



# SEAFDEC NEWSLETTER

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## AQD leads international workshop on sustainable aquaculture, aquatic animal health



AQD Chief Mr. Dan Balião (left), SEAFDEC Secretary-General, Dr. Suttinee Limthammahisorn (center), and Deputy Secretary-General Dr. Tomoko Nakazato (right), during the International Workshop on the Promotion of Sustainable Aquaculture and Aquatic Animal Health in Southeast Asia (SAHSEA) organized on 12–14 March 2025 in Iloilo City, Philippines

SEAFDEC/AQD, with support from the Japanese Trust Fund (JTF), organized the “International Workshop on the Promotion of Sustainable Aquaculture and Aquatic Animal Health in Southeast Asia (SAHSEA)” on 12–14 March 2025 in Iloilo City, Philippines. Attended by government personnel, experts, and researchers from across Southeast Asia, the Workshop was convened to tackle key challenges in aquaculture and strengthen regional collaboration. The Workshop featured 17 reports

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## EDITORIAL

For the first quarter of 2025, one of the highlighted events was the Regional Workshop on Mid-term Review of RES&POA-2030 which discussed the template, indicators, and timeframe for submission of the results of the mid-term review to SEAFDEC and ASEAN Mechanism.

SEAFDEC also convened regional events related to fisheries and aquaculture issues, including small-scale fisheries which marked a significant milestone toward securing sustainable small-scale fisheries and came up with key recommendations on policy recognition, improved data collection, gender equality, climate change, and fair market access; fishing capacity that identified the issues and challenges encountered in implementing the RPOA-Capacity and the Guidelines; and aquaculture and aquatic animal health which served as a platform to exchange

*(Continued on Page 2)*

## SEAFDEC, FAO commemorate 10<sup>th</sup> Anniversary of SSF Guidelines adoption in Asia



The “Regional Small-Scale Fisheries (SSF) Workshop in Asia: Building on a Decade of the SSF Guidelines for a Sustainable Future,” held in Bangkok, Thailand from 26 to 27 March 2025, marked a significant milestone in the journey toward securing sustainable small-scale fisheries in Asia. Co-organized by the Food and Agriculture Organization of the United Nations (FAO) and SEAFDEC, the Workshop was attended by 66

participants including representatives from 13 countries across South Asia (Bangladesh, India, the Maldives, and Sri Lanka) and Southeast Asia (Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Timor Leste, Thailand, and Viet Nam). The Workshop was also participated by key partners and stakeholders from various international organizations and academic institutions, including the

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## EDITORIAL

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insights to the gaps and current approaches to sustainable aquaculture.

Moreover, several research activities were also conducted such as survey in the Gulf of Thailand to assess the abundance of fishery resources and impact of marine debris and microplastics; field trials for locating and retrieving ALDFG using ROVs in Rayong Province, Thailand to minimize environmental disruption and aid in the restoration of marine ecosystem; socioeconomic surveys in Muara Enim, Indonesia to strengthen the sustainable management of inland fisheries while improving the economic conditions of fishers.

Furthermore, SEAFDEC continued to conduct training courses including the Liable Research Methods to Collect and Analyze the Marine Debris and Microplastic aimed at enhancing the capacity of fisheries researchers in sampling and analysis of marine debris and microplastic; Traceability for Fish and Fishery Products to implement effective traceability systems and contribute to the fight against IUU fishing; and CPUE Analysis and Stock Assessment to train fisheries researchers and professionals in CPUE and stock assessment methods. Several training courses related to aquaculture were organized with topics such as grouper culture, milkfish culture, and diagnosis of cultured fish and shrimp diseases. To enhance the writing skills of SEAFDEC technical and research staff, the SEAFDEC Secretariat conducted a workshop on article writing which included tips, techniques, and practical tools.

Lastly, SEAFDEC welcomed two groups of visitors from Pakistan and Japan who visited SEAFDEC/TD and learned about the role of SEAFDEC in the region, including its activities related to fishing communities, coastal fishery management, and improving fish quality onboard vessels and at fishing ports. ☒

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## AQD leads international workshop on sustainable aquaculture, aquatic animal health

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*Participants in the International Workshop on the Promotion of Sustainable Aquaculture and Aquatic Animal Health in Southeast Asia (SAHSEA) organized on 12–14 March 2025 in Iloilo City, Philippines*



*Workshop presentations and discussions on aquatic animal health during the International Workshop*

from government representatives on the status of aquaculture and aquatic animal health in Southeast Asian countries. Moreover, 14 presentations were also given by researchers from AQD and research agencies of Japan on the latest advancements in aquatic breeding, community-based aquaculture, alternative feeds, and aquatic animal health. During the discussions, the participants explored ways to improve seed supply chains, develop low-cost aquafeeds, and enhance disease surveillance and biosecurity measures.

The Workshop provided a critical platform for SEAFDEC Member Countries, experts, and policymakers to present their current approaches to sustainable aquaculture, identify gaps, and exchange insights. Furthermore, the Workshop underscored the crucial role of Southeast Asia in global aquaculture production and the need for proactive solutions to sustain the industry's progress. ☒

## TD joins the celebration of National Children's Day of Thailand



The SEAFDEC Training Department (TD) joined Thailand at its celebration of the National Children's Day on 11 January 2025 at the Fort Phra Chulachomkiao in the Chao Phraya River. Several groups

of children with their chaperons visited the exhibition booth put up by TD. In addition to their interest in the displayed SEAFDEC information materials, the children enjoyed playing the games prepared by TD with the theme of fishery resource conservation.

The National Children's Day in Thailand is traditionally organized on the second Saturday of the year. The children's activities and shows largely receive widespread attention organized by government organizations, especially the Prime Minister and military, as a contribution to the future of the nation. ☒

## SEAFDEC, FAO commemorate 10<sup>th</sup> Anniversary of SSF Guidelines adoption in Asia

(Continued from page 1)

International Collective in Support of Fish Workers (ICSW), Regional Advisory Group (RAG), Too Big to Ignore Global Research Network (TBTI), International Indian Treaty Council New Zealand, Bay of Bengal Program-Inter-governmental Organization (BOB-IGO), Mahidol University, WorldFish, and others.

