

# Fishing Technology Digest

A Newsletter on Fishing Technology, Gear and Methods, Vessels and Equipment



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Fishing Technologies.....	3,4		Information on various aspects of industry also appears in <i>INFOFISH International</i> . A supplementary section on 'Industry Notes' provides information on the latest developments in the global fisheries scene. New equipments and innovations are also featured. Comments and contributions are welcome, as per requests and recommendations for inclusion in the mailing list.
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For more information regarding registration, exhibition and program details visit: [www.ptf.infofish.org](http://www.ptf.infofish.org)

## **IOTC adopts catch limits and reductions in line with science**

Following last year's adoption of a global catch limit for bigeye tuna, IOTC, driven by EU and Japan, adopted individual catch limits as well as catch reductions for the biggest harvesters. Anne-France Mattlet, director of Européche Tuna Group, fully endorses this decision: "Adopting catch limits for bigeye is paramount to ensure the fishery's sustainability. We only hope that small-scale operators, who have been given the possibility to harvest up to 2 000 tons annually in the next two years, will also play the game and not go beyond without asking to redistribute the TAC, as it was the case for yellowfin tuna". The European multi-species proposal on tropical tuna, however, was rejected and no compromise could be found on yellowfin tuna, that would have brought objectors to the measure onboard. Mattlet stated: "We regret the total unwillingness of several States to adopt catch limits for yellowfin and skipjack at levels that allow their sustainable exploitation. The European Union's multi-species proposal made it possible to achieve this while ensuring more favorable conditions for developing coastal states but was met with strong opposition earlier this week. How is it possible that most parties, including developing coastal states which would come out on top, have not even considered it?". Regarding Fishing Aggregated

Devices (FADs), a working group was created at the initiative of Korea, to study the impacts and possible new management measures based on science. An important step was also taken for data accuracy: the IOTC adopted guidelines for electronic monitoring systems (EMS). Fleets will now be allowed to complete human on-board observers with EMS, including for small-scale vessels. Xavier Leduc, president of Européche Tuna Group, concluded: "At last, EMS guidelines are adopted, so all fleets will be able to increase their observer coverage. Right now, only the European purse seine fleet apply voluntarily 100% observer coverage. Other fleets, including industrial Asian longliners, barely reach the 5% compulsory coverage." However, there is still a long way to go to increase viability and quality of the data. The Seychellean proposals to improve catch reporting and statistics, including on FADs, has been rejected by developing coastal states and Japan. The latter also pushed back the Maldivian proposal on sharks, which would have definitely banned shark finning in this important ocean. Européche notes with great disappointment this new objection to a measure aiming at protecting sharks and remind that shark finning has been forbidden in EU since 2013. The European proposal on a mechanism for boarding and inspection was also rejected by China.

**Source:** Européche

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## **Small farms now access ASC Certification through group certification**

To succeed in the mission of transforming the aquaculture industry towards environmental sustainability and social responsibility, small-scale farms must be able to demonstrate compliance with the ASC standards through accessible certification," said Efrain Calderon, ASC's Programme Assurance Director. "That's exactly why ASC designed the group certification methodology, and we're very pleased to see that it's working." Four producer groups have earned ASC certification so far: the PT Central Proteina Prima Farm group in Indonesia, with 560 Pacific white shrimp (*Litopenaeus vannamei*) farms; Minh Phu Mangroves Shrimp Social Enterprise in Vietnam, a group of 450 giant tiger shrimp (*Penaeus monodon*) farms; Jusanhama Gyokyo Youth Association in Japan, a cooperative of 19 seaweed farms producing Japanese kelp and wakame (*Laminaria japonica* and *Undaria pinnatifida*) and the Azuma-cho Fisheries Cooperative Association of seven Japanese amberjack (*Seriola quinqueradiata*) farms in Japan. Group certification recognises groups

of smaller producers that have joined together for example, cooperatives and associations which can jointly implement the requirements of the ASC standards. The group shares the costs, administrative function and other resources involved in that implementation and in the third-party audit that assesses whether they have fulfilled the standards. Many consumers want to know they are supporting small farmers, and through ASC group certification, retail and foodservice companies now have the assurance they need that seafood from smaller producers is coming from verifiably responsible farms. To ensure that the integrity of the ASC standard holds as strong for group certification as individual producer certification, the standards are not adjusted for groups to become certified, and every part of a group must meet the standards' requirements to achieve ASC certification. Each group appoints a management body that oversees the steps along the way toward certification, including educating the farmers, guiding them into compliance with the ASC standards, liaising with the auditor, and maintaining a centralised management system for the group. Read more [here](#).

