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EDITORIAL

During the last quarter of 2023, SEAFDEC organized several important events, such as the “Forty-sixth SEAFDEC Program Committee Meeting” which discussed and reviewed the progress and achievements of SEAFDEC programs, projects, and activities implemented in 2023 and proposed for 2024; and the “Twenty-sixth Meeting of the Fisheries Consultative Group (FCG) of the ASEAN-SEAFDEC Strategic Partnership (ASSP)” which addressed the policy considerations that are significant to the fisheries sector in the region.

Toward strengthening capacity, SEAFDEC convened several trainings/workshops for concerned fishery officers from the ASEAN Member States during this quarter such as “Advanced Aquaculture Technologies for Commercially Important Commodities in Southeast Asia” which aimed to enhance expertise in various aspects of aquaculture such as biology, broodstock

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SEAFDEC convenes 46PCM back-to-back with 26FCG/ASSP



The Forty-sixth Meeting of the SEAFDEC Program Committee (46PCM) took place in Bali, Indonesia from 20 to 22 November 2023, hosted by the SEAFDEC Inland Fishery Resources

Department (IFRDMD) in cooperation with the SEAFDEC Secretariat. The 46PCM was participated by the Program Committee Members for Brunei Darussalam, Cambodia, Indonesia,

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SEAFDEC Department Chiefs’ Meeting convened



The SEAFDEC Department Chiefs’ Meeting was convened in Bali, Indonesia on 25 November 2023. The SEAFDEC Secretary-General, *Dr. Suttinee Limthammahisorn*, along with the Deputy Secretary-General, SEAFDEC Department Chiefs, Deputy Chiefs, and senior officials from the SEAFDEC Secretariat, TD, MFRD, AQD, MFRDMD, and IFRDMD. The Meeting discussed the updates on the actions made and to be made by the Departments on the recommendations provided during 55th Meeting of the SEAFDEC Council, 46th Meeting of SEAFDEC Program Committee, and 26th

Meeting of Fisheries Consultative Group of the ASEAN-SEAFDEC Strategic Partnership. For the information-related matters, the Meeting took note of the results of the 24th Meeting of SEAFDEC Information Staff Program held in October 2023 and discussed the issues including SEAFDEC Calendar 2025, SEAFDEC eNews, Special Publication “Fish for the People” SEAFDEC institutional video, among others. After the discussions on administrative and financial matters, the Meeting also discussed the preparation for the 56th Meeting of the SEAFDEC Council in 2024.



EDITORIAL

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management, hatchery and breeding technology, and disease management; “UNCLOS 1982 in Fisheries Perspective” to enhance capacity and knowledge of UNCLOS and its implications on fisheries; “Stock and Risk Assessment of Two Seerfish Species” to enhance knowledge of CPUE standardization and stock assessment analysis using ASPIC, Kobe plot (stock status trajectory), risk assessment, and other applicable mechanisms or methods; “Stock Assessment of Sharks and Rays Using the YPR”; “Energy Optimization for Fishing Vessels and Optimal Post-Harvest Fish Handling Techniques” to boost their knowledge of responsible fishing practices that are sustainable and environment-friendly; financial access and micro-insurance for small-scale fisheries, marine steering gear system. “The Regional Technical Meeting on Responsible Fishing: ALDFG and Marking of Fishing Gear” was also organized which aimed at enhancing human resources capacity on ALDFG and fishing gear marking as well as sharing information on the national policies, research activities, and best practices on ALDFG and fishing gear marking.

To enhance the collaboration with various organizations and agencies, SEAFDEC co-hosted the “2023 ASFA Advisory Board Meeting” that discussed the progress of activities of the respective ASFA Partners as well as the potential contributions to other works. SEAFDEC also participated in the regional inception meeting of the BOBLME II that presented the overview and current status of BOBLME II and Project Institutional Arrangements. Courtesy calls were also made by SEAFDEC on various agencies and institutions in Japan which aimed at strengthening the collaboration between SEAFDEC and the Government of Japan as well as relevant fisheries and aquaculture agencies and institutions.

At the last quarter of 2023, SEAFDEC bid farewell to *Dr. Rudi Alex Wahyudin* and welcomed *Mr. Andi Soesmono* as the new Chief of SEAFDEC/IFRDMD starting 14 December 2023. ☒

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SEAFDEC convenes 46PCM back-to-back with 26FCG/ASSP

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Japan, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam with their delegations. Distinguished attendees included the SEAFDEC Secretary-General, Deputy Secretary-General, Department Chiefs as ex-officio members of the SEAFDEC Program Committee together with officers from the SEAFDEC Secretariat and Departments, as well as representatives from the Food and Agriculture Organization of the United Nations/Regional Office for Asia and Pacific (FAO/RAP) and United States Agency for International Development/Regional Development Mission for Asia (USAID/RDMA).

The 46PCM reviewed the progress and achievements of the projects implemented in 2023 and endorsed the proposed program of activities for 2024 to ensure that the activities address the requirements of the SEAFDEC Member Countries. The 46PCM provided insights and suggestions on 22 ongoing projects under the Fisheries Consultative Group of the ASEAN-SEAFDEC Strategic Partnership (FCG/ASSP) Mechanism, nine Departmental Programs, one Other Program, and one Pipeline Project. The 46PCM also discussed the new Japanese Trust Fund-7 framework, future of the Regional Fisheries Policy Network (RFPN) program, and revision of the Regional Framework on Fishery Statistics of Southeast Asia. The outcomes of the 46PCM would be submitted to the forthcoming meeting of the SEAFDEC Council for consideration and approval as well as the ASEAN Sectoral Working Group on Fisheries (ASWGFi) through the Twenty-sixth Meeting of the Fisheries Consultative Group of the ASEAN-SEAFDEC Strategic Partnership (26FCG/ASSP), which was organized back-to-back with the 46PCM.

Convened on 23-24 November 2023, the Twenty-sixth Meeting of the Fisheries Consultative Group of



the ASEAN-SEAFDEC Strategic Partnership (26FCG/ASSP) was attended by representatives from the ASEAN-SEAFDEC Member Countries, representative from the ASEAN Secretariat, as well as the SEAFDEC Secretary-General, Deputy Secretary-General, and senior officials of the SEAFDEC Secretariat and Departments. The 26FCG/ASSP was co-chaired by the Director-General of the Department of Livestock and Fisheries of Lao PDR, *Dr. Kaviphone Phouthavong*, the current Chairperson of the ASEAN Sectoral Working Group on Fisheries (ASWGFi) and Secretary-General of SEAFDEC, *Dr. Suttinee Limthammahisorn*. The 26FCG/ASSP highlighted the follow-up actions carried out by SEAFDEC and the ASEAN Member States (AMSs) on the directives of the Fifty-fifth Meeting of the SEAFDEC Council in 2023, meetings of the ASEAN bodies related to fisheries, and other meetings of SEAFDEC in 2023, and also the status of programs and activities under the FCG/ASSP mechanism that was implemented by SEAFDEC in 2023 and those proposed for implementation in 2024 as endorsed by the 46PCM, and policy recommendations on important issues that impact the sustainability of the fisheries sector in the AMSs such as combatting IUU fishing, marine fisheries resources management, international fisheries-related issues, among others. The results and recommendations of the 26FCG/ASSP would be submitted to the SEAFDEC Council for approval and to the ASWGFi for endorsement to the higher authorities of the ASEAN.



SEAFDEC Mission strengthens cooperation with Japan toward sustainable fisheries and aquaculture



SEAFDEC Mission visiting the Fisheries Agency of Japan and meeting with the SEAFDEC Council Director for Japan

The Mission from SEAFDEC, led by the Secretary-General, *Dr. Suttinee Limthammahisorn*, along with the Deputy Secretary-General and Japanese Trust Fund Manager, *Dr. Tomoko Nakazato*, and senior officials from the SEAFDEC Secretariat and Training Department, paid courtesy calls on various agencies and institutions in Japan from 11 to 18 December 2023. The visit was aimed at strengthening the collaboration between SEAFDEC and the Government of Japan as well as relevant fisheries and aquaculture agencies and institutions including the Fisheries Agency of Japan (FAJ), Japan Fisheries Research and Education Agency (FRA) and its field stations in Yokohama and Nagasaki, Tokyo University of Marine Sciences and Technology (TUMSAT), Hakodate Research Center for Fisheries and Oceans, Hokkaido University, Nagasaki Prefectural Institute of Fisheries, and Nagasaki University.