The Workshop identified the challenges hindering the implementation of the SSF Guidelines, including inadequate capacity and financial resources and a lack of data and knowledge of small-scale fisheries. On the other hand, the Workshop recognized opportunities such as increasing political



commitment to support small-scale fisheries and the availability of digital tools to enhance communication. After the deliberations, the Workshop came up with key recommendations that emphasized policy recognition for the

implementation of the SSF Guidelines, improved data collection, gender equality, climate resilience, fair market access, and cross-sectoral collaboration to ensure long-term sustainability of small-scale fisheries.

The Workshop commemorated the 10<sup>th</sup> anniversary of the adoption of the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (SSF Guidelines), which provide a framework for the protection and empowerment of small-scale fishers around the world.



## TD welcomes visitors from Pakistan, Japan

The SEAFDEC Training Department (TD) welcomed two groups of visitors on 28 January 2025. The first group of visitors was composed of eight fisheries officials from the Department of Fisheries and Coastal Development, Government of Balochistan, Pakistan. They were briefed about the role of SEAFDEC in the Southeast Asian region and relevant TD activities related to coastal fishery



management, fishing technology, and combating IUU fishing. Moreover, 10 members of the Association for Innovative Technology on Fishing Ports and Grounds (AITEF) from Japan also visited TD and learned about the role of SEAFDEC in the region, including its activities related to fishing

communities and improving fish quality on board vessels and at fishing ports. The President of AITEF, *Mr. Osamu Hashimoto*, presented the initiatives in revitalizing fishing communities and introduced the hygienic quality control practices at fishing ports in Japan.



## Students knowledge of marine science and fisheries enhanced at TD

A group of 115 senior high school students from Sapparachinee Trang School in Trang Province, Thailand engaged in hands-on experience in marine science during a visit to the SEAFDEC Training Department (TD) on 7 February 2025. Their visit included learning about oceanography and fish taxonomy. On 21 February 2025, another group of 60 marine science students from King Mongkut's Institute of Technology Ladkrabang (KMITL) visited TD and they also attended a lecture on



the principles of fishing gear survey. All visiting students learned about SEAFDEC and had the opportunity



to observe TD facilities, including the fishing workshop and M.V. SEAFDEC.



# DEPARTMENTAL ACTIVITIES

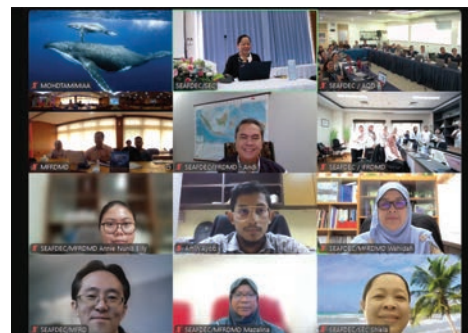
## SEAFDEC uplifts skills of technical and information staff in writing articles for Fish for the People



The “Workshop on Writing Articles for Fish for the People” was organized by the SEAFDEC Secretariat on 19 March 2025 in a hybrid mode. The Workshop was attended on-site by the SEAFDEC Secretary-General and Deputy Secretary-General, senior officials and technical and information officers from the SEAFDEC Secretariat, as well as Regional Fisheries Policy Network members.

Moreover, the participants from the SEAFDEC Departments, namely: Marine Fisheries Research Department (MFRD), Aquaculture Department (AQD), Marine Fishery Resources Development and Management Department (MFRDMD), and Inland Fishery Resources Development and Management Department (IFRDMD) also attended the Workshop online. The Workshop was aimed at enhancing the writing skills of technical and information staff from the SEAFDEC Secretariat and Departments.

The resource person of the Workshop was the Technical Writer/Editor from the SEAFDEC Secretariat, *Dr. Shiela Villamor Chumchuen*, who shared relevant information on technical writing



including tools, guides, and tips. During the Workshop, the participants learned about the practical tools for writing and publishing excellent articles for *Fish for the People* as well as ethical and impactful writing. In addition, the participants also improved their skill in writing outstanding news articles for the SEAFDEC Newsletter. ❖

## SEAFDEC conducts training on milkfish culture for DOF Thailand staff



SEAFDEC supported three staff from the Department of Fisheries (DOF) Thailand, namely: *Dr. Jirayuth Ruensirikul*, *Mr. Supakant Chaichotranunt*, and *Mr. Chalit Sangangam*, to participate in the “Training Course on Milkfish Culture,” held on 3–14 March 2025 at SEAFDEC Aquaculture Department (AQD) in Iloilo, Philippines.

This training consisted of lectures, practical sessions and field trips that encompassed the following topics on milkfish culture technologies *i.e.*

broodstock management; egg collection and incubation; larval rearing, natural food production (phytoplankton and zooplankton); harvest, packing and transport of milkfish fry; nutritional requirements; feed formulation and preparation; water quality monitoring and management; diseases of milkfish and disease management; hatchery site selection; milkfish culture in earthen ponds and in sea cages; and post-harvest processing of milkfish.

Apart from lectures and demonstrations on broodstock management and larval rearing at the AQD Tigbauan Main Station, the trainees went to the Dumangas Brackishwater Station for lectures and practicals related to milkfish culture in ponds. They also went to the Igang Marine Station for a lecture on milkfish cage culture and observation of milkfish cage culture facilities. Furthermore, the trainees visited the Institute of Fish Processing Technology, College of Fisheries and Ocean Sciences of the University of the Philippines Visayas in Miagao, Iloilo for

lectures on post-harvest processing and value-added milkfish products.

Through this Training, the trainees are envisaged to be able to apply the knowledge they gained to develop the cultivation of milkfish in Thailand, especially in rearing milkfish broodstock to receive complete nutrition, nursing milkfish fry to achieve high survival rate, and cultivating phytoplankton and zooplankton for milkfish culture. It is also expected that the DOF Thailand will be able to promote the production of milkfish fry to meet the demand of Thai farmers in the future. ❖



### Third batch of BFAR staff enhances milkfish hatchery skills through AQD training

The Bureau of Fisheries and Aquatic Resources (BFAR) has partnered with SEAFDEC/AQD to conduct the customized Training Course on Milkfish Culture for the third batch of their personnel. Held at AQD Tigbauan Main Station from 17 to 28 March 2025, the

Training aimed to enhance the technical expertise of 14 BFAR staff from around the Philippines in hatchery management and milkfish culture operations.

