



SEAFDEC NEWSLETTER

VOLUME 45 NUMBER 1 January–March 2022

BANGKOK, THAILAND, ISSN 0857 - 233X

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Fisheries *refugia* project organizes Fifth Regional Scientific and Technical Committee Meeting



The Project Coordinating Unit (PCU) of the Fisheries *Refugia* Project organized the “Fifth Regional Scientific and Technical Committee Meeting” from 16 to 17 March 2022 *via* the Zoom Platform as one of the regional activities under the SEAFDEC/UNEP/GEF project “Establishment and Operation of a

Regional System of Fisheries *Refugia* in the South China Sea and the Gulf of Thailand.” The objectives of the Meeting were to follow up on the progress of national and regional programs in the past years until December 2021 and to discuss several issues related to the Mid-term Review results, guidelines for fisheries *refugia* indicators, regional

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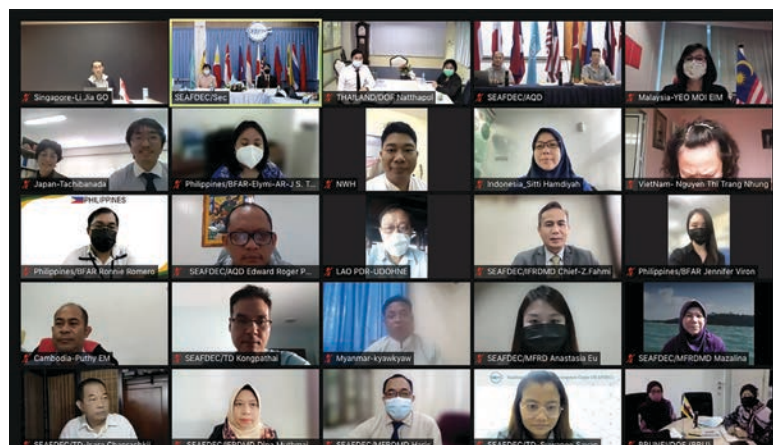
EDITORIAL

The highlighted event for the first quarter of 2022 was the Regional Workshop which aimed at discussing the key indicators, reporting template, and timeframe for the monitoring and evaluation of the implementation of the RES&POA-2030. During this quarter, SEAFDEC also launched the Southeast Asian State of Fisheries and Aquaculture (SEASOFIA) 2022. The SEASOFIA 2022 publication provides useful information on fisheries and aquaculture, recent issues and initiatives, and an outlook on ensuring the sustainable development of fisheries and aquaculture in the region.

The regional technical event was also organized including the Fifth Regional Scientific and Technical Committee Meeting for the SEAFDEC/UNEP/GEF Project: “Establishment and Operation of a Regional System of Fisheries *Refugia* in the South China Sea and Gulf of Thailand” with the aims to follow up

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SEAFDEC organizes regional workshop to develop key indicators and evaluation of monitoring the implementation of RES&POA-2030



Following the adoption of the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2030 (RES&POA-2030) in 2020, SEAFDEC

organized the “RES&POA-2030: Regional Workshop on Development of the Key Indicators and Detailed Roadmap” on 23 to 24 March 2022

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EDITORIAL

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on the progress of national and regional programs as well as discuss the guidelines for fisheries *refugia* indicators, regional training, financial matters, and strategic plan towards achieving the goals by 2022. Moreover, SEAFDEC continued to conduct training courses on the use of the electronic ASEAN Catch Certification Scheme (eACDS) to strengthen and enhance the understanding of the use of eACDS application; writeshop on fisheries management tools for EAFM to review the existing fisheries management tools; and training on marine fish hatchery operation including lectures and hands-on activities on the biology, broodstock management, hatchery operations, and nursery culture of marine fishes.

SEAFDEC also conducted several studies. AQD studied the spawning of the shortfin scad in captivity and hatchery techniques for eels as well as demonstrated the feasibility of growing oysters with fish in a pond culture system. In addition, IFRDMD investigated the roles of women in a fishing community.

In the collaborating with other organizations, SEAFDEC was involved in the SDG14 Roundtable: Conserve and Sustainably Use the Oceans, Seas, and Marine Resources for Sustainable Development to highlight Southeast Asia's efforts in achieving the SDG14 targets e.g. reducing marine pollution, combating IUU fishing, and protecting the marine ecosystem towards sustainable utilization of marine resources.

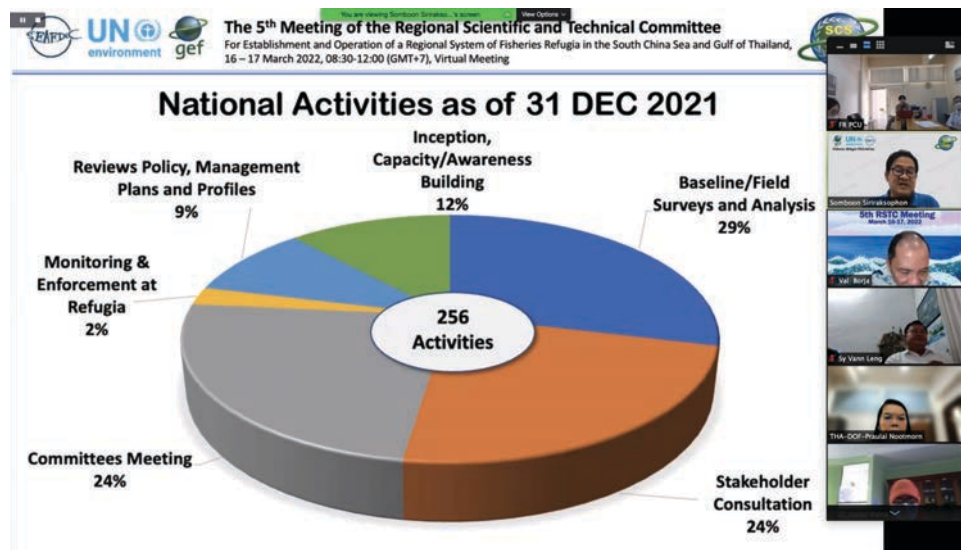
Finally, SEAFDEC bid farewell to *Mr. Toshiya Suzuki* who completed his term as the Deputy Chief of IFRDMD. He played a significant role in implementing the projects supported by the Japanese Trust Fund towards promoting sustainable management and utilization of inland fishery resources and livelihoods in the Southeast Asian region. ✎