The SEAFDEC Mission visited the Yokohama Station of the FRA and met with the President, *Dr. Ichiro Nakayama*, and staff. The SEAFDEC Secretary-General expressed her appreciation to the FRA for the support rendered to SEAFDEC, particularly in extending the Deputy Chiefs to AQD, MFRDMD, and IFRDMD as well as experts who supported the technical activities of SEAFDEC throughout the past years. She also informed the FRA of the emerging challenges that confront the sustainable development of fisheries

in the region and requested the FRA to continue supporting the capacity building of the staff of SEAFDEC and the ASEAN Member States.

The SEAFDEC Mission visited the Director-General of the FAJ, *Mr. Takeshi Mori*, and the Councilor and Director-General for International Fisheries and SEAFDEC Council Director for Japan, *Dr. Takumi Fukuda*, and other officials of the FAJ. *Dr. Suttinee* expressed appreciation to the FAJ for the continued support to SEAFDEC through the Japanese Trust Fund (JTF) and for extending the researchers from the FRA to support the activities of TD, AQD, MFRDMD, and IFRDMD. The support strengthened the capacity of SEAFDEC and its Member Countries in various aspects such as eliminating IUU fishing, improving fisheries management, developing cost-effective aquaculture, and providing platforms for the ASEAN Member States where the results of the discussions could be raised at fisheries-related international fora such as CITES, WTO, UNCLOS, among others. She also expressed her gratitude to the FAJ for considering continuing the support to SEAFDEC through the JTF-7 which will be implemented in 2025–2029.

Furthermore, the SEAFDEC Mission attended the SEAFDEC Technical Support Committee (TSC) Meeting facilitated by the Marino Forum 21 (MF21). The Committee, which is composed of representatives from fisheries-related universities and institutions in Japan, reported the

activities that support SEAFDEC and the Member Countries, particularly in building capacity and extending resource persons and expertise. While expressing appreciation to the MF21 and TSC for the support extended in 2023, *Dr. Suttinee* reiterated the need for continued support, particularly in human capacity development for the young staff of SEAFDEC and the Member Countries as well as technical assistance in a wide range of fisheries subjects under the JTF-7.

The SEAFDEC Mission also paid courtesy visits to TUMSAT, Hokkaido University, and Nagasaki University including their facilities and laboratories. During the visit, SEAFDEC and representatives from universities exchanged information on fisheries and aquaculture in Southeast Asia and SEAFDEC conveyed its role in supporting the ASEAN Member States toward sustainable development of fisheries and aquaculture. In this regard, *Dr. Suttinee* underscored the importance of continued cooperation between SEAFDEC and these universities in human capacity development in various forms such as on-the-job training or higher education of SEAFDEC staff in Japan, internships of Japanese students in SEAFDEC, and sharing knowledge of the Japanese experts from universities at SEAFDEC events. The priority concerns of the region were also discussed, such as stock assessment, fish larvae identification, oceanography, hydroacoustic survey, marine debris, microplastics, among others. ☒



Participants in the TSC Meeting hosted by the Marino Forum 21

DEPARTMENTAL ACTIVITIES

AQD Deputy Chief offers solutions to threats to kelp industry in Japan



Rising water temperatures and warm water masses off the Pacific coast of eastern Hokkaido during summer and autumn have led to poor kelp harvests in recent years. This issue took center stage at the 16th International Kuroshio Science Symposium (IKSS) where SEAFDEC/AQD Deputy Chief, *Dr. Sayaka Ito*, addressed the challenge. *Dr. Ito* was one of the plenary speakers at the symposium held on 16–17 December 2023 in Naga City, Philippines. He presented his study “A Story on the Terminus of the Kuroshio Current: Understanding the Physical Environmental Characteristics of Kelp Harvest Grounds.” The focus of the study was on “Naga-konbu” (*Saccharina longissima*), a long-blade

kelp species constituting 40 % of the kelp production of Japan, primarily found along the Pacific coast of eastern Hokkaido and a significant source of income for local households engaged in small-scale coastal fisheries.

During his presentation to an audience comprising academics and researchers from countries along the Kuroshio. Currently, *Dr. Ito* pointed out the lack of environmental information on kelp growth and habitat which prevents seaweed harvesters from making sound scientific decisions to improve resource management practices and preventing a decline in kelp production. To address this gap, *Dr. Ito* and his team conducted

a spatial and statistical analysis using geographical information system (GIS) data on harvest ground location, kelp measurement, and basic fishery area maps. The analysis revealed a crucial relationship between the physical environmental characteristics of kelp harvest grounds and kelp growth. As a result, a potential kelp growth map on harvest grounds was created, providing valuable insights for strategic decision-making. He concluded by sharing the procedure for creating the potential map and emphasizing its practical usefulness.

Themed “Towards Resilient and Sustainable Ecosystems and Communities along Kuroshio Science Sphere of Influence,” the Symposium aimed at fostering collaboration among educators, researchers, and practitioners to enhance the resilience and sustainability of ecosystems and communities within the Kuroshio Sphere. Partido State University organized the Symposium in partnership with Kochi University Graduate School of Kuroshio Science in Japan. 

AQD-published paper wins prestigious award in PH



The paper published by SEAFDEC/AQD entitled “Seaweed *Gracilariopsis heteroclada*, formulated flaked diet, and a combination of both as feed for the abalone *Haliotis asinina*: effect on growth and survival” was hailed the Most Outstanding Published Paper in

the Aquatic Sciences Category of the Dr. Elvira O. Tan Awards. AQD scientist and the paper’s primary author, *Dr. Ma. Junemie Hazel Lebata-Ramos*, accepted the award on behalf of her co-authors, *Ms. Ellen Flor Solis* and *Mr. Joseph Biñas*, during the DOST-PCAARRD

Recognition and Awarding Ceremony held in Los Baños, Laguna, Philippines last 10 November 2023.

The research paper, published in *Aquaculture International* on 27 January 2023, reported that a mix of seaweed and formulated flaked diet resulted in higher growth, survival, and feed conversion ratios of abalone, compared to an exclusive seaweed or flake diet. The study builds upon *Dr. Ramos’* previous study showing that an abalone diet in flake form gives better yields compared to a noodle form. The research is part of a broader move to minimize, if not eliminate, the dependence of the abalone industry on the seaweed *Gracilariopsis heteroclada* as feed. 

SEAFDEC Secretary-General visits AQD

The Secretary-General of SEAFDEC, *Dr. Suttinee Limthammahisorn* received a warm welcome at the SEAFDEC Aquaculture Department (AQD) in Iloilo, Philippines, on 26–27 October 2023. In her capacity as the newly appointed SEAFDEC Secretary-General, *Dr. Suttinee* was briefed by *Mr. Dan Baliao*, AQD Chief, *Dr. Sakaya Ito*, AQD Deputy Chief, and researchers. The briefing covered the Department's notable achievements and ongoing research and development programs in various aspects of aquaculture, including biology, broodstock management, hatchery and breeding technology, nutrition, feeding, disease management,

and food safety of aquaculture products (milkfish, pompano, sandfish, mangrove crab, tiger shrimp, giant freshwater prawn, eels, tilapia, seaweeds, etc.). Additionally, *Dr. Suttinee* toured AQD facilities at Tigbauan Main Station, which included FishWorld Museum and Library, Igang Marine Station, and Dumangas Brackishwater Station.

With the mission to provide dynamic and competent leadership in the generation and promotion of responsible science-based technologies to strengthen stakeholder capacities in aquaculture and aquatic resources management, SEAFDEC/AQD recently



celebrated its 50th Anniversary on 7 July 2023. Interestingly, the current Secretary-General of SEAFDEC was a participant in one of the training programs conducted by AQD in the 1990s, showcasing the Department's longstanding commitment to capacity building. ✦

SEAFDEC upholds environmental sustainability and regional cooperation at the Global Plastics Summit 2023



The Program Officer from the SEAFDEC Secretariat, *Mr. Witsarut Choseng*, and the Fisheries Management Section Head of the SEAFDEC Training Department, *Ms. Thanyalak Suasi*,

attended the “Global Plastics Summit 2023: Working towards a robust UN plastics treaty” which was held on 11–12 October 2023 in Bangkok, Thailand. Hosted by the Economist Impact, the event drew the participation of more than 500 representatives from various sectors in more than 100 countries. The objectives of the Summit were to 1) address critical issues in anticipation of the first draft of the UN plastics treaty, 2) facilitate discussion on the entire ecosystem among negotiators, businesses, health experts and scientists, NGOs, waste-pickers, investors, finance sector, waste recyclers, and policymakers, and 3) provide diverse perspectives and

expertise through interactive plenaries and working groups by collaborating with senior leaders in the plastics sector.