Throughout the Training course, AQD specialists delivered lectures

on milkfish biology, broodstock management, hatchery design, natural food culture, biosecurity protocols, brackishwater nursery management, pond site selection and preparation, milkfish grow-out culture, fish diseases, and feed formulation. In addition to lectures, the trainees engaged in hands-on activities, like larval rearing tank setup, plankton identification, and milkfish fry harvesting, packing, and transport. The Training sessions were conducted across AQD facilities at the Tigbauan Main Station, Dumangas Brackishwater Station, and Igang Marine Station.

The training series, funded by BFAR-3, is part of the country's National Bangus Development Program. The first batch of 12 trainees completed their training from 30 September to 11 October 2024, while the second batch of 13 trainees were trained from 14 to 25 October 2024.



Third batch of participants in the series of Training Course on Milkfish Culture organized for the staff from the Bureau of Fisheries and Aquatic Resources on 17–28 March 2025 at AQD's Tigbauan Main Station

### AQD partners with island town for sea cucumber project



Bantayan Agricultural Center Chief, Mr. Joseph Martin Borromeo (leftmost), meets with AQD officials regarding their upcoming project on sea cucumber aquaculture in Bantayan Island, Cebu, Philippines

SEAFDEC/AQD and the Municipality of Bantayan, Cebu, Philippines, have formalized their partnership on the “Bantayan Sea Cucumber Aquaculture Project” through the signing of a Memorandum of Agreement (MOA) on 7 March 2025. The MOA aims to determine appropriate farming methods for the sea cucumber *Holothuria scabra*

and to demonstrate grow-out culture together with the local community. Bantayan Agricultural Center Chief *Mr. Joseph Martin Borromeo*, representing their town Mayor *Hon. Arthur Despi*, signed the agreement with AQD Chief, *Mr. Dan Baliao*, at the Tigbauan Main Station in Tigbauan, Iloilo, Philippines.

Bantayan has vast intertidal flats, meaning a high potential suitability for sea cucumber farming. The baseline assessments of sea cucumber resources should be done first along with the identification of pilot sites and partners. Later on, AQD hatchery and nursery protocols will be used to produce native seedstock for the island town.



Sandfish, *Holothuria scabra*, a type of sea cucumber common in the Philippines

## Singapore Temasek Polytechnic sends scientists to AQD for training



*Scientists from the Temasek Polytechnic School of Applied Science during practical sessions as part of their training on the diagnosis of fish and shrimp diseases held at AQD Tigbauan Main Station on 20–26 February 2025*

Three scientists, namely: *Dr. Amaladoss Anburaj, Dr. Poh Leong*

*Loo, and Dr. Syed Musthaq Syed Khader*, from Temasek Polytechnic School of Applied Science (TP-ASC) in Singapore completed six days of intensive training on the diagnosis of cultured fish and shrimp diseases at SEAFDEC/AQD Tigbauan Main Station on 20–26 February 2025.

The scientists were trained on disease development, parasitic diseases, and biosecurity measures in marine fish aquaculture. Moreover, the training course also included practical activities on sampling methodologies, disease

diagnostics, DNA/RNA extraction for polymerase chain reaction (PCR) analysis, bacterial isolation, and antimicrobial sensitivity testing.

The Training provided the scientists with valuable knowledge to enhance sustainable aquaculture practices by developing more user-friendly onsite diagnostic kits for detecting fish and shrimp pathogens. It is envisaged that they will apply and share the skills they gained to further refine their expertise.



## Foreign affairs officials visit AQD for insight on its global impact



*Officials from the Department of Foreign Affairs-Office of United Nations and International Organizations (left) touring AQD Fish World Museum during their visit to the Tigbauan Main Station on 26 February 2025*

Officials from the Department of Foreign Affairs-Office of United Nations and International Organizations (DFA-UNIO) of the Philippines went to SEAFDEC/AQD on 26–27 February 2025 to gain insights on how the organization contributes to international aquaculture development. The group,

led by the Director for Governance, *Mr. Rigoberto Banta Jr.*, met with AQD Executive Committee and the experts at the Tigbauan Main Station where they were briefed on the mandates and contributions of AQD to the aquaculture sector. Subsequently, they visited the newest broodstock and hatchery facilities of AQD as well as Dumangas Brackishwater Station and the Igang Marine Station.

The DFA-UNIO guests were particularly interested in the impact of AQD on the stakeholders, especially the thousands of trainees from developing countries across Asia, Africa, Pacific islands, and the Caribbean, that it has empowered with knowledge and practical skills in aquaculture. During the briefing, AQD officials presented the attainments of the Department over

the past five decades, including the development of the tiger shrimp industry, inception of the milkfish hatchery technology, formulation of cost-efficient aquafeeds, and genetic improvement of freshwater species. *Mr. Banta* then shared that their visit allowed them to visualize the accomplishments and personnel of AQD which they previously only read about in reports.

AQD submits annual reports to the DFA-UNIO, which are then endorsed to the Review Panel of the International Commitments Fund (ICF) of the Government of the Philippines. The ICF is the mechanism by which AQD receives its annual budget support from the Philippines as the host country.



## New aquaculture feed mill rises with AQD support

A new feed mill, developed with the support of SEAFDEC/AQD, was inaugurated in Bulalacao, Oriental Mindoro, Philippines on 19 March 2025. The inauguration was attended by the AQD Chief, *Mr. Dan Baliao*. During the inauguration event, AQD staff conducted a successful start-up of the mill to demonstrate the operational readiness of the equipment and systems. The new facility can produce 250 kg of feed per hour and was built by the Department of Agriculture Bureau of Fisheries and Aquatic Resources (DA-BFAR) as part

of a broader initiative to lower feed cost by using locally available alternative ingredients.

