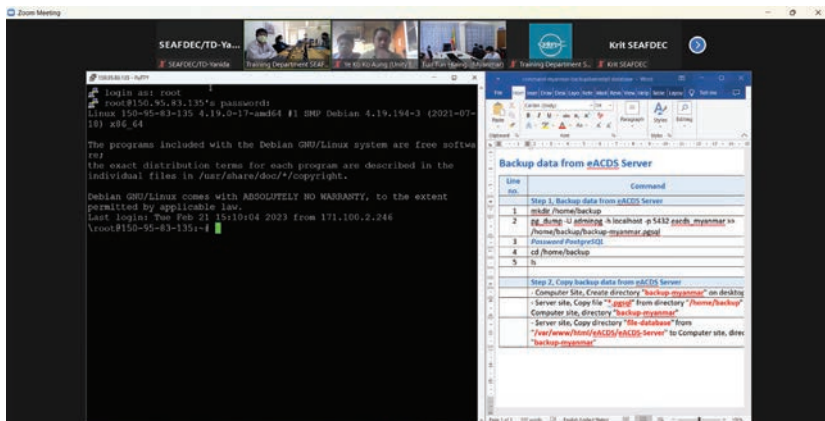
eACDS application from 28 to 30 March 2023. The results of the survey and verification of KDEs will be used to implement the eACDS application for Cambodia. Moreover, the training course on eACDS application in the part of Catch Declaration (CD) was planned to be organized in June 2023.

The eACDS application is a fisheries management tool developed by SEAFDEC to support the ASEAN

Member States (AMSs) in combating IUU fishing and enhancing the traceability of fish and fishery products in the region. SEAFDEC is assisting Cambodia with the e-logbook which is part of Catch Declaration in eACDS application for medium- and large-scale fisheries. ❖



## Online practical workshop on eACDS for Myanmar



The “Practical Workshop on Preparation and Installation of the eACDS Application to Server” was organized by the SEAFDEC Training Department (SEAFDEC/TD) from 21 to 22 February for Myanmar via the Zoom platform. The Training was intended to enhance the capacity of the technical staff from the Department of Fisheries of Myanmar in the installation of eACDS application as a prototype for the traceability of fish and fishery

products of the country. The Training was an activity under the project “Strengthening Regional Cooperation and Enhancing National Capacities to Eliminate IUU Fishing in Southeast Asia” supported by the Japanese Trust Fund. Myanmar cooperates with SEAFDEC in strengthening regional cooperation to combat IUU fishing by supporting the implementation of the eACDS application at the national level. ❖

## On-site training on chondrichthyan taxonomy, biology, and data collection in Cambodia

MFRDMD organized the “On-Site Training on Chondrichthyan Taxonomy, Biology and Data Collection” on 14–17 February 2023 in Sihanoukville, Cambodia. The aim of the Training was to enhance the skills of human resources in elasmobranch taxonomy and biology as well as introduce the techniques in data collection and management and identification of sharks and rays to the species level. The elasmobranch expert, *Dr. Ahmad Ali*, was invited as a lecturer to share his knowledge of the taxonomy and biology of sharks and rays. The Training was attended by a total of 18 trainees including staff from the Marine Fisheries Research and Development Institute (MaFReDI) and Fisheries Administration Cantonment (FiAC) of Cambodia. During the Training, the

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## Training course on utilizing of quantitative echosounder EK80



One of the research vessels of the SEAFDEC Training Department (TD), namely the M.V. SEAFDEC 2, has been installed with the Quantitative Echosounder (EK80) system which is one of the most advanced and widely used systems in fishery resources surveys because of its high precision and reliability. The EK80 could provide accurate and detailed information on the

distribution and size of fish populations; thus, this equipment is an important tool in the management of fishery resources.