The Summit focused on the plastic pollution crisis in coastal and marine environments in the Southeast Asian region. SEAFDEC, known for its dedication to environmental sustainability and regional cooperation, conducts related activities on research and capacity building in the fisheries sector to reduce marine debris and the application of scientific knowledge in regional policies and monitoring in relevance to “ASEAN Framework of Action on Marine Debris.” ✦

Construction underway for aquaculture feed mill facility

Construction has begun on a new feed mill plant for cost-effective feeds at the SEAFDEC/AQD Tigbauan Main Station in Iloilo, Philippines. The project is part of the National Fisheries Program that plans to build aquafeed mills in strategic locations in the country. The project cost is PHP 26,786,394.53 (USD 481,762) and AQD contributed a counterpart fund of PHP 250,000 (USD 4,496) for the medium-scale aquaculture feed mill plant which will have a daily production capacity of 5 t.

The feed mill plant has the potential to provide high-quality feeds at a stable price using raw materials sourced from local farmers. The proponent is the Philippine Department of Agriculture-Bureau of Fisheries and Aquatic Resources (DA-BFAR) Regional Office 6, which sourced funds for this project from the budget allocated by DA to BFAR. ✦



Enhancing the capacity of small-scale fishers to access financial services



SEAFDEC Training Department (SEAFDEC/TD) organized the “Training on Financial Access and Micro-insurance for Small-scale Fisheries” at the pilot learning site in Ban Hat Sai Khao Village, Ranong Province on 16 November 2023. The Training was attended by 21 local small-scale fishers to gain knowledge of accessing financial and micro-insurance services. The resource persons from the Bank of Agriculture and Agriculture Cooperatives as well as Department of Fisheries, Thailand shared information

on loan applications, financial service schemes, and insurance systems. Such information is useful for small-scale fishers in accessing financial services as well as availing of the appropriate financial services from financial institutions and insurance agencies. The Training was one of the activities of the project “Small-scale Fisheries Management for Better Livelihood and Fisheries Resources” which is supported by the Japanese Trust Fund. ❖

Training Course on Marine Steering Gear System Tailor-made for Students



As requested by the Faculty of International Maritime Studies of the Kasetsart University, Sriracha Campus, the “Tailor-made Training Course on Marine Steering Gear System” was organized by the SEAFDEC Training Department (SEAFDEC/TD) for 13 students from 13 to 19 November 2023 at the premises of TD in Samut Prakan, Thailand. The topics of the Training including steering principles, steering gear electrical control, hydraulic power-operated rudder systems, and hydraulic

power rotary pumps were imparted by the Second Engineer of M.V. SEAFDEC and his team to the students through lectures and hands-on exercises. It is envisaged that the students would apply the knowledge and experience they gained from the Training to their job in the future. The Training was one of the activities of the Departmental Program “Promotion on Strengthening of SEAFDEC Visibility and Enhancing Human Capacity Building.” ❖

Research collab nets tons of whiteleg shrimp



In a collaborative research endeavor between SEAFDEC/AQD and the National Fisheries Research and Development Institute (NFRDI), approximately 4.2 t of whiteleg shrimp (*Litopenaeus vannamei*) were harvested on 6–7 October 2023 at the NFRDI-Freshwater Fisheries Research and Development Center in Taal, Batangas, Philippines.

The shrimps were cultured from July to October 2023 in five brackishwater ponds with a total area of 4,000 m² and with a stocking density of 30 pieces/m². Utilizing an environment-friendly technique over the span of 90 days, the research achieved a remarkable 100 % survival rate among the shrimp, with an average body weight of 28 g.

The collaboration between AQD and NFRDI commenced in March 2023. AQD played a pivotal role by providing financial support, technical expertise, and necessary equipment for the research project. The harvest marked the second successful run of whiteleg shrimp grow-out culture. ❖

Another batch of tiger shrimp broodstock received, quarantined, tested



A batch of 165 tiger shrimp (*Penaeus monodon*) broodstock, each weighing approximately 71.6 g, arrived at SEAFDEC/AQD Tigbauan Main Station in Iloilo, Philippines. The broodstock were sourced from Leganes, Iloilo and temporarily held in the AQD shrimp

quarantine facility on 10 November 2023.

The shrimp underwent an acclimatization process upon arrival for them to gradually adapt to their new environment. Following this phase, the broodstock underwent thorough disinfection using an iodine solution. Thereafter, they were PCR-tested for primary shrimp pathogens to ensure they do not bring in diseases to the biosecure broodstock facility.

Stocking up of breeders is one of the initiatives of AQD under the “OPLAN Balik Sugpo” (Operation

Plan to Revive Tiger Shrimp) program to increase its capacity to produce seeds and, eventually, broodstock of the prime commodity. It is hoped that AQD will eventually mass produce disease-free broodstock and reduce dependence on wild-caught spawners. ❖



Aquaculture commodities featured in national science exhibition



An aquarium tunnel displaying various fishes, invertebrates, and seaweeds, all cultured by SEAFDEC/AQD, was a hit during the National Science, Technology, and Innovation Week celebration launched in Iloilo City, Philippines on 22 November 2023. The display of AQD-farmed commodities was part of an underwater-themed exhibition called “Palawud” hosted on

the M/V Capt. John B. Lacson training ship docked at the Muelle Loney wharf in Iloilo City, Philippines. The ribbon cutting for the exhibition was led by the Secretary of the Department of Science and Technology (DOST), *Dr. Renato*

Solidum. On the same day, busloads of visitors from various educational institutions as well as walk-in guests enjoyed the 16 aquarium displays with a total of 18 different aquaculture species. ❖



AQD scientist shares research on cost-efficient feeds during fisheries convention



AQD scientist, *Dr. Roger Edward Mamauag*, showcased his research on cost-efficient fish feeds during the 10th Fisheries Scientific Conference (SciCon) on 11–12 October 2023 at the Marikina Convention Center in Marikina City, Philippines. His presentation entitled “Development of Cost-Efficient Feeds for Milkfish and Tilapia” showed how the diet formulated by AQD outperformed

commercial feeds. The AQD-formulated feed utilized byproducts from corn and poultry abattoirs, and coconut-fermented copra meal to replace fish meal as a protein source. *Dr. Mamauag*’s study is part of a broader project in collaboration with the National Fisheries Research and Development Institute (NFRDI) and the Bureau of Fisheries and Aquatic Resources (BFAR). ❖

Int'l trade exhibit connects AQD to stakeholders

SEAFDEC/AQD entertained hundreds of fish farmers, government personnel, investors, and other stakeholders in its exhibit during the Agrilink, the largest international trade show of the Philippines for agribusiness, food, and fisheries, held in Pasay City, Philippines on 5–7 October 2023. The AQD Chief, *Mr. Dan Baliao*, was present, along with scientists, consultants, and other technical and information staff of AQD who shared their knowledge and



advice with stakeholders. They discussed issues including those encountered in their farms and the ways that AQD could help them.

AQD also displayed live giant freshwater prawn, silver tharapon, and PrimoAlga, a concentrated algae product, which drew visitors to the exhibit. Moreover, the AQD bookstore

was visited by hundreds of fish farmers, government personnel, and other stakeholders who purchased hard copies of aquaculture manuals or scanned QR codes to download the electronic copies.

Additionally, those interested to enroll in hands-on training courses were able to pre-register for the courses in the coming year. ✦

AQD Deputy Chief shares successful case studies at int'l conference



The Deputy Chief of SEAFDEC/AQD, *Dr. Sayaka Ito*, took center stage as one of the plenary speakers during the 7th International Conference on Fisheries and Aquatic Sciences (7th ICFAS) held from 18 to 20 October 2023 at the Grand Xing Hotel in Iloilo City, Philippines organized by the University of the Philippines Visayas.

In front of a diverse audience that included academics, representatives from civil society, government officials, and members of non-government organizations, *Dr. Ito* presented his research entitled “Stock Management of Small-Scale Shrimp Fishery: case studies in Northern Laos and Northeast Japan”

on the second day of the Conference. His presentation shed light on a case study involving an indigenous shrimp species, *Macrobrachium yui*, locally called “khung bo” in northern Lao PDR. *Dr. Ito* discussed the development and implementation of stock management measures in this area where shrimp sampling was conducted monthly from 2007 to 2014 in the main river, forest river, and cave stream of Na-pho Village. It was found that shrimp catch was higher in the rainy season, and the annual catch decreased significantly over five years. Similar trends were observed in other areas which became a social problem. To address the issues, a fishing regulation was established under the Law

on Fisheries of Lao PDR. Additionally, a community-based shrimp fishery committee was formed to enforce fishing regulations and promote the sustainable use of aquatic resources.