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Fisheries *refugia* project organizes Fifth Regional Scientific and Technical Committee Meeting

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training for larval fish identification, financial matters for national and regional activities in 2022, as well as issues, challenges, and strategic plan towards achieving the Project goals by 2022. The Meeting was attended by a total of 41 participants including scientific and technical committee members from six participating countries, namely: Cambodia, Indonesia, Malaysia, Philippines, Thailand, and Viet Nam, the Project Director, Fisheries *Refugia* PCU, observers from the respective national

lead agencies, and technical officers from SEAFDEC/TD. During the Meeting, the PCU presented the achievements of the Project in 2021 including the 253 publications uploaded to the Project website; three *refugia* sites adopted at Kep and Koh Kong in Cambodia, and Surat Thani Province in Thailand; and seven fisheries *refugia* on the process of adoption at Kampot in Cambodia, Trat Province in Thailand, Johor and Miri in Malaysia, and Bolinao, Masinloc, and Coron in the Philippines. ✎

SEAFDEC organizes regional workshop to develop key indicators and evaluation of monitoring the implementation of RES&POA-2030

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through a virtual platform. The Workshop was aimed at discussing the proposed key indicators, reporting template, and timeframe for monitoring and evaluation of the implementation of the RES&POA-2030. The Workshop was attended by 75 participants from the SEAFDEC Member Countries as well as Secretary-General and Deputy Secretary-General of SEAFDEC, senior officials and officers from the SEAFDEC Secretariat and Departments.

During the Workshop, the participants proposed to conduct the trial exercise in providing inputs to the reporting

template before the key indicators are finalized at the second Regional Workshop scheduled in June 2022. It was planned that once the key indicators are finalized, the AMSs would provide baseline information (as of 2021), followed by mid-term evaluation in 2025 and final evaluation in 2029.

The Workshop was one of the activities under the regional project “Assistance for Capacity Development in the Region to Address International Fisheries-related Issues” supported by the Japanese Trust Fund. ✎

M.V. PLALUNG open house in the Eastern Thailand



SEAFDEC/TD organized the open house event for fishers and relevant fisheries stakeholders to exhibit the M.V. PLALUNG in Rayong Province (14–15 February 2022) and Chanthaburi Province (17–18 February 2022) in Eastern Thailand. This event was aimed at promoting the new technology



installed on M.V. PLALUNG, including equipment for optimizing energy and fuel efficiency to reduce impacts on the environment, and instruments for reducing workforce during fishing operations and onboard fish handling and preservation. Subsequently, on 31 March 2022, TD welcomed the Advisor

of the Minister of Agriculture and Cooperation, Thailand, *Mr. Alongkon Phonlabut*, as well as visitors from the Thailand Fisheries Association to observe the technology installed on M.V. PLALUNG.

M.V. PLALUNG is a 29.98 GT wooden fishing vessel with 18.32 m length, 4.40 m breadth, and 1.71 m depth. The vessel was acquired in 2020 and improved in 2021 as a trawler prototype to support TD training and research activities in the coastal areas of Thailand. Also, the vessel was modified in accordance with the Work in Fishing Convention No. 188 (C188) which promotes decent working conditions for workers in the fisheries sector.



Writershop on Fisheries Management Tools for EAFM



Dr. Kungwan Chantarachote (*second from right*), fisheries management expert from Kasetsart University

SEAFDEC/TD organized the “In-house Writershop on Fisheries Management Tools for Ecosystem Approach to Fisheries Management (EAFM)” from 14 to 18 March 2022 at its premises in Samut Prakan, Thailand *via* the online platform. This Writershop was attended by 13 TD staff who are involved in fisheries management activities with the Department of Fisheries, Thailand. The fisheries management expert from Kasetsart University, *Dr. Kungwan Chantarachote*, was invited as the resource person. The aim of the

Writershop was to review the existing fisheries management tools for EAFM which were then translated from English to the Thai language to strengthen the knowledge and skills of the participants for them to be able to identify appropriate management tools to address common EAFM issues in the Southeast Asian region. This Writershop was an activity under the project “Small-scale Fisheries Management for Better Livelihood and Fisheries Resources” supported by the Japanese Trust Fund.



AQD eyes developing hatchery techniques for eels

Eel juveniles were collected from Concepcion, Iloilo, Philippines and transported to SEAFDEC/AQD’s Tigbauan Main Station on 8 February 2022. The eels will be studied at the Department’s multi-species freshwater hatchery where specialists will note their growth, feeding behavior, and eventually reproductive performance. The plan is to develop hatchery techniques for the eels.

The population of eels, specifically anguillid eels, is slowly deteriorating due to commercial exploitation and

international trade. This moved the research team at AQD to explore the aquaculture potential of the fish. In addition, plans are underway to collect anguillid eels.

This project is part of the Joint Mission for Accelerated Nationwide Technology Transfer Program (JMANTTP), a collaborative project between AQD and the Bureau of Fisheries and Aquatic Resources in the Philippines.



Juvenile eels collected from Concepcion, Iloilo, Philippines

DEPARTMENTAL ACTIVITIES

Inter-Departmental Information Workshop organized



The SEAFDEC Secretariat organized the Inter-Departmental Information Workshop on 15 February 2022 via an online platform. There were 24 participants in the Workshop including the SEAFDEC Deputy Secretary-General, senior officials of SEAFDEC Secretariat, and

the information-related officers from the SEAFDEC Secretariat and Departments. The Workshop was convened to discuss and explore the ways and means to enhance information dissemination. During the Workshop, the participants shared their views and provided suggestions on the

development of electronic news alert, updating the SEAFDEC institutional video, improving quality and sustaining the publication “Fish for the People,” and other information-related matters including the progress of hosting of SEAFDEC Institutional Repositories and possibility of moving toward the ePUB format of SEAFDEC publications.

The outcomes of the Workshop would be presented to the upcoming 23rd Meeting of the SEAFDEC Information Staff Program and Department Chiefs Meeting scheduled in 2022 for consideration and final comments.



AQD museum joins awareness campaign on marine turtle protection conservation

SEAFDEC/AQD’s aquarium museum and visitor center, FishWorld, participated in the communication, education, and public awareness campaign on Marine Turtle Protection and Conservation held in Tigbauan, Iloilo, Philippines on 10 March 2022.