In order to build the capacity of the relevant researchers of TD to effectively utilize the equipment for fisheries acoustic surveys as well as calibrate its installation, the “Training Course on the Principles and Methods of

Quantitative Echosounder EK80 to Conduct Fisheries Acoustic Survey” was organized by TD from 21 to 24 March 2023 at its premises in Samut Prakan Province, Thailand. The resource persons for the Training were *Mr. Freddy Supriyadi* from the SEAFDEC Inland Fishery Resources Development and Management Department (IFRDMD) and Ministry of Marine Affairs and Fisheries (MMAF) of Indonesia, and *Mr. Mohammad Fadli Yahya* from the Research Institute for Marine Fisheries, MMAF. The Training was an activity under the project “Sustainable Utilization of Fisheries Resources and Resources Enhancement in Southeast Asia” supported by the Japanese Trust Fund. ❖

## Training on Gender Mainstreaming in Fisheries Sector in Cambodia

SEAFDEC Training Department (SEAFDEC/TD) in collaboration with the Fisheries Administration (FiA) of Cambodia organized the “Training on Gender Mainstreaming in Fisheries Sector” from 14 to 16 March 2023 in Phnom Penh, Cambodia. The 18 trainees from the FiA gained a better understanding of gender aspects and learned the tools for mainstreaming gender in developing fisheries programs and projects through lectures and

practical sessions. The Training was one of the activities of the project “Small-scale Fisheries Management for Better

Livelihood and Fisheries Resources” supported by the Japanese Trust Fund. ❖



## On-site training on chondrichthyan taxonomy, biology, and data collection in Cambodia

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trainees learned to encode data into an Excel template and analyzed the encoded data using the pivot table. It is envisaged

that the Training would improve the country’s recording of sharks and rays landing data to the species level.

Such data would be utilized in developing the National Plan of Action-Sharks as well as preparing non-detriment findings (NDFs) for sharks and rays in the future.



This Training was an activity under the project “Research for Enhancement of Sustainable Utilization and Management of Sharks and Rays in the Southeast Asian Region” supported by the Japanese Trust Fund. ❖

# FUTURE ACTIVITIES

Date	Venue	Title	Organizer(s)
<b>2023</b>			
17 April–2 May	TMS, Philippines	Training Course on Sandfish ( <i>Holothuria scabra</i> ) Seed Production, Nursery and Management	AQD
24–28 April	BFS, Philippines	Training Course on Tilapia Hatchery and Grow-out Operations (Session 1)	AQD
25–27 April	Viet Nam	Training on Gender Mainstreaming in Fisheries Sectors in Viet Nam	TD
9 and 11 May	Online meeting	55 <sup>th</sup> Meeting of the SEAFDEC Council	SEC & Myanmar
15–16 May	Bangkok, Thailand	Inter-Sectoral Workshop on the Implementation and Monitoring of the ASEAN Roadmap on Elimination of the Worst Forms of Child Labour by 2025	ASEAN
15–19 May	Samut Prakan, Thailand	Tailor-made Training Course on Basic Marine Engineering for Kasetsart University (Sriracha Campus)	TD
15–25 May	TMS, Philippines	Training Course on Abalone ( <i>Haliotis asinina</i> ) Hatchery and Grow-out	AQD
22–26 May	BFS, Philippines	Training Course on Giant Freshwater Prawn Hatchery and Grow-out Operations (Session 2)	AQD
24–25 May	Krabi Province, Thailand	Training on eACDS Application in Catch Documentation Part in Krabi Province, Thailand	TD
30–31 May	Online meeting	18 <sup>th</sup> ASEAN Working Group on CITES and WE Meeting (AWG-CITES and WE)	ASEAN
13–15 June	Qingdao, China (Hybrid meeting)	37 <sup>th</sup> Session of the Asia-Pacific Fishery Commission (APFIC)	FAO/RAP
19 June	Samut Prakan, Thailand	Seminar on Updated Menu-driven Software for Fish Stock Assessments and Managements	TD
19–23 June	Geneva, Switzerland	32 <sup>nd</sup> Meeting of the Animals Committee of CITES	CITES
19–23 June	BFS, Philippines	Training Course on Tilapia Hatchery and Grow-out Operations (Session 2)	AQD
19 June–24 July	TMS, Philippines	Training Course on Marine Fish Hatchery Operations	AQD
20–22 June	Koh Kong Province, Cambodia	Training on the Use of eACDS Application in the Part of Catch Declaration (CD) in Koh Kong Province, Cambodia	TD
20–22 June	Singapore	Mid Term-Review Meeting for JTFVI Phase II Project on “Enhancing Food Safety and Competitiveness of Seafood Products - Track 1: Regional Guidelines on Good Manufacturing and Handling Practices (GMP & GHP) for Ready-to-eat Raw Fish and Fisheries Products”	MFRD
20–22 June	Singapore	Regional Training Workshop for JTFVI Phase II Project on “Enhancing Food Safety and Competitiveness of Seafood Products - Track 2: High Pressure Processing (HPP) Processing Protocols for Seafood”	MFRD
26–30 June	London, UK	13 <sup>th</sup> FIRMS Steering Committee meeting (FSC13) and the CWP Intersessional Meetings of Aquaculture and Fisheries Subject Groups	FAO
3-7 July	TMS, Philippines	50 <sup>th</sup> Anniversary Celebration of SEAFDEC/AQD	AQD
10-13 July	Terengganu, Malaysia	Regional Training Course on Artificial Reefs Development Program	MFRDMD & TD
18–19 July	Nha Trang, Viet Nam	Workshop on Developing the Field Guide for Glass Eel Species Identification	IFRDMD
24 July	Online meeting	13 <sup>th</sup> Meeting of the ASEAN Shrimp Alliance (ASA)	ASEAN
25 July	Online meeting	15 <sup>th</sup> Meeting of the ASEAN Fisheries Consultative Forum (AFCF)	ASEAN
26–27 July	Online meeting	31 <sup>st</sup> Meeting of the ASEAN Sectoral Working Group on Fisheries (ASWGF1)	ASEAN
8 August	Online	Webinar on Aquatic Genetic Resources	SEC
22-24 August	Chiang Mai, Thailand	3 <sup>rd</sup> Regional Technical Consultation on Fisheries Statistics and Information in Southeast Asia	SEC
29-31 August	Thailand	Regional Workshop: Towards a new era of support for small-scale fisheries in Southeast Asia	TD
20-22 November	Bali, Indonesia	46 <sup>th</sup> Meeting of SEAFDEC Program Committee	SEC & IFRDMD
23–24 November	Bali, Indonesia	26 <sup>th</sup> Meeting of Fisheries Consultative Group of the ASEAN-SEAFDEC Strategic Partnership (FCG/ASSP)	SEC
25 November	Bali, Indonesia	SEAFDEC Department Chiefs’ Meeting	SEC