AQD played a key role in establishing the facility by conducting site assessments and preparing the feasibility study and structural design to ensure its successful implementation. Furthermore, AQD is committed to continuing its research on cost-efficient feeds and providing technical assistance to those who need it.



*AQD Chief, Mr. Dan Baliao (center left), inspects the start-up operations of the newly inaugurated feed mill in Bulalacao, Oriental Mindoro, Philippines, which was established with technical support from AQD*

## AQD tapped to help boost grouper farming

The islands of Tawi-Tawi in the Philippines may have abundant fisheries stocks, but it is already gearing up to ensure the long-term sustainability of their marine resources. Recognizing that the future of seafood supply lies in aquaculture, the Ministry of Agriculture, Fisheries, and Agrarian Reform–Bangsamoro Autonomous Region in Muslim Mindanao (MAFAR-BARMM) has partnered with SEAFDEC/AQD to organize the Training Course on Grouper Culture in the Regional Fisheries Center in Bongao, Tawi-Tawi, Philippines on 24–28 February 2025. The Training was attended by 31 stakeholders from the government and private sectors, including extension workers and local fishers. The resource persons

of the Training were AQD Associate Researcher, *Ms. Ma. Irene Cabanilla-Legaspi*, and Hatchery Supervisor, *Ms. Nichole Yap*.

Most trainees rely on collecting and growing small wild-caught grouper. During the Training, the trainees learned larval rearing tank preparation, induced spawning, egg collection, mass production of live feed, and broodstock management. After the Training, it is envisaged that they can transition into sustainable grouper culture in floating cages.

Groupers, thriving in the archipelago’s pristine waters, are a prized commodity in the local and

international markets due to their high demand and exquisite taste. While wild stocks flourish across 11 islands of Tawi-Tawi, rampant exploitation threatens their sustainability. ❖



*Trainees prepare a grouper for assessment on its reproductive readiness during the training held in Tawi-Tawi, Philippines on 24–28 February 2025*

## SEAFDEC strengthens fisheries collaboration with Indonesia

The Deputy Secretary-General of SEAFDEC, *Dr. Tomoko Nakazato*, visited the Agency of Marine and Fisheries Extension and Human Resources Development of the Ministry of Marine Affairs and Fisheries (MMAF) of Indonesia in Jakarta on 9 January 2025. She was received by the the Director General of the Agency and SEAFDEC Alternate Council Director for Indonesia, *Dr. I Nyoman Radiarta*. The visit aimed to enhance regional collaboration on sustainable fisheries management and strengthen the role of Indonesia in ongoing projects and conservation efforts of SEAFDEC.

The visit coincided with the “In-house Training Workshop on CPUE Analysis and Stock Assessment” which



*Exchange of souvenirs between the the Deputy Secretary-General of SEAFDEC, Dr. Tomoko Nakazato, and the SEAFDEC Alternative Council for Indonesia, Dr. I Nyoman Radiarta*

was part of the project “Development of Stock Assessment Methods and Strengthening of Resource Management Measures for Tropical Anguillid Eels in Southeast Asia” supported by the Japan-ASEAN Integration Fund (JAIF). The Workshop, scheduled from 10 to 13 January 2025, was intended to train

fisheries researchers and professionals in catch per unit effort (CPUE) and stock assessment methodologies which are essential for understanding fish stock dynamics and ensuring the sustainability of inland and marine fishery resources in Southeast Asia.

During her visit, *Dr. Nakazato* acknowledged the continuous support of MMAF in advancing the research initiatives of SEAFDEC. She also recognized the significant contributions of IFRDMD in enhancing the knowledge of fisheries students by conducting lectures on inland fisheries over the several years to prepare them to contribute to sustainable inland fisheries management in the future. ❖

## IFRDMD participates Iftar event, donates books to orphanage



SEAFDEC/IFRDMD participated in an Iftar event organized by the Dharma Wanita Persatuan of the Research Institute for Inland Fisheries and Extension (RIIFE) at the IFRDMD office in Palembang, Indonesia on

20 March 2025. The event, with the theme “Sharing Smiles and Happiness in Ramadan” aimed to strengthen relationships between male state servants and their wives and foster a spirit of togetherness during the holy month of Muslims.

During the Iftar event, IFRDMD donated a collection of storybooks to the Yunida Rizki Orphanage as part of its social responsibility. This initiative is designed to support children’s

education while raising their awareness about inland fisheries, encouraging the younger generation to learn about the importance of sustainable fisheries and environmental conservation.

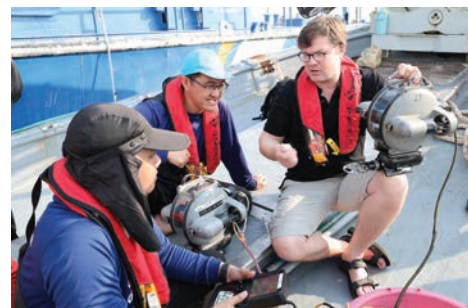
Dharma Wanita Persatuan is a social organization of wives of state servants and one of the largest women’s community organizations in Indonesia, committed to supporting gender equality, women’s empowerment, and family welfare. ❖

## Field trials: ROVs effectively map, retrieve ALDFG in Rayong, Thailand

SEAFDEC Training Department (TD) in partnership with the Institute of Marine Research (IMR) of Norway carried out field trials for locating and retrieving abandoned, lost, or otherwise discarded fishing gear (ALDFG) using remotely operated vehicles (ROVs). The field trials were conducted from 4 to 6 February 2025 near Samet Island in Rayong Province, Thailand, which involved TD researchers and representatives from relevant agencies and an organization in Thailand, namely: Department of Fisheries, Department of Marine and Coastal Resources, and Environmental Justice Foundation who gained hands-on experience in operating ROVs and recording data.

The pervasive issue of ALDFG has contributed significantly to

environmental degradation, including habitat destruction, interaction with threatened and endangered species, navigational hazards, and “ghost fishing” where lost gear continues to capture marine life, threatening sustainable fisheries. During the field trials onboard M.V. Plalung and a small workboat, the ROVs found and retrieved two types of derelict fishing gear including octopus longline pots and fish traps. The field trials demonstrated that ROVs effectively located and retrieved ALDFG, significantly minimizing environmental disruption and aiding in the restoration of marine ecosystems. The success of this initiative not only highlights technological advancements in managing ALDFG but also showcases the potential for expanding these methods in the region. SEAFDEC plans to disseminate



knowledge and techniques for ROV-based gear recovery across Southeast Asia in the future.