FishWorld’s officer-in-charge, Ms. Hananiah Sollesta-Pitogo was one of the speakers at the event, which was organized by the Department of Environment and Natural Resources-Community Environment and Natural

Resources Office in Guimbal, Iloilo. She shared her expertise on how to handle marine turtles and other basic protocols in the case of stranded, captured, or turned-over turtles.

Ms. Pitogo said that proper handling of stranded marine turtles and marine turtle nests plays an important role to conserve them since some of the species are now considered endangered or critically endangered.

In addition, the FishWorld team visited and inspected marine turtle nesting sites in a marine sanctuary at Barangay Crossing Dapuyan, San Joaquin, Iloilo on 17 March 2022. The team visited the site after some marine turtle hatchlings were spotted and released into the sea. According to marine sanctuary patrol Felix Espiritu, the hatchlings were olive ridley turtles. The marine sanctuary patrol recorded 67 marine turtle hatchlings in March and 13 hatchlings each in January and February from the four nests they monitored.



More aquaculture facilities underway

Following the inauguration of new broodstock and hatchery facilities in 2021 at its headquarter in Tigbauan, Iloilo, Philippines, SEAFDEC/AQD is now pursuing the construction of a new pompano hatchery and a new shrimp broodstock facility. The ongoing construction of a pompano hatchery in Tigbauan, which started in January 2022, signals that AQD is gearing towards supporting hatchery operators and fish growers who plan to venture into producing the prized commodity. The ongoing construction of new shrimp broodstock facilities with adjacent and extended space for larval rearing, also



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FishWorld officer-in-charge Ms. Hananiah Sollesta-Pitogo explains to the residents of a coastal community in Tigbauan, Iloilo, Philippines what to do when marine turtles laying eggs are sighted

Oyster spats deployed to ponds for rearing

Following the successful production of oyster (*Magallana bilineata*) spats (larvae) in the hatchery, the SEAFDEC/AQD oyster research team moved forward with their rearing experiments to demonstrate the feasibility of growing oysters with fish in a pond culture system. Thousands of single and cluster oyster spats collected from the hatchery were stocked in ponds with milkfish juveniles at the AQD Dumangas Brackishwater Station in Iloilo, the Philippines on 28 February 2022. The single oysters were stocked using oyster bags made of

mesh material suspended from floaters to keep the spats closer to the surface, where most of their natural food is concentrated. On the other hand, cluster oysters were hung from longlines with buoys. The oysters will be monitored until they reach marketable size.

This activity is part of the project “Verification of adequate feeding rations and use of algal paste for single spat production of slipper-shaped oyster, *Crassostrea iredalei* (now *Magallana bilineata*)” under the AQD program

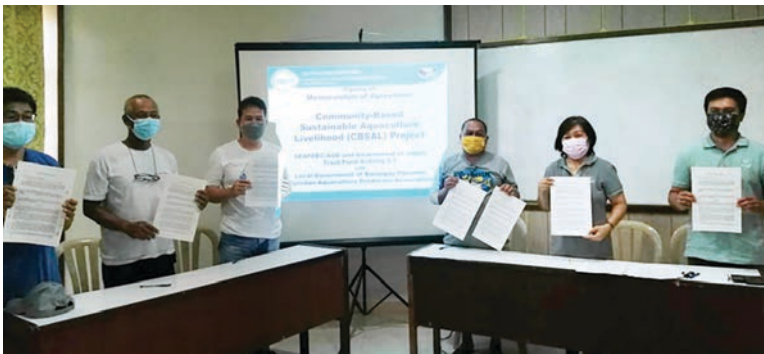


Research technicians stock oyster spats in a pond with milkfish juveniles

on “Quality Seed for Sustainable Aquaculture.”



Tri-party collaborators ink agreement for giant freshwater prawn livelihood project



Aiming to enhance the livelihood of fish farming communities in the Philippines, SEAFDEC/AQD signed a two-year agreement with the Pipindan Aquaculture Producers Association and the local government unit of

Brgy. Pipindan in Binangonan, Rizal, Philippines on 2 March 2022.

The agreement will allow AQD to implement the Community-Based Sustainable Aquaculture Livelihood

Project in the said barangay. Under this project, the Department will be sharing its knowledge on the hatchery and nursery of giant freshwater prawn with local stakeholders through a series of extension and training activities.

This Project, funded through the Japanese Trust Fund, also targets the establishment of a giant freshwater prawn hatchery facility in the area which will provide a long-term source of giant freshwater prawn seedstock and livelihood opportunities for the stakeholders even after the conclusion of the project.



More aquaculture facilities underway

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in Tigbauan, is meant to support the research and development efforts on pathogen-free tiger shrimp (*Penaeus monodon*) and Pacific whiteleg shrimp (*Litopenaeus vannamei*). These enclosed and roofed facilities will have four units of 100-ton capacity round concrete tanks for shrimp broodstock and 36 units of 12-ton capacity round concrete larval rearing tanks, which will make room for hosting additional shrimp breeders in the hope of ramping up production of disease-free postlarvae.



The construction of these new facilities is part of the Joint Mission for Accelerated Nationwide Technology Transfer (JMANTTP) program, a

collaborative effort between AQD and the Philippine Government through the Department of Agriculture-Bureau of Fisheries and Aquatic Resources.



AQD continues collection of round scad and kawakawa samples

SEAFDEC/AQD continued to collect samples of kawakawa (mackerel tuna) and round scad from the waters of Antique, Philippines on 26 and 28 January 2022 after which they were transported to AQD Tigbauan Main Station for stocking. The juveniles will be maintained and taken care of until they reach maturity and are ready to reproduce. This is a step toward spawning the kawakawa in captivity, completing its life cycle,

and establishing rearing technologies. Meanwhile, AQD has already spawned the round scad in captivity in December 2021, but recent samples are needed to replicate the successful trials.

The newly-established collection and transportation protocols of live samples from the wild resulted in zero mortalities. In addition, the animals stocked at AQD's hatchery facility are currently adapting well in captivity

because of optimizations done to the tank's environmental conditions. The goal of the project "Development of Aquaculture Techniques on New Aquatic Species for Promotion and Creation of Local Aquaculture Industry" financed by the Government of Japan is to close the life cycle of the fishes and open up new aquaculture opportunities in round scad and kawakawa farming. ❖

Research breakthrough seen to curb shortage of round scad

SEAFDEC/AQD researchers successfully spawned the shortfin scad *Decapterus macrosoma* in captivity at its main station in Tigbauan, Iloilo, Philippines, marking a critical milestone in farming the fish. This scientific breakthrough might finally be the long-term solution to the perennial shortage of round scad (*Decapterus* spp.) in the Philippines.