Furthermore, *Dr. Ito* presented a case study of successful stock management of the grass shrimp species *Pandalus latirostris*, known locally as “Hokkai ebi” in eastern Hokkaido, Japan. This study led to a year-long fishery closure and revisions to fishery regulations in 2007. The changes included increasing the mesh size of traps from 24 mm to 33 mm, limiting the number of traps to 50 per license from the previous 250, and significantly reducing the fishing season from eight months to two months. These concerted efforts resulted in a remarkable recovery of the shrimp stock since 2010. The community-based approach to shrimp resource management received accolades from the Japanese Minister of Agriculture, Forestry and Fisheries and became widely recognized in Japan as a successful case of aquatic resource management. ✦

IFRDMD presents acoustic study on eel resources in AFAS 2023



The Section Head of Fishery, Limnology and Resource Enhancement of SEAFDEC/IFRDMD, *Mr. Freddy Supriyadi*, attended the “16th Annual Meeting of the Asian Fisheries Acoustic Society” or AFAS 2023 in Shanghai,

China on 13–16 November 2023. Hosted by Shanghai Ocean University and Yangtze River Fisheries Research Institute, AFAS 2023 is an international conference on underwater acoustic technology and education for sustainable fishery in Asia with the attendance of more than 50 young scientists and students.

During the AFAS 2023, *Mr. Freddy* presented a paper entitled “The Comparison of Daytime and Night-Time Survey with Acoustics Horizontal Beaming: Study Case in Cimandiri River, Indonesia” highlighting the

application of hydroacoustic technology on stock assessment of eel resources in inland waters. The study suggested that eel fishing activities could be carried out at night time as the study found that a higher number of glass eels were detected at night time than in the daytime. The Cimandiri River in Palabuhan Ratu, West Java is endowed with abundant glass eels where the study was conducted as one of the activities of the project entitled “Sustainable Utilization of Anguillid Eels in the Southeast Asia Region” supported by the Japanese Trust Fund. ❖

IFRDMD conducts anguillid eel survey in the Philippines



Under the project “Sustainable Utilization of Anguillid Eels in the Southeast Asia Region” supported by the Japanese Trust Fund, IFRDMD

conducted a survey of anguillid eels in the Cagayan River in Tuguegarao, Philippines on 6–10 December 2023 in collaboration with AQD and Department of Agriculture-Bureau of Agricultural Research Region II. During the survey, glass eel samples were collected from a fyke net set for 12 hours in the Cagayan River and were brought to the laboratory in IFRDMD for detailed observation for species identification. Interviews with nine consolidators were also carried out to determine the local and international marketing of eels. Other interviews were also done with nine women regarding

their roles in the eel fishery and 21 eel fishers to understand their concerns about the sustainability of the eel fishery.

Furthermore, IFRDMD had the chance to visit the research facilities of AQD in Tigbauan Main Station in Iloilo and Binangonan Freshwater Station in Binangonan, Rizal where they were briefed on the ongoing and future activities. The possibility of collaboration between IFRDMD and AQD on small-scale aquaculture of eels was also discussed. ❖

IFRDMD organizes JTF Annual Progress Meeting



The JTF Annual Progress Meeting with the theme “Securing the Sustainability of Fisheries to Contribute to Food Security, Poverty Alleviation, and Livelihood of People in the Region” was organized by IFRDMD on 27 December 2023 in

a hybrid format. The participants of the Meeting include representatives from the SEAFDEC Secretariat, IFRDMD, and Ministry of Marine Affairs and Fisheries of Indonesia.

The Meeting reviewed the activities conducted in 2023 and plans for 2024 of the Japanese Trust Fund projects “Sustainable Utilization of Anguillid Eels in the Southeast Asia Region” and “Management Scheme of Inland Fisheries in the Southeast Asian Region.” Both Projects are in the fourth year of implementation in 2023 with the former standardizing data collection methods and developing field guides and an eel

database while the latter introducing the concept of Special Area for Conservation and Fish *Refugia* (SPEECTRA) to the ASEAN Member States (AMSS).

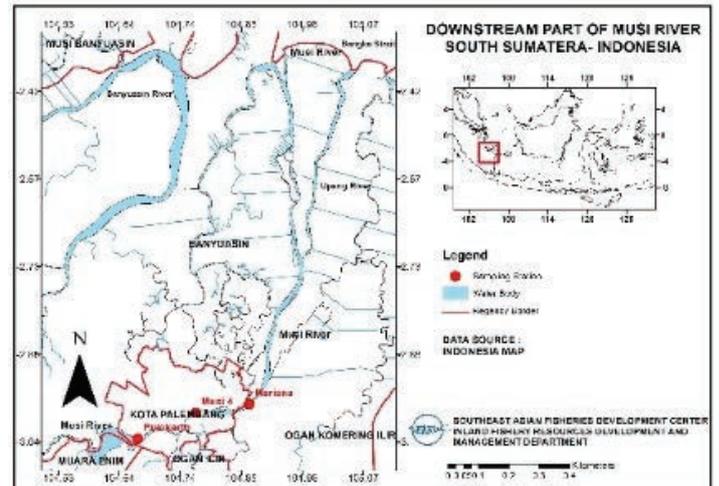
IFRDMD invited two evaluators, namely: *Dr. Mina Hori* from Kochi University and Prof. *Dr. Luky Adrianto* from Bogor Agricultural University (IPB University) who commended IFRDMD for undertaking the activities that are critical to the sustainability of inland fisheries and anguillid eels and recommended applying the results of the Projects in other AMSS. ❖

Characteristics of Microplastics in the Lower Musi River in Palembang City, Indonesia

Aroef Hukmanan Rais, Dina Muthmainnah, and Freddy Supriyadi
SEAFDEC Inland Fishery Resources Development and Management Department

The Musi River is a main river in South Sumatra Province, Indonesia with a length of 750 km from Bengkulu to the Bangka Strait. Many sectors utilize the Musi River including agriculture, fisheries, transportation, industries, forestry, plantations, and settlements. However, due to its environmentally stressed condition, the Musi River was prioritized as one of the 15 watersheds and 108 critical rivers in the National Medium-Term Development Plan of the government (BAPENAS, 2014; KLHK, 2019). The pressure on the Musi River is continually increasing as the human population of South Sumatra increased from 8.05 million (92 people/km²) in 2015 to more than 8.65 million (100 people/km²) in 2022. The increasing population could have exacerbated the condition of the Musi River particularly the discharge of toxic and hazardous waste (B3) and other water pollutants such as microplastics, and caused a decline in the water quality index from 69.36 in 2015 to 64.45 in 2019 (KLHK, 2019).

Concerning microplastics in rivers, it is believed that these pollutants can affect behavior, growth, and nutrient absorption in freshwater fishes (Mattsson *et al.*, 2015). However, information on the accumulation of microplastics in inland waters is limited and no studies specifically address the direct effects of microplastic accumulation in freshwater fishes. As a preliminary study under the project “Regional Collaborative Research and Capacity Building for Monitoring and Reduction of Marine Debris from Fisheries in Southeast Asia” supported by the Japan-ASEAN Integration Fund (JAIF), IFRDMD investigated the characteristics of microplastics in the lower Musi River in Palembang City. Samples of water and sediment were collected in August–December 2022 from the three sampling sites in Pulokerto District, Musi 4 Bridge, and Mariana District which are located from the upper to lower of the downstream areas of the Musi River (Figure 1). The three sampling stations are navigational channels and are surrounded by houses, while aquaculture farms are also present except in Musi 4 Bridge. In 2021, the human population density was 1,097 people/km² in Pulokerto District, 9,406 people/km² in Musi 4 Bridge, and 294 people/km² in Mariana District.



Pulokerto District Musi 4 Bridge Mariana District

Figure 1. Sampling stations for assessing the characteristics of microplastics in water and sediment of the lower Musi River in Palembang City, Indonesia in August–December 2022

Density, form, and size, of microplastics

In the context of inland water bodies, such as rivers and streams, the water flow is unidirectional, moving from the source (upstream) to the mouth (downstream). The downstream areas of the Musi River have a more expansive coastal plain where there is a higher occurrence of sedimentation due to the coagulation process of various materials including sediment, minerals, heavy metals, as well as microplastics that settle and retain at the bottom of the water. Higher salinity in downstream areas also reinforces the rapid deposition and accumulation of microplastics in downstream waters. Considering that the

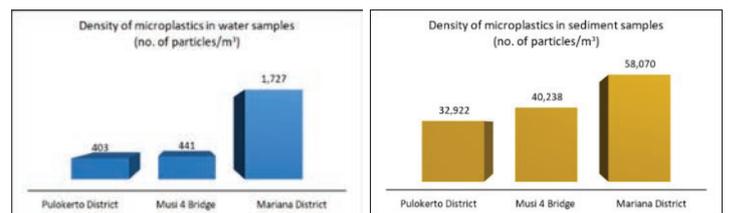


Figure 2. Density (no. of particles/m³) of microplastics in the water and sediment samples collected from the lower Musi River in Palembang City, Indonesia in August–December 2022

sampling station in Mariana District is located in the furthest downstream area of the Musi River, **Figure 2** shows that it had the highest density of microplastics in both water (1,727 particles/m³) and sediment (58,070 particles/m³) samples.