This initiative was under the “Ghost Fishing in the Global South, Demonstration Project” funded by the Norwegian Retailers’ Environmental Fund (NREF) that aims to tackle ALDFG through innovative solutions, capacity-building, and regional collaboration.



## IFRDMD, MMAF host lecture at Jakarta Technical University of Fisheries



Participants in the lecture with resource persons Dr. Toshihide Kitakado (front, fifth from left), and Dr. Satoshi Ishikawa (front, sixth from left)

IFRDMD, in collaboration with the Agency for Marine and Fisheries Extension and Human Resources Development of the Ministry of Marine Affairs and Fisheries (MMAF) of Indonesia, hosted the lecture “Advancing Fishery Sciences: Insight and Innovations from Experts.” The event took place at Jakarta Technical University of Fisheries in Jakarta, Indonesia on 13 January 2025 and gathered 900 participants, including students and lecturers, attending in person and online. The Lecture was intended to serve as a platform for knowledge exchange, reinforcing the

importance of scientific research and policy development to ensure the long-term success of the fisheries sector of Indonesia.

The Lecture featured two distinguished in fisheries science experts, namely: *Dr. Toshihide Kitakado* from Tokyo University of Marine Science and Technology and *Dr. Satoshi Ishikawa* from the Faculty of Agricultural and Food Sciences of Kyoto Prefectural University. Both experts highlighted sustainable fisheries practices as a crucial strategy for preserving fishery resources

for future generations. They also provided practical steps for integrating scientific approaches into real-world fisheries challenges, addressing key issues such as climate change, overfishing, and ecosystem management.

The Lecture reaffirmed the commitment of IFRDMD and MMAF to advancing fisheries science and sustainability, emphasizing the importance of collaboration between academia, practitioners, and policymakers. It aligned with the country’s Blue Economy vision, which focuses on sustainable fisheries development as a key strategy for economic growth.

The Lecture was part of the Training Workshop on CPUE Analysis and Stock Assessment held from 10 to 13 January 2025 in Jakarta under the project “Development of Stock Assessment Methods and Strengthening of Resource Management Measures for Tropical Anguillid Eel in Southeast Asia” supported by Japan-ASEAN Integration Fund (JAIF).



# REGIONAL PROGRAMS

## MFRDMD collects marine debris samples from East Coast of Peninsular Malaysia



*Fish catch mixed with marine debris*

SEAFDEC/MFRDMD conducted a series of sampling trips to evaluate the amount and composition of marine debris included in the catch during fishing activities in the waters of Terengganu, Malaysia on the East Coast of Peninsular Malaysia. The samples were collected using trawl and trammel net, which are used by fishers for catching commercial species of shrimps during the monsoon season from October to March. The first sampling trip was conducted on 4–7

February 2025 at Kemaman waters using trawl, collecting a total wet weight of 54.83 kg of marine debris composed of plastic, wood, and leaves. Subsequently, the second sampling trip was conducted on 17–19 February 2025 using a trammel net at Setiu waters, where plastic, wood, and leaves were collected with a total wet weight of 0.14 kg.

The sampling activities were under the project “Regional Collaborative

Research and Capacity Building for Monitoring and Reduction of Marine Debris from Fisheries in Southeast Asia” funded by the Japan-ASEAN Integration Fund (JAIF) with the objectives to enhance the regional collaborative research and capacity building of the fisheries sector in Southeast Asia by applying scientific knowledge in regional policies for monitoring and reducing marine debris. ❖

## MFRDMD strengthens capacity of young researchers in application of echosounder technology



*Testing the modified Furuno FCV-600 system portable echosounder for acoustic data collection in the waters around Pulau Kapas, Malaysia*

SEAFDEC/MFRDMD conducted the training on fisheries acoustic survey and data analysis from 16 to 20 February 2025 in a hybrid format. Supported by the Japanese Trust Fund (JTF) 7, the objective of the Training was to build the technical capacity of young researchers in acoustic fish stock assessment. A total of 16 participants took part in the Training, representing MFRDMD, TD, Department of Fisheries (DOF) Malaysia, DOF Brunei Darussalam, as

well as the Malaysia Fisheries Research Institutes located in Kampung Acheh (Perak) and Bintawa (Sarawak).

With the resource persons, namely: *Dr. Koki Abe*, Senior Technical Officer of TD, and *Dr. Zhu Yanhui*, assistant professor from Hokkaido University, the Training was a combination of lectures and field activities. The participants learned about acoustic survey principles, device configuration, and data processing methods. Moreover, the field survey was carried out in the waters around Pulau

Kapas using the modified Furuno FCV-600 system portable echosounder for acoustic data collection and Echoview 15 software for post-survey data processing and analysis.

After returning to their respective institutions, it is envisaged that the participants equipped with enhanced skills and knowledge will contribute to more effective and science-based fishery resource assessment and management in the region. ❖



# SPECIAL REPORT

## Knowledge-sharing for Sustainable Utilization of Fishery Resources and Resource Enhancement in Southeast Asia

SEAFDEC/TD



Southeast Asia is one of the most productive and biodiverse regions in the world, especially in terms of marine ecosystems. Fishery resources are crucial to the region, contributing significantly to food security, economic development, and the livelihoods of millions of people who rely on them for sustenance and income. In 2022, the region contributed 21 % of global fisheries and aquaculture production (SEAFDEC, 2025).

However, despite the significant contribution of fisheries to the region's economies and food systems, fishery resources are experiencing a concerning decline due to various factors, *e.g.* overfishing, illegal fishing, use of destructive fishing practices, and environmental degradation. A range of environmental challenges, including overfishing, habitat destruction, pollution, and the impacts of climate change, is placing immense pressure on marine ecosystems and fish populations. These issues threaten the long-term sustainability of the region's fisheries, which are the backbone of local economies and food security.