AQD started collecting wild breeders in 2020 off southern Iloilo and Antique, Philippines as part of a Government of Japan-funded project "Development of Aquaculture Techniques on New Aquatic Species for Promotion and Creation of Local Aquaculture Industry." From December 2021 until February 2022, the round scad breeders have been spawning continuously, and the AQD hatchery now has thousands of round scad in different



Day 48 round scad fingerlings at AQD, produced from wild breeders collected from Antique, Philippines

larval to early juvenile stages, which the Department hopes to further grow to market sizes. It was observed that the fish were growing very fast especially when they reach 20 days old and can reach 2.5cm in length in 25 days. Although trials in the hatchery are still few, the round scad fry had up to a 20 % survival rate 25 days after they hatch.

Meanwhile, the AQD team will continue to collect broodstock from the wild for more experimental runs that will also cover studying the larval development, reproductive development, feeding habits, and the formulation of the hatchery, nursery, and grow-out procedures.

According to government statistics, round scad is considered a staple fish in the Philippines with over 202,000 t harvested by commercial and municipal fisheries in 2020. However, the haul could not keep up with market demand leading to increasing prices, now reaching USD 5–6/kg, and controversial moves to import the fish amid closed fishing seasons. This fish is also a potential export product for the Philippines as it is now being imported by Japan as *otsumami*, a kind of snack or finger food. ❖

AQD sea cucumber project piques interest



A possible collaboration between SEAFDEC/AQD, Philippine Department of Science and Technology

in MIMAROPA Region (DOST-MIMAROPA), and Marinduque State College (MSC) was discussed during

a virtual meeting on 10 March 2022. After learning about AQD's work on sea cucumber, representatives from MSC shared their interest in devising a proposal on farming the species with possible funding from DOST-MIMAROPA. Research gaps and potential areas for research such as aquaculture techniques and proper resource management were discussed to jumpstart the development of this future project. ❖

Philippine agriculture and fisheries officials visit AQD



Officials from the Philippine Department of Agriculture (DA), Bureau of Fisheries and Aquatic Resources (BFAR), and the National Fisheries Research and Development Institute (NFRDI) visited SEAFDEC/AQD's Tigbauan Main Station in Iloilo, Philippines on 31 March 2022.

The visitors, including *Rodolfo Vicerra*, undersecretary for DA attached agencies, *Drusila Esther Bayate*, assistant director for BFAR research, regulations, and international engagement, and *Dr. Lilian Garcia*, NFRDI executive director, were received by AQD Chief *Dan Baliao* and toured the Multi-species

Natural food and formulated feed produced at AQD Larval Food Laboratory and Feed Mill on display

Freshwater Hatchery, new milkfish broodstock tanks, and Feed Mill.

An exhibit at AQD's Multi-purpose Hall showcased to the guests the different commodities being studied by AQD for domestication and efficient propagation. Included in the display were some of the world's first captive-bred round scad which were recently hatched and grown to fingerling size at the Department.

Another booth at the exhibit displayed and distributed various publications such as farmer-friendly manuals and brochures that are the output of AQD's R&D work. ❖

PH undersecretary for agriculture visits AQD station in Guimaras



Philippine Department of Agriculture (DA) Undersecretary for Agri-Industrialization and Fisheries *Ms. Cheryl Marie-Natividad Caballero*, went to SEAFDEC/AQD's Igang Marine Station in Guimaras, Philippines on

11 March 2022 and had a meeting with AQD officials and researchers. During the meeting, *Usec. Caballero* lauded the Department's groundbreaking work on the spawning of round scad, *Decapterus* spp.

DA undersecretary Ms. Cheryl Marie-Natividad Caballero (center) with AQD Chief Mr. Dan Baliao (right of Ms. Caballero) and other DA and AQD officials

Her group also met with the Panay Aqua Farmers Cooperative where the proposed establishment of a medium-scale aquaculture feed mill in Capiz Province was discussed, including AQD's role of providing technical assistance. The proposal was endorsed by *Usec. Caballero* to DA Secretary *Dr. William Dar*.

The Undersecretary, who is also the SEAFDEC Council Director for the Philippines, was accompanied by Bureau of Fisheries and Aquatic Resources (BFAR) 6 Regional Director *Ms. Remia Aparri*. ❖

Iloilo City gov't seeks assistance from AQD

Government officials from Iloilo City, Philippines reached out to SEAFDEC/AQD for technical assistance to improve the fisheries in the city. In February and March 2022, personnel from the city have been visiting AQD's Tigbauan station in Iloilo, Philippines to discuss a possible collaboration.

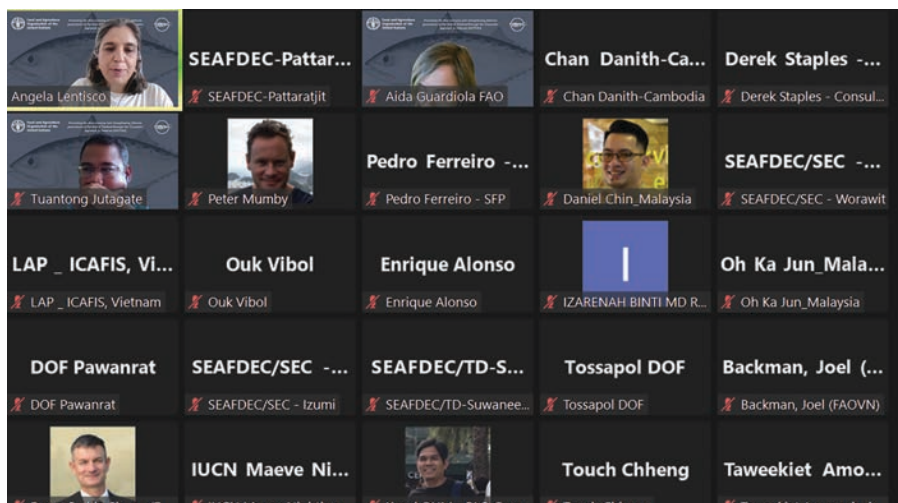
The talks were mainly on a possible partnership to establish a marine hatchery for high-value fishes and the development of resource enhancement

protocols suitable for the Iloilo River, among other things.