The form of microplastics found in the water and sediment samples were classified as fibers, flakes, and fragments (**Figure 3**). Fibers are very small thread-like particles of plastic with an approximate size of 28 μm × 100 μm and < 1 g/cm³ weight. Flakes are thin sheets of broken plastic with < 5 mm length and < 1 g/cm³ weight that easily float and drift away with the water current. Fragments are chunks of plastic broken down by ultraviolet light and mechanical forces of the wind and waves that vary in size (< 5 mm long), are heavy (> 1 g/cm³), and can easily bind to various types of river substrates. In the sampling stations going downstream, it was found that the proportion of flakes was increasing while the proportion of fragments was decreasing in the water samples (**Figure 4**). On the other hand, fragments had the highest proportion in the sediment samples in all sampling stations. It is also important to note that fibers were 20–25 % of the microplastics found in the water and sediment samples in the furthest downstream sampling station.

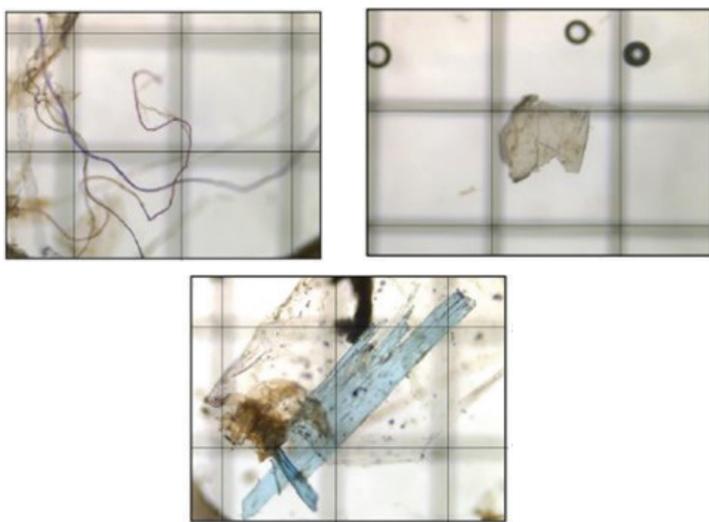


Figure 3. Forms of microplastics (upper left-right: fibers, flakes) (lower: fragments) found in the water and sediment samples collected from the lower Musi River in Palembang City, Indonesia in August–December 2022 (Scale: 1 grid = 1 mm²)

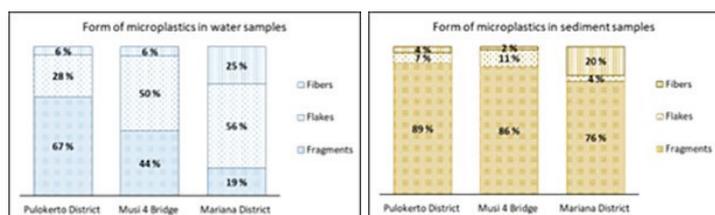


Figure 4. Ratio (%) of microplastics in different forms in the water and sediment samples collected from the lower Musi River in Palembang City, Indonesia in August–December 2022

In terms of size, the results revealed that in the water samples, the proportion of microplastics with a size of 1–5 mm had the highest proportion which increased further downstream (**Figure 5**). In the sediment samples, the microplastics with a size of < 1 mm had the highest proportion which also increased further downstream. This implies that microplastics with larger sizes are carried by the water current, while the microplastics with smaller sizes settle and bind with the substrate of the river.

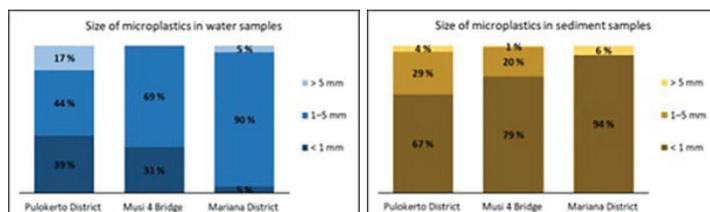


Figure 5. Ratio (%) of microplastics in different sizes in the water and sediment samples collected from the lower Musi River in Palembang City, Indonesia in August–December 2022

Way Forward

The results revealed that there is a significant microplastic pollution problem in the lower Musi River with concentrations increasing further downstream. This information will contribute to a better understanding of the characteristics of microplastics which is critical to developing effective mitigation measures to maintain the health of aquatic ecosystems. The Project will continue the conduct of the study by investigating the microplastic particles in the intestinal tissues of freshwater fish.

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REGIONAL PROGRAMS

Regional Training on Stock and Risk Assessments of Seerfish organized



SEAFDEC/MFRDMD organized the “Regional Training on Stock and Risk Assessments of Two Seerfish Species in the Southeast Asian Waters” from 11 to 15 December 2023 in Subang Jaya, Malaysia as one of the activities of the project “Fisheries Management Strategies for Pelagic Fish Resources in the Southeast Asian Region” supported by the Japanese Trust Fund. The Training was attended by members of the Scientific Working Group on Neritic Tunas Stock Assessment in the Southeast Asian Waters (SWG-Neritic Tunas) from Brunei Darussalam, Cambodia, Indonesia,

Malaysia, Myanmar, Thailand, and Viet Nam as well as relevant officers from TD and MFRDMD.

The resource person from the Japan Fisheries Research and Education Agency (FRA), *Dr. Matsumoto Takayuki*, guided the participants of the Training to identify the current stock and conduct a risk assessment of two seerfish species, namely: narrow-barred Spanish mackerel, *Scomberomorus commerson* and Indo-Pacific king mackerel, *S. guttatus*, in the South China Sea (Western Pacific Ocean) and

Andaman Sea (Eastern Indian Ocean) off the waters of the Southeast Asian region. Moreover, the participants enhanced their knowledge of CPUE standardization and stock assessment analysis using ASPIC, Kobe plot (stock status trajectory), risk assessment, and other applicable mechanisms or methods. They also learned how to manually build Kobe plots using R packages and ASPIC for the data on catch and effort of *S. commerson* and *S. guttatus* in Southeast Asia. The Kobe plot is one of the crucial tools for improving fishery resource management and is utilized in assessing the present stock of seerfish species in the region.

The narrow-barred Spanish mackerel and Indo-Pacific king mackerel are migrating species in the Indo-West Pacific region where they can be found in shallow water less than 100 m deep. Both species are frequently caught by commercial fisheries using various types of gear, including purse seines, hook and lines, and bottom trawls. ❖

Meeting on ALDFG and fishing gear marking organized



SEAFDEC Training Department (TD) organized the “Regional Technical Meeting on Responsible Fishing: The Abandoned, Lost or otherwise Discarded Fishing Gear (ALDFG) and Marking of Fishing Gear” from 15 to 17 November 2023 in Bangkok, Thailand. The Meeting was an activity under the project

“Responsible Fishing Technology and Practice” supported by the Japanese Trust Fund. The 45 participants of the Meeting include fishing gear technologists and researchers from the ASEAN Member States (AMSS), fishing technologists from TD, IFRDMD, MFRDMD, and representatives from FAO and UNEP. The Meeting was aimed at enhancing human resources capacity on ALDFG and fishing gear marking; sharing information on the national policies, research activities, and best practices on ALDFG and fishing gear marking; and identifying the challenges and ways forward to combat ALDFG and promoting the marking of fishing gear in Southeast Asia.

ALDFG and fishing gear marking are some of the issues related to responsible fishing practices in the region. Although some countries established regulatory frameworks and conducted pilot studies on gear marking technologies, other countries still have limited data and information on ALDFG. In this regard, the Meeting highlighted the importance of collaboration at the national, regional, and international levels to increase public awareness of the impacts of ALDFG and implement the best practices to manage ALDFG. Moreover, building the capacity of relevant fishery officers for data collection on ALDFG and adoption of fishing gear marking technology was also discussed during the Meeting as the way forward. ❖

SEAFDEC, FAO co-host 2023 ASFA Advisory Board Meeting



The SEAFDEC Secretariat supported the Food and Agriculture Organization of the United Nations (FAO) and the FAO Aquatic Sciences and Fisheries Abstract (ASFA) Secretariat in co-organizing the “2023 ASFA Advisory Board Meeting” from 3 to 6 October 2023 in Bangkok, Thailand. The Meeting was participated by the representatives from 14 ASFA Partners including the staff from the SEAFDEC Aquaculture Department (AQD) who represented SEAFDEC. The aim of the Meeting was to discuss the progress of activities of the respective

ASFA Partners as well as their potential contributions to other areas of work in the future. SEAFDEC has been an International ASFA Partner since 2013 with AQD serving as a Collaborating ASFA Center.