## Master's students from CIFE, India visit TD



The SEAFDEC Training Department (SEAFDEC/TD) gave a warm welcome to 25 master's students in fisheries from the Central Institute Fisheries Education (CIFE) in Mumbai, India on 18 January 2023. SEAFDEC/TD provided a lecture on the role and mission of SEAFDEC, classification of fishing gear in Southeast Asia, and human resources development on fishery management in Southeast Asia. Moreover, the students observed the research and training facilities including the Fishing Workshop, Engineering Workshop, and M.V. SEAFDEC. The visit was part of the training program of the students at the Aquaculture and Aquatic Resources Management (AARM), School of Environment, Resources and Development of the Asian Institute of Technology (AIT). ❖

## TD welcomes Kasetsart University students



Seventeen students from the Faculty of Fisheries, Kasetsart University, Thailand were welcomed by SEAFDEC Training Department (SEAFDEC/TD) on 10 March 2023. During the visit, the students were informed about the activities of SEAFDEC and observed TD facilities such as the fishing workshop, marine engineering workshop, M.V. SEAFDEC, and M.V. SEAFDEC 2. Moreover, the students were able to gain more knowledge of coastal navigation and had the opportunity to practice skipping boat control in the Chao Phraya River. ❖

### 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.

## SEAFDEC ADDRESSES

### SECRETARIAT

P.O. Box 1046, Kasetsart Post Office,  
Chatuchak, Bangkok 10903, Thailand  
Tel: +66 2940 6327 Fax: +66 2940 6336  
E-mail: [secretariat@seafdec.org](mailto:secretariat@seafdec.org)  
<http://www.seafdec.org>

### TRAINING DEPARTMENT (TD)

P.O. Box 97, Phrasamutchedi,  
Samut Prakan 10290, Thailand  
Tel: +66 2425 6100 Fax: +66 2425 6110 to 11  
E-mail: [td@seafdec.org](mailto:td@seafdec.org)  
<http://www.seafdec.or.th>

### MARINE FISHERIES RESEARCH DEPARTMENT (MFRD)

52, Jurong Gateway Road,  
##14-01, Singapore 608550  
Tel: +65 9046 4787; Fax: +65 6334 1831  
E-mail: [Ong\\_Yihang@sfa.gov.sg](mailto:Ong_Yihang@sfa.gov.sg)  
<http://www.seafdec.org>