To address these challenges, SEAFDEC Training Department (TD) implemented the project “Sustainable Utilization of Fisheries Resources and Resource Enhancement in Southeast Asia” in 2020–2024 to support sustainable fishing practices through knowledge-sharing across Southeast Asia. With support from the Japanese Trust Fund, the Project conducted several activities, including capacity-building, seminars, fisheries and environment research surveys, and developing a guideline on fish enhancing devices.

### Project activities

From 2020 to 2024, a total of 344 researchers from the SEAFDEC Member Countries participated in the training courses and 30 researchers attended the seminars. These activities not only deepened their understanding of fisheries development but also strengthened collaborative networks among researchers in their respective fields.



*Fisheries research survey on 22 April–10 June 2024 in the waters of Brunei Darussalam*

Additionally, a total of five research cruises were conducted under this Project:

- A collaborative research survey between TD and the Department of Fisheries (DOF), Thailand aimed to compare the catch per unit effort by trawling between research vessels of TD and DOF, Thailand;
- Two collaborative research surveys between TD and the Aquatic Resources Research Institute (ARRI), Chulalongkorn University, Thailand were carried out to gather baseline data on marine debris and microplastics in the Gulf of Thailand;
- A collaborative research survey between TD and DOF Thailand aimed to survey potential sites for the rehabilitation of fisheries habitats using artificial reefs made from decommissioned oil rig platforms; and
- A collaborative research survey between TD and DOF Brunei Darussalam aimed to survey marine pelagic resources in the waters of Brunei Darussalam.

Furthermore, the “Guideline for Better Practice Approaches of Fish Enhancing Devices in Southeast Asia” is in the process of publication. This Guideline offers comprehensive preparations before the installation of fish enhancing devices (FEDs), including materials and design, community consultations, and site selection. The Guideline also emphasizes the importance of community engagement, legal frameworks, and scientific evaluation in ensuring the effectiveness and sustainability of FEDs.

## Way Forward

Through the Project, it was found that while knowledge-sharing across Southeast Asia on fishery science, including resource survey techniques, stock assessment, and fishing technology, is well established, there is still a lack of scientific publications on the impacts of environmental change on fishery resources. This gap persists despite the growing influence of environmental factors on resource abundance, likely due to limited knowledge in this area.



Resource persons from SEAFDEC/TD, Dr. Supapong Pattarapongpan (left) and Mr. Sukchai Arnupapboon (right), during the Regional Seminar on Resource Enhancement in the Southeast Asian Region on 29 August 2024 in Samut Prakan, Thailand



Regional Training Course on Marine Debris and Microplastics Sampling Collection and Analysis on 19–24 August 2022 in Samut Prakan, Thailand

With that, it is essential to prioritize the study and understanding of the impacts of environmental change on fishery resources. Understanding this matter could support the formulation of informed and effective policies based on scientific evidence. Such an understanding enables policymakers to develop adaptive and proactive strategies that ensure the sustainability of fisheries, safeguard economic livelihoods, and protect marine biodiversity.

Furthermore, collaborative studies are crucial to advancing the sustainable utilization of fishery resources and enhancing fishery stocks in Southeast Asia. The SEAFDEC Member Countries recommended that collaborative research should focus on the following key areas:

- Improvement and development of standardized data collection procedures across the region
- Stock depletion projection models for forecasting the status of important transboundary fish species
- Monitoring the impacts of climate change on transboundary fish stocks in the region
- Identification and promotion of best practices in resource enhancement programs implemented by SEAFDEC Member Countries

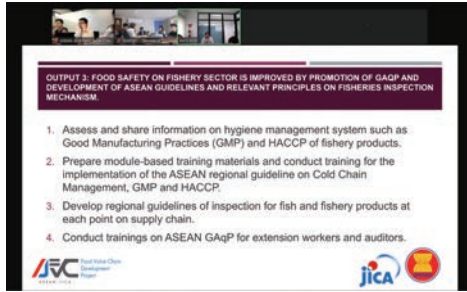
## Reference

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# REGIONAL PROGRAMS

## AJFVC inception meeting for output 3 on Good Aquaculture Practices



On 20 March 2025, the ASEAN-JICA Food Value Chain or AJFVC project held a virtual Inception Meeting to launch Output 3 of AJFVC, which focuses on

enhancing food safety within the fishery sector. This initiative aims to promote Good Aquaculture Practices (GAQP) and establish the ASEAN guidelines along with the relevant principles for fisheries management.

During the Meeting, SEAFDEC, the executing partner for Output 3 of the project, presented the planned activities and schedule for this initiative to the ASEAN Sectoral Working Group on

Fisheries (ASWGF<sub>i</sub>) and the Expert Working Group on ASEAN Good Aquaculture Practices (EWG-GAQP).

The technical departments of SEAFDEC, the Marine Fisheries Research Department (MFRD) and Aquaculture Department (AQD), explained the technical details of each activity of Output 3. ❖

## IFRDMD conducts series of surveys in the Musi River, advancing sustainable inland fisheries

SEAFDEC/IFRDMD, in collaboration with the Research Institute for Inland Fisheries and Extension (RIIFE) under the Agency of Marine and Fisheries Extension and Human Resources Development, Ministry of Marine Affairs and Fisheries (MMAF) Indonesia, carried out a series of surveys in inland waters in South Sumatra Province, Indonesia from 10 to 15 February 2025. These initiatives aimed to enhance scientific understanding of fish stock distribution and pollution in freshwater ecosystems.

As part of the project “Enhanced Research Capacities for Sustainable Utilization and Management of Eel and Other Inland Fisheries Resources” supported by the Japanese Trust Fund (JTF) 7, a hydroacoustic survey was conducted to develop a biomass estimation approach for inland fisheries. Using a Biosonics DTX 200 kHz Echosounder, IFRDMD surveyed 106 km of the Musi River from Arisan Musi Village in Muara Enim Regency to Borang Island in Banyuasin Regency. Fish samples were collected and water quality assessments were conducted at multiple locations. The data will be analyzed at the IFRDMD and RIIFE laboratories, providing insights into fish stock distribution and supporting more



*IFRDMD conducts hydroacoustic survey to develop a biomass estimation approach for inland fisheries*

effective inland fisheries management strategies.