During the opening session of the Meeting, SEAFDEC Deputy Secretary-General, *Dr. Tomoko Nakazato*, welcomed the participants and reiterated the long collaboration between ASFA and SEAFDEC especially through AQD by preparing bibliographic records not only from AQD but also from the SEAFDEC Secretariat and other Departments for inclusion in the ASFA database. She also cited the recent collaboration between SEAFDEC and ASFA in 2022 under the project supported by ASFA that provided a series of training for institutions in data-poor countries in Southeast Asia to identify and record research publications and data related to SDG Indicator

14.4.1 into the OpenASFA. She then underscored that the works of ASFA would contribute to improving science-based policy planning and management toward the sustainable development of fisheries and aquaculture not only in the Southeast Asian region but also worldwide.

Furthermore, one of the significant discussions during the Meeting was on updating the Term of Reference (TOR) of ASFA to reflect the current situation and technological developments. As it is envisaged that once adopted, the TOR will supersede the existing Partnership Agreement between ASFA and all Partners in the future; thus, it was agreed that the Partners should thoroughly consider the text of the TOR and provide their feedback to FAO after the Meeting together with their reaffirmation in serving as ASFA Partners in the future.



SEAFDEC takes active role in shaping the future of aquaculture in the Asia-Pacific region



Officials from the SEAFDEC Secretariat as well as from the SEAFDEC Aquaculture Department (SEAFDEC/AQD) participated in the “2nd High-Level Meeting on Aquaculture Transformation in Asia and Pacific Region” organized by the Food and Agriculture Organization of the United Nations (FAO), Network of Aquaculture Centres in Asia-Pacific (NACA), and Department of Fisheries of Thailand on 8–9 November 2023 in Bangkok, Thailand. The Meeting brought together key stakeholders, including government representatives, private sector leaders, and development partners, to foster sustainable and

resilient aquaculture practices in the region.

During the Meeting, the participants deliberated and shared their expertise, insights, and ongoing initiatives on policies, innovations, and investment priorities in shaping the future of aquaculture. Specifically, SEAFDEC/AQD, a recognized leader in aquaculture research and development in the region, played an integral role in the discussions that revolved around sustainable practices, innovations, and collaborative efforts essential for the transformation of the aquaculture sector such as the

implementation of water recirculation systems to reduce environmental impact, adoption of natural feed alternatives to minimize the use of traditional fishmeal, and development of genetically improved fish species with enhanced disease resistance.

The involvement of SEAFDEC in the Meeting aligned with the organization’s commitment to advancing fisheries and aquaculture for the benefit of present and future generations. The insights shared and gained during the Meeting will further enhance the ongoing initiatives of SEAFDEC and contribute to the overall development of aquaculture practices in the Asia-Pacific region. As SEAFDEC continues to play a pivotal role in shaping the future of aquaculture toward greater sustainability, resilience, and global significance, the organization looks forward to attaining further collaborations with national, regional, and international partners.



SEAFDEC/TD organizes UNCLOS training for AMSs



SEAFDEC Training Department (SEAFDEC/TD) organized the “Regional Training Course on the United Nations Convention on the Law of the Sea 1982 (UNCLOS 1982) in Fisheries Perspective” from 6 to 9 November 2023 in Bangkok, Thailand. 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.

Relevant fisheries officers from the ASEAN Member States (AMSs) attended the Training to enhance their capacity and knowledge of the UNCLOS

1982 and its implications on fisheries. Moreover, the Training also served as a platform for sharing information on the National Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported, and Unregulated Fishing (NPOA-IUU) and international agreements related to IUU fishing. The subjects of the Training include 1) UNCLOS and UN Fish Stock, 2) Enforcement of International and Domestic Fisheries Laws: Case Studies, 3) Biodiversity Beyond National Jurisdiction (BBNJ) Agreement, 4) International Instruments of the Implementation of the Provision of the UNCLOS Relating to Fisheries Perspective through Prevent Deter and Eliminate IUU Fishing, and 5)

Implementation of FAO and fishery bodies of UNCLOS and other agreements. The resource persons of the Training include *Ms. Charlotte Salpin*, *Mr. Michele Ameri*, and *Ms. Rachel Lucas* from the Division for Ocean Affairs and the Law of the Sea (DOALOS) of the United Nations; *Ms. Minmin Lei* from FAO Headquarters; *Dr. Angela Lentisco* from FAO/RAP; *Mr. Ichiro Nomura* from the Ministry of Agriculture, Forestry and Fisheries for International Affairs of Japan; and *Mr. Ganesan Vethiah* from the International MCS Network.

The UNCLOS is an international agreement among 168 countries and the European Union that establishes a legal framework for all marine and maritime activities. In 2023, the agreement included the High Seas Treaty as an instrument of the convention to protect fish stock and ocean life in international waters to provide measures including marine protected areas and environmental impact assessments. This is also in line with the United Nations Sustainable Development Goal 14 covering the conservative and sustainable use of oceans and their resources. ✦

SEAFDEC, USAID/RDMA host MEL and Communications Workshop



The “Monitoring, Evaluation, Learning and Communications Workshop” was convened on 20–22 December 2023 in-person at the SEAFDEC Training Department in Samut Prakan, Thailand and through the online platform. With support from the USAID Regional Development Mission for Asia, the Workshop was a technical assistance provided by the USAID Sustainable Fish Asia Technical Support

to SEAFDEC in improving governance mechanisms and functioning as well as enhancing the skills of technical officers related to monitoring, evaluation, and learning (MEL) and communications. These efforts were aimed to be gender-sensitive and inclusive, focusing on promoting responsible fishing practices and combating IUU fishing in the Indo-Pacific region. The Workshop was attended by 46 relevant staff from the



SEAFDEC Secretariat, TD, MFRDMD, and IFRDMD. As a result, SEAFDEC strengthened its capacity to implement communication and outreach plans and gained a deeper understanding of MEL and communications concepts as well as practical tools commonly used in implementing, monitoring, evaluating, and reporting USAID-funded projects. ✦

Public lecture features Japanese women in fisheries



The Assistant Professor from Kochi University, *Dr. Mina Hori*, delivered a public lecture entitled “Women in Fisheries in Kochi, Japan” on 27 December 2023 at IFRDMD in Palembang, Indonesia. More than 50 participants attended in person and online including fisheries students from several universities in Indonesia, representatives from non-government

organizations, and staff from IFRDMD and Ministry of Marine Affairs and Fisheries of Indonesia.

During the lecture, *Dr. Hori* shared her experience in socioeconomics in small-scale fisheries, fish trade, resource management, and fisheries policy. She highlighted gender equality in Japan where most women fishers are wives of self-employed fishers; while in aquaculture, more than 70 % of fish farmers are women. Japanese women who are involved in fishing and aquaculture are also involved in household activities including childcare, and nursing of elderlies, among others. She also added that the aging and

nuclearization of families exacerbated the declining number of women in fisheries in Japan. She recommended creating a better working environment for both female and male fishers and fish farmers should be considered to encourage the younger generation to engage in fisheries and aquaculture.



The second RECAB on aquaculture, a success



The “Regional Training Course on Advanced Aquaculture Technologies for Commercially Important Commodities in Southeast Asia,” conducted during the second year of the Regional Capacity Building Network (RECAB) program, was effectively organized by the SEAFDEC Secretariat in collaboration with the SEAFDEC Aquaculture Department (AQD). The course took place from 9 to 26 October 2023, at AQD in Tigbauan Main Station, Iloilo, Philippines.

Twenty participants from 10 ASEAN Member States (AMSs), underwent comprehensive training. The program aimed to enhance their expertise in various aspects of aquaculture, covering topics such as biology, broodstock

management, hatchery and breeding technology, nutrition, feeding, disease management, biosecurity measures and protocols, food safety of aquaculture products, and the impact of climate change on economically significant aquatic species (marine fishes, mangrove crab, sandfish, giant freshwater prawn, tilapia). Participants engaged in hands-on learning experiences and visited local aquaculture operations focusing on commercially important aquaculture commodities in the Philippines.