### AQUACULTURE DEPARTMENT (AQD)

**Main Office:** Tigbauan, 5021 Iloilo, Philippines  
Tel: +63 33 330 7000, 511 9170  
Fax: +63 33 330 7002

**Manila Office:** Rm 100-E, G/F, Philippine Social  
Science Center (PSSC) Commonwealth Avenue, Diliman,  
Quezon City 1101, Philippines  
E-mail: [aqdchief@seafdec.org.ph](mailto:aqdchief@seafdec.org.ph)  
<http://www.seafdec.org.ph>

### MARINE FISHERY RESOURCES DEVELOPMENT AND MANAGEMENT DEPARTMENT (MFRDMD)

Taman Perikanan, Chendering  
21080 Kuala Terengganu, Malaysia  
Tel: +609 617 5940, 617 1543  
Fax: +609 617 5136  
E-mail: [mfrdmd@seafdec.org.my](mailto:mfrdmd@seafdec.org.my)  
<http://www.seafdec.org.my>

### INLAND FISHERY RESOURCES DEVELOPMENT AND MANAGEMENT DEPARTMENT (IFRDMD)

Jl. Gub. HA. Bastari No.08 Rt.29 Rw.07 Kel.Silaberanti Kec.  
Seberang Ulu I-Jakabaring, Palembang 30252  
South Sumatra, Indonesia  
Tel: +62 711 5649600; Fax: +62 711 5649601  
E-mail: [ifrdmd@seafdec.id](mailto:ifrdmd@seafdec.id)  
<http://www.seafdec.id>

### Advisory Board:

Malinee Smithrithee,  
*Secretary-General and TD Chief*  
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**Layout:** Sunutta Pudtal

## Ms. Bayate serves as new SEAFDEC Council Director for the Philippines



Ms. Drusila Esther Bayate will start her new role as SEAFDEC Council Director for the Philippines in 2023, following her appointment as the new Undersecretary for Fisheries of the Department of Agriculture of the Philippines on 6 January 2023. She will be part of the SEAFDEC Council that provides directives for the operation of SEAFDEC and assists in the formulation

of solutions to address the priorities and needs of the fisheries and aquaculture sector of the region.

Prior to the appointment of Ms. Bayate as the Council Director, she had served as SEAFDEC Alternate Council Director for the Philippines from January 2013 until July 2022. ❖

## SEAFDEC welcomes the representatives from U.S. Embassy Bangkok and USAID



SEAFDEC welcomed the Civil Affairs Team Leader of the U.S. Embassy Bangkok, Mr. Andrew Shin, lead of ecosystems management for USAID in Asia, Mr. Brad Arsenault, and representative from USAID Regional Development Mission for Asia

(RDMA), Ms. Araya Poomsaringkarn, on 8 February 2023 at the SEAFDEC Secretariat in Bangkok, Thailand.

SEAFDEC presented the achievements of the previous collaboration between SEAFDEC and

the U.S. Department of Interior (DOI) under the project “Implementing the Lower Mekong Fish Passage Initiative in Cambodia, Thailand, and Viet Nam.” The possible collaboration on the promotion of fish passages in Southeast Asia was also discussed. Moreover, the workplan of USAID SUFIA Technical Support (TS) activities in the Indo-Pacific region was introduced to SEAFDEC, highlighting the technical support of the USAID SUFIA TS to regional fisheries organizations in Southeast Asia including ASEAN, Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security (CTI-CFF), and Regional Plan of Action to Promote Responsible Fishing Practices including Combating Illegal, Unreported and Unregulated Fishing in the Region (RPOA-IUU). ❖

## DOF Thailand staff trained on digital illustration of inland fishing gear

SEAFDEC Training Department (SEAFDEC/TD) organized the “Training Course on Illustrator for Inland Fishing Gear” from 27 February to 3 March 2023 in Samut Prakan Province, Thailand. The trainees, which comprise 14 fishery officers from the Inland Fisheries Research and Development Division, Department of Fisheries, Thailand, learned the principles of digital illustration for the production of digital media on common inland fishing gear in the country.

This Training was conducted under the Departmental Program of TD “Promotion on Strengthening of

SEAFDEC Visibility and Enhancing Human Capacity Building.” ❖