AQD Chief *Mr. Dan Baliao* spearheaded the discussions with *Iñigo Garingalao*, officer-in-charge of the Iloilo City Agriculturist Office, and *Mr. Charlie Hofleña*, executive assistant to the city mayor. Chief *Baliao* also toured the visitors around the Department's facilities, explaining which systems would be appropriate for Iloilo City's urban coastal estuary setting. ❖



SEAFDEC joins the Regional Validation Workshop on GoTFish Project



the Workshop were to present the findings from a series of consultations and validate the overall project framework and approaches to the activities before the final submission of the ProDoc to the Global Environment Facility (GEF) in April 2022.

The GoTFish Project is a five-year project aiming at improving natural resource governance in the GoT through the implementation of the ecosystem approach to fisheries (EAF) to contribute to the broader regional fisheries objectives of the South China Sea Strategic Action Programme (SCS-SAP). The Component 1 of the project is to be executed by SEAFDEC and would focus on strengthening regional transboundary governance and cooperation of GoT fisheries. The Project has been in the process of the Project Preparation Grant Phase for submission to the GEF for CEO endorsement in April 2022.

The “Regional Validation Workshop for the Promoting the Blue Economy and Strengthening Fisheries Governance of the Gulf of Thailand through the Ecosystem Approach to Fisheries (GoTFish Project)” was organized by the Food and Agriculture Organization of the United Nations (FAO) on 16–17 March 2022 *via* the online platform. The Workshop brought together the

representatives from prospective executing partners, namely: SEAFDEC, Sustainable Fisheries Partnership (SFP), University of Queensland, and Gulf of Thailand (GoT) countries (Cambodia, Malaysia, Thailand, and Viet Nam), civil society organizations, non-government organizations, academia, research institutions, development partners, and other relevant stakeholders. The aim of

IFRDMD takes part in Sekanak Lambidaro Festival



SEAFDEC/IFRDMD and Research Institute for Inland Fisheries and Extension (RIIFE), Ministry of Marine Affairs and Fisheries (MMAF), Indonesia took part in the Sekanak Lambidaro River Festival on 5–6 February 2022. The Festival was organized by the Ministry of Public Works and Housing of the Central Sumatra River Region VIII and was attended by the Minister of Public Works and Housing, Governor of South Sumatra Province, Military Region Command II/Sriwijaya, Head of South Sumatra Provincial Police, Director General of Water Resources,

Mayor of Palembang City as well as officers of South Sumatra Province and Palembang City. The Festival was aimed at introducing a new tourist destination in Palembang, Indonesia with several activities including traditional art exhibitions and fashion shows in ornamental boats. Moreover, the River Care Community Office was inaugurated by the Palembang City Government.

The Sekanak Lambidaro River is one of the tributaries of the Musi River in Palembang City. One of the restoration efforts in the Sekanak Lambidaro

River was the construction of flood control structures in the downtown area. Besides, building pedestrian roads and planting trees on the river banks would become a new icon for the Palembang communities and improve the river environment. Moreover, about 10,000 native fish seeds including striped catfish, snakehead, and kissing gourami with a length of 7–8 cm which were produced by RIIFE will be released into the river as part of the MMAF program to restore native fish stocks. On the other hand, the introduction of tilapia and other invasive fish species would be prohibited.



IFRDMD studies women's roles in small-scale fisheries



Usually, women are the caregivers in the household and are responsible for the family's nutrition. However, in the small-scale fisheries of Indonesia, the women are helping to boost their family's economy by engaging in pre-harvest work (e.g. repairing nets and preparing food for their husbands before fishing) and post-harvest activities (e.g. fish handling, processing, and fish

marketing). To study the roles of women in the fishing community, SEAFDEC/IFRDMD visited Gedung Buruk Village, Muara Enim Regency, Indonesia on 17 March 2022. The results of the study would serve as the basis of future endeavors to reduce the marginalization of women and recognize their role in small-scale fisheries by increasing their access to fishery resources and enhancing

their involvement in decision-making processes for fisheries management, especially during the COVID-19 pandemic.

This activity is under the project "Management Scheme of Inland Fisheries in the Southeast Asian Region" supported by the Japanese Trust Fund.



IFRDMD visits Lake Ranau Regulating Dam for Fishway Development



Lake Ranau Regulating Dam

Under the project "Irrigation Modernisation–Biodiversity" sponsored by the Australian Water Partnership (AWP), the Chief of SEAFDEC/IFRDMD and researchers visited the Lake Ranau Regulating Dam on 14–19 March 2022 to study the potential of fishway development at the site. The Lake Ranau Regulating Dam is located between South Ogan Komering Ulu Regency of South Sumatra Province and West Lampung Regency, Lampung Province, Indonesia, and it is used when

the discharged water from the Komering River drops during the dry season. Thus, the fishway would be an important

structure for maintaining the rate of fish migration to and from Lake Ranau such as hampala and mahseer which are native fish species found in Ranau Lake and have high economic value.

Subsequently, the IFRDMD team also held a meeting with the Sumatra VIII River Basin Center officers to discuss the effectiveness of the fishway constructed at the Bendung Gerak Perjaya Dam, which has operated since 1994. The Bendung Gerak Perjaya Dam and Lake Ranau Regulating Dam are 135.5 km away from each other.



SPECIAL REPORT

SEAFDEC initiatives on mitigating the impacts of abandoned, lost, or otherwise discarded fishing gear on marine capture fisheries of Southeast Asia

SEAFDEC Training Department



Fishing gears have been lost, abandoned, or otherwise discarded in all seas and oceans ever since fishing began. Abandoned, lost, or otherwise discarded fishing gear (ALDFG), also known as “ghost gear” is a significant component of marine litter with far-reaching impacts on marine ecosystems, fishery resources, and coastal communities. ALDFG not only resulted in increased operational costs for fishing vessel owners for the replacement and retrieval efforts of lost gear, but it also continued to catch target or non-target aquatic species, entangle and kill marine animals including threatened, protected, and commercially important fish species. While surface ALDFG presents a hazard for aquatic resources and resource users, near-bottom ALDFG causes damage to coral reefs and seabed which are important ecosystems.

Moreover, as ALDFG is commonly composed of plastic and does not easily degrade and may be present for hundreds of years, once it is washed ashore, ALDFG also pollutes beaches with plastic litter. It can also be a source of secondary microplastic as it fragments over time and contaminates fish and other aquatic organisms resulting in adverse impacts on

people’s health and food security. Although retrieval and clean-up of ALDFG could mitigate the problems, doing so would entail a huge cost for relevant authorities and the fishing industry.