Moreover, under another project “Regional Collaborative Research and Capacity Building for Monitoring and Reduction of Marine Debris from Fisheries in Southeast Asia”, IFRDMD carried out the third phase of the microplastic contamination study along the downstream area of the Musi River, which is supported by the Japan-ASEAN Integrated Fund (JAIF). The study focuses on assessing the impact of microplastic pollution on freshwater and marine fish. The survey covered ten stations along the Musi River from Arisan Musi Village in Muara Enim Regency to Upang Village in Banyuasin Regency. Fish samples were obtained from local fishers, while water quality

measurements were taken at multiple points to determine potential sources of contamination. The fish and water samples were then sent to IFRDMD and RIIFE laboratories for detailed examination.

Both surveys represent a crucial step in broader research efforts of IFRDMD to ensure the sustainability of inland fisheries and protection of freshwater ecosystems. The hydroacoustic study will contribute to developing a biomass estimation model, aiding sustainable fisheries resource management. Meanwhile, the microplastic research will provide understanding of pollution levels affecting aquatic life, helping policymakers and stakeholders implement more effective environmental protection measures. ❖



*IFRDMD researchers obtaining fish and water samples to determine potential sources of microplastic contamination*

## IFRDMD strengthens cooperation, conducts socioeconomic surveys in Muara Enim, Indonesia

SEAFDEC/IFRDMD staff, together with the Head of the Research Institute for Inland Fisheries and Extension of the Ministry of Marine Affairs and Fisheries (MMAF), *Mr. Rezki Anthoni*, met with the Head of the Fisheries Office of Muara Enim Regency, *Mr. Muflih*, and his staff and fisheries extension officers on 17 February 2025. During the discussion, IFRDMD presented its 2025–2029 work program which includes two projects “Enhanced Research Capacities for Sustainable Utilization and Management of Eel and Other Inland Fisheries Resources” and “Improving Fishers’ Livelihood and Fisheries Co-Management in Inland and Coastal Small-Scale Fisheries.” Both projects are funded by the Japanese Trust Fund (JTF) 7 and aim to strengthen the sustainable management of inland fisheries while improving the economic conditions of fishers. Furthermore, IFRDMD provided

an update on the SPECTRA project that has been implemented in Patra Tani Village, Muara Enim Regency since 2020. This long-term initiative focuses on sustainable fishery resource management and will be monitored until 2029 to ensure its effectiveness. In response, *Mr. Muflih* expressed his full support for these initiatives and assured that the Fisheries Office would assist for smooth execution.

Afterward, IFRDMD conducted a socioeconomic survey on 25–26 February 2025 to assess the current state of inland fisheries, identify key challenges, and explore potential solutions to improve the livelihoods of local fishers. The survey areas include Patra Tani Village and Gedung Buruk Village in Muara Belida District where 25 fishers and 27 fishers, respectively, were interviewed. The results of the



*Fishers filling out the questionnaire guided by MMAF fisheries extension officers*

survey will be instrumental in shaping future policies and strategies to enhance fisheries co-management, ensuring long-term sustainability and economic stability for communities that rely on inland fisheries. By integrating science with community engagement, IFRDMD in collaboration with local authorities and fishers will foster a holistic approach to sustainable fisheries management in Muara Enim Regency. ❖

## TD conducts marine debris and microplastic training course



SEAFDEC Training Department (TD) organized the “Regional Training Course on the Liable Research Methods to Collect and Analyze the Marine Debris and Microplastic” from 24 to 31 January 2025 at TD in Samut Prakan, Thailand. The Training was held to enhance the capacity of 38

trainees who are fishery officers from the SEAFDEC Member Countries in the sampling and analysis of marine debris and microplastics. It is also envisaged that the Training will strengthen the cooperation among the SEAFDEC Member Countries in addressing marine debris and microplastics in the Southeast Asian region.

Resource persons from Chulalongkorn University, Burapha University Chanthaburi Campus, Kasetsart University, Kyushu University, Tokyo University of Marine Science and Technology, and TD were invited to impart their knowledge of marine debris and microplastics. The Training

was composed of lectures and practical sessions covering the topics monitoring and analyzing marine debris and microplastics, marine debris global situation, marine debris and microplastic studies in Japan, management of marine debris and microplastics, microplastics sampling, and impact of marine debris, among others.

This training is an activity of 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). ❖

## DLF staff train on traceability for fish and fishery products in Lao PDR

The SEAFDEC Training Department (TD) organized the “On-site Training on Traceability for Fish and Fishery Products in Lao PDR” from 18 to 20 March 2025 in Vientiane, Lao PDR. The trainees include 26 staff from the Department of Livestock and Fisheries (DLF) of Lao PDR who are engaged in the traceability of fish and fishery products.



The Training was conducted to equip the relevant staff with the knowledge and skills to implement effective traceability systems and contribute to the fight against IUU fishing at the national and regional levels. The Training was an activity under the project “ASEAN-JICA Capacity Building Project on IUU