During the Closing Ceremonies on 26 October 2023, *Dr. Suttinee Limthammahisorn*, the Secretary-General of SEAFDEC, expressed gratitude to the Government of Japan, particularly through the Japanese Trust Fund, and to

AQD for their support of the training. She emphasized that this program not only enhanced the aquaculture knowledge of the participants but also strengthened collaboration among fisheries officers from the ASEAN Member States through the RECAB program. *Dr. Suttinee* anticipated ongoing cooperation among the participants in working towards sustainable aquaculture in the region. Following the successful completion of the training, *Dr. Suttinee*, along with *Mr. Dan Balio*, Chief of SEAFDEC/AQD, and senior AQD staff, presented certificates of attendance to all participants.

Generally, the RECAB program consists of a series of comprehensive technical training courses delivered by SEAFDEC Departments. Its objective is to enhance the capabilities of fisheries officers from the ASEAN Member States (AMSs) while fostering regional cooperation and networking across various facets of fisheries and aquaculture. RECAB is an integral component of the project “Assistance for Capacity Development in the Region to Address International Fisheries-related Issues,” supported by the Government of Japan through the Japanese Trust Fund.



SEAFDEC takes part in BOBLME II meetings

With SEAFDEC as one of the executing agencies, the representatives from the SEAFDEC Secretariat and Training Department took part in the “Regional Inception Meeting of the Bay of Bengal Large Marine Ecosystem Project Phase II (BOBLME II)” from 12 to 13 December 2023 and “First Regional Project Steering Committee Meeting of the BOBLME II” on 14 December 2023 which were conducted in a hybrid format. The Meetings were also attended by the members of the Project Steering Committee (PSC) for environment and fisheries; national coordinators from Bangladesh, India, Sri Lanka, and Thailand; national focal points from Maldives, Malaysia, Indonesia; representatives from relevant organizations, namely: Norwegian Agency for Development Cooperation (Norad), FAO Headquarters, BOBLME I, FAO Regional Office for Asia and the Pacific (FAO/RAP); and representatives from other executing agencies, namely: Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO) and International Union for Conservation of Nature (IUCN).

At the Regional Inception Meeting, the overview and current status of BOBLME II and Project Institutional Arrangements



were presented. This was followed by a discussion on the vision, Year 1 roadmap, and proposed implementation approach for implementation in 2024 as outlined by the executing agencies slated. Special attention was also given to the country-specific visions and remarks regarding opportunities within the framework of BOBLME II including the potential areas for activities related to the ecosystem approach to fisheries management (EAFM) and marine management areas within the participating countries.

Furthermore, several critical elements were addressed and approved at the First Regional PSC Meeting. Firstly, the Terms of Reference for the PSC were endorsed, including the roles, responsibilities, and operating framework. Subsequently, the Year 1 Workplan and Budget were approved, providing the roadmap for Project activities in the initial year of implementation. Additionally,

the recommendations from the earlier Meeting were also endorsed, signifying a collective commitment to the proposed strategies. Then, the PSC took note of the upcoming interim and second PSC meeting scheduled in November 2024.

BOBLME II aims to contribute to the sustainable management of fisheries and marine living resources and their habitats in the Bay of Bengal region to reduce environmental stress and improve environmental status for the benefit of coastal states and communities. SEAFDEC will lead the conduct of activities in the Southeast Asian region specifically under Component 1: Sustainable Management of Fisheries and Component 5: Regional mechanism for planning, coordination and monitoring of the BOBLME as well as some activities under Component 3: Management of coastal and marine pollution to improve ecosystem health in collaboration with IUCN. 

EAFM learning site in Ranong Province revisited

SEAFDEC/TD followed up on the Ecosystem Approach to fisheries management (EAFM) implementation in the learning site at Ban Hat Sai Khao Village in Ranong Province, Thailand which was one of the activities of the project “Small-scale Fisheries Management for Better Livelihood and Fisheries Resources” supported by the Japanese Trust Fund. A Workshop was organized from 13 to 14 December 2023 with officers from Ranong Provincial Fisheries Station and Ranong Marine Research and Development Center, local fishers, and key stakeholders. The discussion focused on the progress of the activities under the EAFM plan that was developed in 2020 including fish

processing initiated in 2021 and the squid bank launched in 2022. Moreover, the Workshop also identified the challenges and opportunities to continue the provision of support to the community after the Project by the government and key stakeholders to sustain livelihood and fisheries management.



The fish processing group in the learning site is currently producing salted king mackerel using the traditional method of burying the salted fish in plastic bags under the sand instead of sun drying. The group was provided with a freezer and vacuum sealer to upgrade their products and trained in marketing and financial management. For the squid bank, the group is receiving technical support to establish a management system including appropriate cage installation and data collection. Finally, the fish-releasing activity was carried out by releasing 2,000 sea bass fingerlings to enhance the fishery resources and raise the awareness of the local community of fishery resource conservation. 

Training Course on Energy Optimization for Fishing Vessels and Post-harvest Fish Handling Techniques



The “Regional Training Course on Energy Optimization for Fishing Vessels and Optimal Post-harvest Fish Handling Techniques” was organized by the SEAFDEC Training Department (SEAFDEC/TD) from 27 November to 1 December 2023 at the premises of TD in Samut Prakan, Thailand. A total of 24 relevant fishery officers from the ASEAN Member States participated in the Training which was composed of lectures, discussions, demonstrations, and hands-on exercises. The resource persons include experts from TD, Fisheries Research and Education

Agency (FRA) of Japan, Department of Fisheries of Thailand, Kasetsart University, and Prince of Songkla University.

During the Training, the participants gained knowledge of responsible fishing practices which are sustainable and environment-friendly including energy efficiency measures and reduction of carbon dioxide emissions from fishery vessels. Moreover, the tools and techniques for hygienic and user-friendly fish handling from the sea to consumers to ensure the quality of

catch, minimize post-harvest losses, and promote food safety through slurry ice technology, ikejime method, and efficient transportation were also imparted to the trainees.

The Training was an activity under the Japanese Trust Fund project “Responsible Fishing Technology and Practice” supported by the Japanese Trust Fund. It is envisaged that the knowledge and techniques introduced in the Training would be applied by the participants in their respective countries. 



Regional Training on Stock Assessment of Sharks and Rays using YPR Model



MFRDMD organized the “Regional Training on Stock Assessment of Sharks and Rays using the Yield Per Recruit (YPR) Model” in Selangor, Malaysia from 4 to 7 December 2023. The Training was attended by researchers from the ASEAN Member States and relevant MFRDMD staff. The resource persons of the Training included the oceanographer and fish stock assessment researcher from SEAFDEC/TD, *Dr. Supamong*

Parapongpang, and experts from Japan Fisheries Research and Education Agency (FRA), *Dr. Misawa Ryo* and *Dr. Yano Toshikazu*.

During the Training, the participants improved their knowledge of shark and ray stock assessment using the YPR model for the sustainable utilization of sharks and rays resources, which is a stock assessment model that can provide

an important reference point as a target or a limited reference point for fisheries management. The available data on sharks and rays in the Southeast Asian region is limited, thus the YPR model is deemed the most appropriate method for their stock assessment which focuses on predicting the potential yield resulting from individual recruitment at a given age and fishing mortality.

The Training took place as part of the project “Research for Enhancement of Sustainable Utilization and Management of Sharks and Rays in the Southeast Asian Region” funded by the Japanese Trust Fund. It is envisioned that after the Training, a network of researchers on shark and ray stock assessment in the region will be established and the availability of information on shark and ray stock assessment by species in the region will be upgraded. 