Box. Definition of abandoned, lost or otherwise discarded fishing gear (ALDFG) (FAO, 2019)

Fishing gear - any physical device or part thereof or combination of items that may be placed on or in the water or on the seabed with the intended purpose of capturing or controlling for subsequent capture or harvesting marine organisms, in accordance with MARPOL Annex V

Abandoned fishing gear - fishing gear over which that operator/owner has control and that could be retrieved by owner/operator, but that is deliberately left at sea due to force majeure or other unforeseen reasons

Lost fishing gear - fishing gear over which the owner/operator has accidentally lost control and that cannot be located and/or retrieved by the owner/operator

Discarded fishing gear - fishing gear that is released at sea without any attempt for further control or recovery by the owner/operator

The pressing concern on ALDFG was recognized at the global level as it could be seen in the Code of Conduct for Responsible Fisheries (CCRF) stipulating that “States should take appropriate measures to minimize waste, discards, catch by lost or abandoned gear, catch of non-target species, both fish and non-fish species, and negative impacts on associated or dependent species, in particular endangered species ...” (FAO, 1995). However, the amount, distribution, and effects of ALDFG continued to rise substantially over the past decades with the expansion of fishing efforts and fishing grounds, coupled with the development of new materials for fishing gears that are more durable and buoyant. One of the important tools to prevent and mitigate the impacts of ALDFG (and also to combat IUU fishing) is the “fishing gear marking.” In 2019, FAO, therefore, came up with the “Voluntary Guidelines on the Marking of Fishing Gear” as a tool to contribute to sustainable fisheries, improve the state of the marine environment, and enhance safety at sea by combatting, minimizing, and eliminating the ALDFG and facilitating the identification and recovery of such gear (FAO, 2019).

In Southeast Asia, ALDFG has been recognized as one of the issues that hamper the sustainability of marine capture fisheries considering its impacts on the aquatic animals and their associated habitats. The necessity to address such issue was also stipulated in the “Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2030,” *i.e.* *Resolution No. 11 Increase awareness and support the reduction of impacts of aquatic pollution and marine debris, including abandoned, lost or otherwise discarded fishing gear (ALDFG), and microplastics/microbeads on fisheries and aquaculture; and Plan of Action No. 26 Assess and manage the impacts of aquatic pollution and marine debris, including abandoned, lost, or otherwise discarded fishing gear (ALDFG) and microplastics/microbeads, on fisheries and aquaculture* (SEAFDEC, 2020).

While some countries in the Southeast Asian region have been undertaking initiatives to mitigate the impacts of ALDFG



Abandoned fishing nets entangling animals and coral reefs



Filaments that are not degraded and becoming part of marine litter on the beach

such as through pilot projects on gear marking in Indonesia and Thailand, SEAFDEC Training Department (TD) also embarked on activities to estimate the level of ALDFG. The project “Survey to estimate levels of abandoned, lost or otherwise discarded fishing gear in Thailand, gillnet and trap fisheries” was implemented by TD in collaboration with the Department of Fisheries, Thailand with support from FAO. A series of survey trials were conducted using the FAO questionnaire to collect baseline information and a database was developed to compile the data from the surveys in coastal provinces of Thailand as an example to estimate the levels of ALDFG. It was expected that through these trial surveys, the FAO questionnaire could be verified and finalized in order to support the collection of global baseline information on ALDFG, and the information collected through such questionnaire could be used to support the development of management actions to combat marine debris from ALDFG in the future.

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For more information on SEAFDEC activities on ALDFG in marine capture fisheries, please contact, **Mr. Isara Chanratchikij** (isara@seafdec.org) and **Mr. Santiphong Putsa** (santiphong@seafdec.org).

REGIONAL PROGRAMS

SEAFDEC attends 74th Meeting of the Standing Committee of CITES

The SEAFDEC Secretary-General, *Ms. Malinee Smithrithee*, and the Policy and Program Coordinator of SEAFDEC Secretariat, *Dr. Worawit Wanchana*, attended the “74th Meeting of the Standing Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)” on 7–11 March 2022 in Lyon, France. During the Meeting, the relevant issues were discussed in preparation for the CITES 19th Conference of the Parties (CITES-CoP19) which is scheduled in November 2022 in Panama. The Meeting

also reviewed the strategies, policies, and species-specific matters affecting the Convention’s implementation. Moreover, the discussion of the Meeting also included aquatic species (sharks and rays, eels, seahorses, queen conch, and precious corals) that will be further discussed in the CITES-CoP19.

The increasing concerns for commercially exploited aquatic species including sea cucumbers, tropical anguillid eels, sharks and rays, and the others would be discussed among

the SEAFDEC Member Countries at the upcoming Regional Technical Consultation to develop the ASEAN-SEAFDEC Common Positions on the Proposed Listing of Commercially-Exploited Aquatic Species into the CITES Appendices (ASCP-CITES). The ASCP-CITES will be submitted for approval by the SEAFDEC Council and the ASEAN mechanism through the FCG/ASSP, ASWGFi, and SOM-AMAF, respectively, prior to the CITES-CoP19. ❖

SEAFDEC highlights regional efforts to the SDG14 towards achieving sustainable fisheries and healthy oceans

The Secretary-General of SEAFDEC, *Ms. Malinee Smithrithee*, delivered a statement at the “SDG14 Roundtable: Conserve and Sustainably Use the Oceans, Seas, and Marine Resources for Sustainable Development” on 29 March 2022. SEAFDEC was invited to the SDG14 Roundtable to highlight Southeast Asia’s effort in achieving the SDG14 targets. In her statement, *Ms. Malinee* underscored the importance of fisheries to food security, livelihoods, and the economy. SEAFDEC in collaboration with various partners has been supporting the ASEAN Member States to undertake activities contributing to the achievement of

SDG14 targets such as reducing marine pollution, combatting IUU fishing, and protecting the marine ecosystem towards sustainable utilization of marine resources. During the breakout session, the Special Departmental Coordinator for SEAFDEC/TD, *Dr. Taweekiet Amornpiyakrit*, served as a facilitator during the discussion on sustainable fishing practices.