*(Continued on page 15)*

# FUTURE ACTIVITIES

Date	Venue	Title	Organizer(s)
<b>2025</b>			
1–3 April	Samut Prakan, Thailand	Regional Training Course on Enhancing Capacity Development to Implement of Port State Measures (PSM) Inspection to Combat IUU Fishing	TD/BOBLME II Project
1–3 April	Phang Nga Province, Thailand	Workshop on Ecosystem Approach Fisheries Management (EAFM) Start-up B for the Fisheries Management Unit (FMU) in Koh Panyee, Phang Nga Province, Thailand	TD/BOBLME II Project
14–25 April	New York, USA	1 <sup>st</sup> Session of the Preparatory Commission for the Entry into Force of the Agreement on BBNJ	UN
21–25 April	Manta, Ecuador	5 <sup>th</sup> Meeting of the Parties to the Agreement on Port State Measures (PSMA)	PSMA Secretariat
22–24 April	Langkawi, Malaysia	Second Taskforce Meeting Advancing the Strategic Framework for Food, Agriculture, and Forestry (FAF) in ASEAN	ASEAN
23–24 April	Bangkok, Thailand	Regional Technical Consultation on the Regional Fishing Vessel Record (RFVR) Database and Sharing Information to Support Eliminating IUU Fishing	TD
23–25 April	Satun Province, Thailand	Workshop on Ecosystem Approach Fisheries Management (EAFM) Start-up B for the Fisheries Management Unit (FMU) in Rawai Tai, Satun Province, Thailand	TD
28–30 April	Samut Prakan, Thailand	Technical Workshop to Develop the Working Handbook for the Productivity and Susceptibility Analysis and Vulnerability Analysis for Southeast Asia	TD
28 April–13 May	Iloilo, Philippines	Sandfish ( <i>Holothuria scabra</i> ) Seed Production, Nursery and Management	AQD
29 April	Jakarta, Indonesia	Blue Fair Fish Inception Workshop	GIZ
5–23 May	Nha Trang, Viet Nam	Training Course on Fisheries MCS in Southeast Asia	Nha Trang University
15–16 May	Chennai, India	Regional Workshop on the WTO Agreement on Fisheries Subsidies and Support for its Implementation in the Bay of Bengal Region	BOBP-IGO
19–23 May	Binangonan, Philippines	Training Course on Giant Freshwater Prawn Hatchery and Grow-out Operations (Session 2)	AQD
19–25 May	Bandar Seri Begawan, Brunei Darussalam	Mid-Year Conference and Exhibition (MYCE) 2025: Expedition and Conference on Forest to Reef (Expedition)	Brunei Darussalam
20–22 May	Singapore	57 <sup>th</sup> Meeting of the SEAFDEC Council	SEC & Singapore
20–30 May	Samut Prakan, Thailand	65 <sup>th</sup> Short-term Training Course for University Students “Ecosystem-Based Fisheries for Sustainable Fisheries Resources Management”	TD
25–29 May	Paris, France	92 <sup>nd</sup> General Session of the World Assembly of Delegates of the World Organization for Animal Health	OIE
26–30 May	Krabi Province, Thailand	Training Course on Capacity of Training Providers to Deliver Essential Ecosystem Approach to Fisheries Management	TD/BOBLME II Project
27–28 May	Samut Prakan, Thailand	Regional Consultation on Advancing Small-Scale Fisheries Reducing Costs and Environment Impact	TD
28–30 May	Kuala Lumpur, Malaysia	Regional Technical Consultation on Current Status of Regional Fisheries Information/Mechanisms in the Asian Region	MFRDMD/JAIF Fishing Capacity
9–19 June	Iloilo, Philippines	Training Course on Abalone ( <i>Haliotis asinina</i> ) Hatchery and Grow-out Operations	AQD
10–12 June	Bangkok, Thailand	Regional Training on Traceability and Effective Management Tools for Fish and Fishery Products in Southeast Asia	TD/ASEAN-JICA IUU Project
19–22 June	Bandung, Indonesia	Internal Technical Workshop on CPUE Analysis and Stock Assessment for the JAIF-Eel Project	SEC & IFRDMD
16–18 June	Bandar Seri Begawan, Brunei Darussalam	Mid-Year Conference and Exhibition (MYCE) 2025: Expedition and Conference on Forest to Reef (Conference)	Brunei Darussalam
16 June–22 July	Iloilo, Philippines	Training Course on Marine Fish Hatchery Operations	AQD
2–3 July	Jakarta, Indonesia	Workshop of Microplastic Impact to Marine and Freshwater Fish	IFRDMD

## DLF staff train on traceability for fish and fishery products in Lao PDR

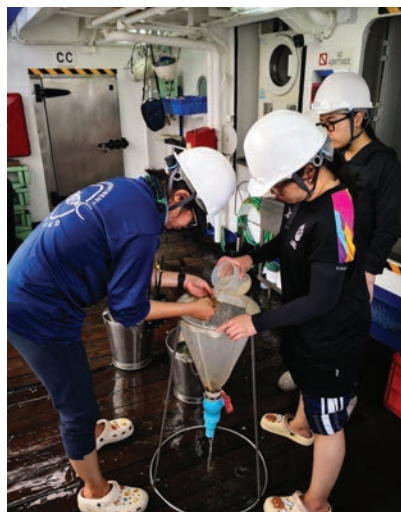
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Fishing Countermeasures in Southeast Asia” supported by the ASEAN-Japan Technical Cooperation.

The resource persons from TD and Department of Fisheries of Thailand imparted relevant topics, which include catch documentation and traceability systems, traceability system for inland aquaculture, and export and import control of fish and fishery products. Moreover, the electronic ASEAN Catch Documentation Scheme (eACDS) developed by SEAFDEC was introduced during the Training.

A traceability system is one of the recent trade requirements to ensure that fish and fishery products in the supply chain are not derived from IUU fishing activities and are safe for human consumption. It requires fisheries companies to record the source, volume, form, and certificate numbers of all products received under a catch documentation scheme. ✕

## M.V. SEAFDEC 2 sails for marine debris and microplastics survey in the Gulf of Thailand



As part of the project “Regional Collaborative Research and Capacity Building for Monitoring and Reduction of Marine Debris from Fisheries in Southeast Asia” supported by Japan-ASEAN Integration Fund (JAIF), SEAFDEC/TD conducted a survey in the Gulf of Thailand from 10 February to 14 March 2025 utilizing the M.V. SEAFDEC 2. The survey was carried out to assess the abundance of fishery resources and the impact of marine debris and microplastics which encompassed 62 stations for the visual observation

of floating marine debris, sampling of microplastics using a neuston net, collection of debris from the seafloor using a trawl, and fish sampling to estimate the density of fishery resources.

Water pollution from marine debris and microplastics has become a critical global issue in the recent decades. Marine debris and microplastics impact both living and non-living components of ecosystems, and understanding their impact on the environment and fishery resources is essential for developing effective management measures. Thus, the survey conducted by TD is envisaged to fill the gap in baseline information on the status of pollution and fishery resources in the Gulf of Thailand. ✕

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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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