FUTURE ACTIVITIES

Date	Venue	Title	Organizer(s)
2024			
15–18 January	Virtual meeting	1 st Session of FAO Sub-Committee on Fisheries Management	FAO/HQ
13–15 February	Bangkok, Thailand	USAID Southeast Asia Fisheries Partnership Activity Detailed Planning Workshop	Secretariat
20 February	Online	2 nd ASEAN Socio-Cultural Community Research and Development (ASCC R&D) Online Forum “Making Digital Transformation Work for Poverty Alleviation in ASEAN: Opportunities, Risks, and Strategies”	ASEAN
5–7 March	Bangkok, Thailand	SEAFDEC Inter-Departmental Information Workshop: harmonized monitoring and reporting of information-related activities	Secretariat
5–8 March	New Delhi, India	33 rd NACA Governing Council Meeting	NACA
13–18 March	Atlanta, USA	International Conference on Human Rights and Human Security (ICHRHS)	ICHRHS
18–22 March	Binangonan, Philippines	Training Course on Giant Freshwater Prawn Hatchery and Grow-out	AQD
18–28 March	Samut Prakan, Thailand	Training and Field practice on Socioeconomic Monitoring (SocMon) for Coastal and Small-scale fisheries management in Southeast Asia	TD
20–21 March	Chonburi Province, Thailand	Workshop on the Project End of Strengthening Regional Cooperation and Enhancing National Capacities to Eliminate IUU Fishing in Southeast Asia	TD
20–22 March	Trang Province, Thailand	BOBLME Inception Workshop on EAFM Institutionalization at National Level--	TD
10–12 April	Barcelona, Spain	Ocean Decade Conference	UNESCO
22–25 April	Bangkok, Thailand	2 nd UN Ocean Decade Regional Conference & 11 th WESTPAC International Marine Science Conference “Accelerating Ocean Science Solutions for Sustainable Development”	WESTPAC
22–26 April	Binangonan, Philippines	Training Course on Tilapia Hatchery and Grow-out Operations	AQD
29 April–14 May	Tigbauan, Philippines	Training Course on Sandfish (<i>Holothuria scabra</i>) Seed Production, Nursery and Management	AQD
6–9 May	Tagaytay, Philippines	56 th Meeting of the SEAFDEC Council	SEAFDEC
6–16 May	Tigbauan, Philippines	Training Course on Abalone Hatchery and Grow-out	AQD
13–17 May	Bangkok, Thailand	Women in Fisheries Workshop	TD & DAFF, Australia
13–21 May	Samut Prakan, Thailand	64 th Short-term Training Course for University Students “Ecosystem-Based Fisheries for Sustainable Fisheries Resources Management”	TD
3–7 June	Rhode Island, USA	Aquaculture World Conference 2024	TEFA
6–7 June	Bangkok, Thailand	Regional Workshop on “The application of AquaGRIS: the FAO global information system, to build national registries of aquatic genetic resources”	Secretariat & FAO
10–13 June	SEAFDEC/TD	Training Course on Monitoring the Phenomenon of Climate Change and the Impact on Fish Stock Life History Parameters in water in Southeast Asi	TD
14 June	SEAFDEC/TD	Core Expert Meeting on Improving the Draft Work Plan and Way Forward on USAID DOI International Technical Assistance program Implementation	TD
17 June–23 July	Tigbauan, Philippines	Training Course on Marine Fish Hatchery	AQD
28 June–7 July	Thailand	National Fishery Exhibition “Plamong Nomklao”	DOF Thailand
June (Tentative)	Bangkok, Thailand	Regional Workshop on Microplastic Pollution and Implications for Seafood Safety in ASEAN	CSEAS
15–19 July	Penang, Malaysia	IIFET 2024 Conference: Aquatic Food Systems in the Blue Economy	IIFET
12–30 August	Tigbauan, Philippines	Training Course on Mangrove Crab Hatchery Operations	AQD
19–23 August	Binangonan, Philippines	Training Course on Carp Hatchery and Grow-out Operations	AQD

SEAFDEC convenes 24th ISP Meeting

(Continued from Page 20)



Visibility and Communication in 2023 were reviewed. Furthermore, the 24 ISP Meeting also discussed and provided recommendations on the preparation and enhancement of SEAFDEC information tools/activities in 2024, which include regular information materials, Annual Report 2023, Special Publication “Fish for the People,” SEAFDEC eNews, SEAFDEC Calendar 2025, SEAFDEC websites (Secretariat and Departments), and repositories. Other discussions also include capacity building for SEAFDEC information staff, updating of the SEAFDEC institutional video, and SEAFDEC new year card. The continuation of the partnership between FAO Aquatic Sciences and Fisheries Abstract (ASFA) and SEAFDEC was deliberated specifically the new Terms of Reference which is currently under consideration by the SEAFDEC Secretariat and Departments.

The results of the 24 ISP Meeting, particularly those that need policy support from the SEAFDEC organization as a whole would be further submitted to the SEAFDEC Department Chiefs’ Meeting in 2023 for consideration and further directives. ✦

SEAFDEC and FAO report on identifying research and datasets related to SDG 14.4.1 in Southeast Asia

(Continued from Page 20)

OpenASFA, producing best practice guidelines on data sharing and management, digitizing print-only materials, and sustaining the collections and analyses of research on stock assessments in the region, among others.

The full report entitled “Identifying research and data related to Sustainable Development Goal (SDG) Indicator 14.4.1: case studies from Cambodia, Indonesia, the Philippines and Viet Nam” is available here. FAO and SEAFDEC look forward to building on this work to ensure that the research and data to support the sustainable management of fish stocks are available to all. For further information about this project, please contact Tamsin Vicary (Tamsin.Vicary@fao.org). ✦

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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Andi Soesmono appointed as New Chief of SEAFDEC/IFRDMD



Mr. Andi Soesmono was appointed by the SEAFDEC Council as the Chief of SEAFDEC/IFRDMD starting 14 December 2023, succeeding Dr. Rudi Alex Wahyudin. Mr. Andi finished his B.S. in Fisheries Science from the University of Diponegoro, Indonesia in 1994 and

his M.S. in Environmental Management from the University of Queensland, Australia in 1999. He joined the Ministry of Marine Affairs and Fisheries (MMAF) of Indonesia as a Fisheries Officer at the Directorate General of Capture Fisheries in 2001–2010 and Deputy Director at the Bureau of Cooperation and Public Relations, Secretariat General of MMAF in 2010–2018. He continued to work at MMAF as the Deputy Secretary at the Secretariat for the Agency of Marine and Fisheries Extension and Human Resources Development in 2018–2023 and as a Senior Policy Analyst from 2021 to the present. In 2010–2018, Mr. Andi

was involved in several activities and meetings organized by SEAFDEC and ASEAN Secretariat as a delegate from Indonesia.

It is believed that his vast experience in various aspects of international fisheries would greatly help IFRDMD in implementing its programs and projects toward sustaining the development of inland fisheries in the Southeast Asian region. With the new leadership, IFRDMD looks forward to serving better the inland fisheries stakeholders in the region. 

SEAFDEC convenes 24th ISP Meeting

SEAFDEC organized the Twenty-fourth Meeting of the SEAFDEC Information Staff Program (24 ISP Meeting) on 17–19 October 2023 in Melaka, Malaysia which was hosted by SEAFDEC Marine Fishery Resources Development and Management Department (MFRDMD). The 24 ISP Meeting was attended by the SEAFDEC Secretary General, Dr. Suttinee Limthammahisorn; SEAFDEC Deputy-Secretary General, Dr. Tomoko Nakazato; Chief of SEAFDEC/MFRDMD, Mr. Abd Haris Hilmi Ahmad Arshad; Deputy Chief of SEAFDEC/MFRDMD, Dr.



Masahito Hirota; as well as SEAFDEC senior officials and information staff.

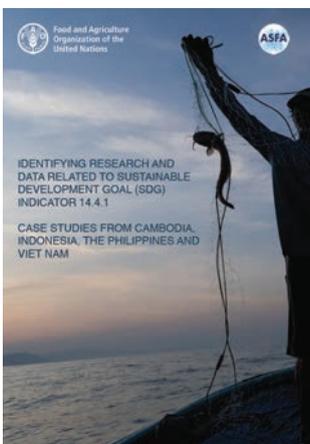
The objectives of the 24 ISP Meeting were to 1) review the progress in the implementation of Information

Strategies for Enhancing SEAFDEC Visibility and Communication in 2023; 2) provide a platform for discussion on the preparation and enhancement of ongoing SEAFDEC information tools/activities in 2024; and 3) provide other suggestions for enhancement of information activities and SEAFDEC visibility.

During the 24 ISP Meeting the progress and achievements of the implementation of the Information Strategies for Enhancing SEAFDEC

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SEAFDEC and FAO report on identifying research and datasets related to SDG 14.4.1 in Southeast Asia



A joint report written by SEAFDEC and FAO has just been published presenting the results of the project on

identifying and assessing research and datasets related to SDG Indicator 14.4.1 –Fish stocks sustainability: “Proportion of fish stocks within biologically sustainable levels.” FAO and SEAFDEC worked with 15 representatives from four Southeast Asian countries, namely: Cambodia, Indonesia, Philippines, and Viet Nam to analyze knowledge strengths and gaps in the region and provide recommendations to improve the accessibility of research and data.

As a result of this work, 1,047 resources were recorded on OpenASFA which can be accessed. OpenASFA

is a system for creating, storing, and publishing abstracts and bibliographic references. The analysis revealed that about 28 % of the resources had been previously unavailable online. It was also found that the top ten most recorded taxonomic terms aggregated 63 % of all references which implies that the resources concentrated on a relatively small number of species of commercial interest. The recommendations of the project include enhancing the collaboration with universities in the region to increase the number of dissertations and theses recorded in

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