The SDG14 Roundtable was one of the sessions of the Ninth Asia-Pacific Forum on Sustainable Development (APFSD) which was convened on 28–31 March 2022 by the United Nations Economic and Social Commission

for Asia and the Pacific (ESCAP) in Bangkok, Thailand. The Regional Forum was aimed at reviewing the progress and sharing the experiences of various stakeholders on the regional actions to the implementation of the 2030 Agenda in Asia and the Pacific. This year’s theme focused on “Building back better from COVID-19.” The outcomes of this Forum will be reported to the global High-level Political Forum in July 2022.

Read more on SDG 14 Goal profile at <https://www.unescap.org/kp/2022/sdg-14-goal-profile>. ❖

TD organizes Online Training on eACDS for Myanmar



SEAFDEC/TD organized the “Online Training on the Use of electronic ASEAN Catch Documentation Scheme (eACDS) in the part on Movement Document (MD), Statement of Catch (SC) and Catch Certification (CC) for Myanmar” from 26 to

28 January 2022 via the Zoom platform. The Training was participated by 10 officers from the Department of Fisheries (DOF), Myanmar who are engaged in the eACDS activities and will be trainers for relevant stakeholders in the future.

TD in collaboration with the DOF Myanmar has implemented activities on eACDS introducing the eACDS

(Continued on page 13)

Japan-funded programs at AQD reviewed



(L-R) Research Division Head, Dr. Leobert de la Peña; AQD Chief, Mr. Dan Baliao; AQD Deputy Chief and GOJ Trust Fund Co-Manager, Dr. Sayaka Ito; and Training and Information Division Head, Dr. Edgar Amar serve as evaluators during the GOJ Annual Progress Meeting on 18 February 2022. The Director of the Japan Fisheries and Research and Education Agency's Pathology Division, Dr. Takafumi Ito (not in the picture), also attended the meeting as an external evaluator

For decades, SEAFDEC/AQD has been able to conduct research studies geared towards safe, sustainable, and responsible aquaculture due to the financial support provided by the Government of Japan (GOJ). In line with this, the GOJ Annual Progress Meeting was held in a hybrid in-person and online set up on 18 February 2022 to review the progress and achievements of eight research studies and training programs conducted in 2021. Researchers and training coordinators presented the ongoing Japan-funded programs – including studies on developing

aquaculture techniques, disease management strategies, and a training course on capacity enhancement for aquaculture experts in information sharing – to the panel of reviewers.

The Director of the Pathology Division of the Japan Fisheries and Research and Education Agency, Dr. Takafumi Ito, and the AQD Executive Committee, which included AQD Chief, Mr. Dan Baliao, Deputy Chief and Co-Manager of the GOJ Trust Fund, Dr. Sayaka Ito, Research Division Head, Dr. Leobert de la Peña, and Training and

Information Division Head, Dr. Edgar Amar, were among the evaluators.

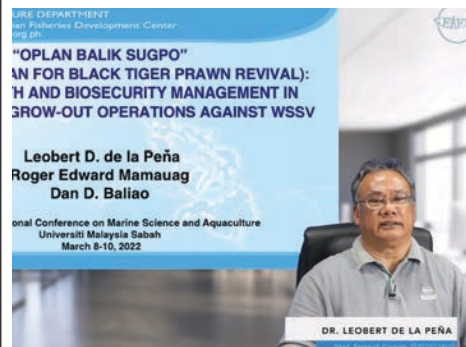
After the presentation of the studies, Dr. Ito commented that the projects that AQD is implementing, such as the development of aquaculture techniques for new aquatic species and the development of alternative feeds, are important to the aquaculture industry in Southeast Asia; hence, he supported the continuation of the studies in the following year. ☒

TD organizes Online Training on eACDS for Myanmar

(Continued from page 12)

system to all relevant stakeholders. The DOF Myanmar proposed Yangon as the pilot site where about 100 fishing vessels land their catch in three private jetties, namely: Aung Phy Myat Jetty, Ei Phy Yanada Jetty, and Nrwe Pinle Jetty. Therefore, the Training was organized to strengthen and enhance the understanding of the use of eACDS application of DOF Myanmar officers, which 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. ☒

‘Oplan Balik Sugpo’ highlighted at aquaculture conference



Dr. Leobert de la Peña talks about “Oplan Balik Sugpo,” one of AQD’s priority programs, during the virtual International Conference on Marine Science and Aquaculture on 9 March 2022

SEAFDEC/AQD shared the health and biosecurity protocols of its shrimp hatchery and grow-out operations at the virtual International Conference on Marine Science and Aquaculture (vICOMSA) held on 9 March 2022.

Dr. Leobert de la Peña, scientist and head of AQD’s Research Division, presented the protocols and discussed how responsible disease prevention schemes in the hatchery, and enhanced biosecurity features in grow-out farming, may result in three successful shrimp harvests with high survival rates and a good volume of production.

Among AQD’s current priority programs is the “Oplan Balik Sugpo” which aims to develop and promote strategies that will help revive the tiger shrimp industry in the Philippines which is presently struggling with a variety of shrimp diseases.

vICOMSA was organized and hosted by the Borneo Marine Research Institute of the Universiti Malaysia Sabah. ☒

FUTURE ACTIVITIES

Date	Venue	Activity	Organizer(s)
2022			
1–13 May	Samut Prakan, Thailand	Regional Training Workshop on Larval Fish Identification and Fish Early Life History Science	TD/ <i>Refugia</i> Project
4–6 May	Samut Prakan, Thailand	Writershop on Developing Training Modules of Gender Mainstreaming in Small-scale Fisheries	TD
10–12 May	Samut Prakan, Thailand	Online Training on Fish Handling Techniques Onboard Fishing Vessels	TD
16–20 May	Pattani Province, Thailand	Survey for the Availability of Participating Fishing Vessels for Installation of the Sherbet Ice System Onboard	TD
20 May	Online meeting	Meeting with FiA/Cambodia in Implementing the Inland EAFM for Boeng Tonle Chhmar, Northern Part of Tonle Sap Lake, Cambodia	TD
23 and 25 May	Online meeting	54 th Meeting of SEAFDEC Council	DOF Malaysia, SEC
25 May	Bangkok, Thailand (and online)	Training Course Program on Inland Fisheries EAFM for the Department of Fisheries, Thailand	TD
26–27 May	Online training	Online Training on Preparation and Installation of the eACDS Application to Server for Brunei Darussalam	TD
27 May	Bangkok, Thailand (and Online)	7 th Meeting of the Project Steering Committee (SEAFDEC/UNEP/GEF Fisheries <i>Refugia</i> Project)	TD/ <i>Refugia</i> Project
30 May	Online workshop	Regional Workshop on Gender Dimension in the Value Chain of Small-scale Fisheries and Aquaculture in Southeast Asia	TD
1–3 June	Samut Prakan, Thailand	2 nd Writershop on Developing Training Modules of Gender Mainstreaming in Small-scale Fisheries	TD
9–10 June	Online training	Online Training on Preparation and Installation of the eACDS Application to Server for Malaysia	TD
14–15 June	Online workshop	RES&POA-2030: Regional Workshop on Finalization of the Key Indicators	SEC
15 June	Virtual meeting	Online Meeting with DOF Myanmar on the Implementation of EAFM at Learning Sites in Myanmar	TD
20–24 June	Virtual meeting	27 th Session of the Coordinating Working Party on Fishery Statistics (CWP)	FAO
20–25 June	Onsite training	Training on Fisheries Management at the EAFM Learning Site in Ranong Province, Thailand	TD
21 June	Virtual meeting	14 th Meeting of the ASEAN Fisheries Consultative Forum (AFCF)	ASEAN
21–23 June	Online training	Online Training Course on Energy Audits for Fishing Vessels	TD
22–23 June	Virtual meeting	30 th Meeting of the ASEAN Sectoral Working Group on Fisheries (ASWGFi)	ASEAN
27 June–1 July	Lisbon, Portugal	UN Ocean Conference	UN
27–29 June	Chonburi Province, Thailand	Regional Workshop on Finalizing the Training Modules on Gender Mainstreaming in Small-scale Fisheries	TD
28–30 June	Online training	Online Regional Training Course on Fish Handling Onboard Fishing Vessels	TD
4–8 July	Rizal, Philippines	Training Course on Tilapia Hatchery & Grow-out Operations	AQD
8 July	Pattani Province, Thailand	Onsite Training Program on Fish Handling Onboard Fishing Vessels	TD
11–15 July	Seoul, Republic of Korea (and online)	Regional Coordination Meeting on the FAO Agreement on Port State Measures: Asia	FAO
26 July	Webinar	Webinar on Japan's Catch Documentation Scheme (CDS) Under Act on Ensuring the Proper Domestic Distribution and Importation of Specified Aquatic Animals and Plants	SEC and Japan
23–26 August	Bangkok, Thailand	2 nd Regional Technical Consultation on Fishery Statistics and Information in Southeast Asia	SEC
29 Aug–6 Sep	Samut Prakan, Thailand (and online)	2 nd Regional Training Workshop on Stock Assessment in Support the Implementation of the International Commitments for Sustainable Use of Fisheries Resources	SEC

Face-to-face training resumes at AQD



A 12-day Specialized Training Course on Marine Fish Hatchery Operations at SEAFDEC/AQD's main station in Tigbauan, Iloilo, Philippines, became the first face-to-face training course of AQD in two years since the imposition of COVID-19 restrictions in March 2020.

The training, which ran from 14 to 25 March 2022, included lectures and hands-on activities on the biology, broodstock management, hatchery operations, and nursery culture of marine fishes, and was attended by three personnel of the Office of the Provincial Agriculturist (OPA) of Aklan Province in the Philippines. ❖

SEAFDEC joins training courses to enhance organizational capacity

(Continued from page 16)



9 February–16 March; and 4) USAID Rules & Regulations: Grants & Cooperative Agreements on 14–18 February). The Training Courses were intended to enhance capacity of SEAFDEC Secretariat and Training particularly on administrative, financial, and human resources aspects as compliance to receive funding support from the USAID as a Public International Organization (PIO) as well as from other potential donors and partners in the future. The capacity development activities were part of the USAID Sustainable Fish Asia Local Capacity Development-Capacity Strengthening Initiative (SUFIA LCD/CSI) Subaward Activity (2021–2022) supported by USAID through the RTI International.

For more information on the SUFIA LCD Activity, please visit <https://www.rti.org/impact/usaaid-sustainable-fishing-program>. ❖

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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Farewell Reception for the Deputy Chief of IFRDMD

After serving as the Deputy Chief of the Inland Fishery Resources Development and Management Department (IFRDMD) for two years, *Mr. Toshiya Suzuki* has completed his assignment in March 2022. During his term, *Mr. Suzuki* played significant roles particularly in carrying out the implementation of projects supported by the Japanese Trust Fund towards

achieving its objectives of promoting sustainable management and utilization of inland fishery resources and livelihoods in the Southeast Asian region. The farewell reception to honor the fulfillment of *Mr. Suzuki's* task with IFRDMD was arranged on 20 March 2022 in Palembang, Indonesia, and was attended by all staff of IFRDMD.



In his remarks, the Chief of IFRDMD, *Mr. Zulkarnaen Fahmi*, expressed his gratitude and appreciation to *Mr. Suzuki* for his valuable contribution to IFRDMD by sharing his expertise and assisting the IFRDMD team to successfully implement the projects during the COVID-19 pandemic. Moreover, *Mr. Suzuki* extended his heartfelt gratitude for the kind support and cooperation from all staff during his tenure as the Deputy Chief of IFRDMD. ✦

SEAFDEC launches SEASOFIA 2022

SEAFDEC is pleased to announce the launching of the publication “The Southeast Asian State of Fisheries and Aquaculture (SEASOFIA) 2022” on 18 April 2022. The SEASOFIA 2022 provides useful information on fisheries and aquaculture production, recent issues and initiatives, and an outlook on ensuring the sustainable development of fisheries and aquaculture in the region. It is envisaged that this publication would support the countries in the region in formulating science-based policies and management measures and

enhancing the contribution of fisheries and aquaculture to food security.

Throughout the past decades, SEAFDEC had undertaken several activities to compile various forms of fisheries data and information. The SEASOFIA 2022 was prepared through the collaborative effort of the SEAFDEC Secretariat and Departments and it is the third of a series with the first issue in 2012 and the subsequent issue in 2017. The publication is available at <http://repository.seafdec.org/handle/20.500.12066/6752>. ✦



Scan the QR code
to download the SEASOFIA 2022

SEAFDEC joins training courses to enhance organizational capacity



During the first quarter of 2022, fifteen SEAFDEC officers who are responsible for the program implementation, finance, and human resources attended several international training courses, namely: 1) Online Training on Strategic Human Resources Management and Business Leadership on 10–19 January; 2) USAID Procurement: Grants and Cooperative Agreements on 26 January–1 March; 3) USAID Subaward Management on

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