## UNEP recognizes seaweed farming as a scalable ocean-based solution to climate change

The United Nations Environment Programme (UNEP) recognizes the growing global interest in seaweed farming as a potentially scalable ocean-based solution to climate change that may provide environmental and social co-benefits as part of the advancement of resilient and climate smart aquaculture. To critically examine this potential, the report, *Seaweed Farming: Assessment on the Potential of Sustainable Upscaling for Climate, Communities and the Planet*, delivers an in-depth literature review and situational analysis scientifically assessing the potential for the sustainable expansion of seaweed farming to deliver climate benefits with minimal environmental and social risks. The report collates and scrutinizes existing research on the quantifiable climate benefits as well as the associated environmental and social risks and benefits of global seaweed farming. The scope

of the report includes an investigation into the full value chain of seaweed farming with an emphasis on the potential for climate benefits realized through various natural and commercial use pathways, and the feasibility of upscaling global farmed seaweed production. The findings are synthesized in a situational analysis with a SWOT design (Strengths, Weaknesses, Opportunities, and Threats) for sustainable expansion of global seaweed farming. In advancing science for the sustainable use of ocean resources, building global partnerships and working together with coastal communities helps safeguard the environment while maximizing climate and environmental co-benefits, maximizes the co-benefits of seaweed farming to people while protecting lives and livelihoods, and enhances the sustainability of future upscaling. To this aim, a coordinated approach to ensure sound management and governance must be taken as opportunities for a more equitable and sustainable future are upscaled. Download the UNEP report [here](#).

**Source:** UNEP - UN Environment Programme, 7 June 2023.

## PNG womens' groups embrace new technology in fish processing

Fisherwomen in Papua New Guinea are now benefiting from an innovative fish processing technology that efficiently smoke and market their fish. The novel "FAO-Thiaroye Technology" (FTT) is being introduced and demonstrated by the Food and Agriculture Organization of the United Nations (FAO) under the EU-funded STREIT Programme in the Country, starting from the Greater Sepik. The FTT is an innovative technology that empowers fisherwomen to own and operate profitable fish businesses. With this technology, the fisherwomen can diversify their products by offering a wide range of textures and flavours, providing consumers with more choices, and increasing the competitiveness of fish products. Furthermore, the technology extends the shelf-life of fish, reducing post-harvest losses and enabling fisherwomen to transport their products over long distances for premium market prices. Compared to

traditional fish smoking methods, the FTT reduces fuel usage by 50 percent, resulting in better working conditions and reduced health risks associated with smoked fish preparation and consumption. This is particularly beneficial for women and children who are more exposed to the smoke. Additionally, the technology cuts down processing time, reducing workload and time-saving for these women. As part of the EU-STREIT PNG Programme, these women have also received an extensive training program on product quality, safety, stock management and record keeping, finance, and marketing. The primary goal of this initiative is to empower these communities to adopt sustainable techniques and grow their businesses. The EU-STREIT PNG Programme, being implemented as a UN Joint Programme (FAO as the leading agency, and ILO, ITU, UNCDF and UNDP as partners), is the largest grant-funded Programme of the European Union in the country and the Pacific region.

**Source:** <https://www.solomontimes.com/>, 2 June 2023.

## New technology to convert waste from fish farming into seaweed

Danish researchers plan to utilise residual nutrients and CO<sub>2</sub> from land-based shrimp and fish farming to produce sea lettuce, a green protein and valuable high-fibre seaweed species for human consumption. Over the next four years, researchers from the University of Copenhagen together with Aarhus University and a range of companies will work on a project called SeaFree to further develop a closed, sustainable cycle on land that utilises residual nutrients and

CO<sub>2</sub> from shrimp and fish farming to grow seaweed for the food and healthcare industries. Professor Marianne Thomsen from the Department of Food Science at the University of Copenhagen explained this a press release. The project aims to use seaweed production to absorb and convert emissions from land-based aquaculture into a high-value product. Among other things, the seaweed will be used for dietary supplements that can prevent diabetes and sustainable foodstuffs innovations. In addition to capturing emissions that would have otherwise been emitted into the atmosphere and aquatic environment, the seaweed

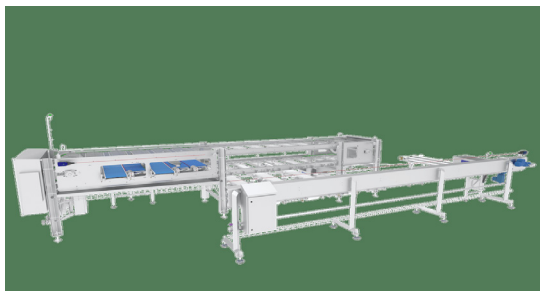
produced is both healthy and rich in umami flavour. The project's starting point is a 40ft container setup equipped with eight 1,000-litre tanks. The container solution is a so-called Plug'n'Play technology with great export potential. By combining salt water, CO<sub>2</sub> and nutrients with LED lights, the unit can produce a full batch of seaweed in just one week. SeaFree represents the latest in recycling technology for land-based shrimp and fish farming. Besides capturing

emissions, the system also recirculates surplus heat from the plants to the Plug'n'Play technology. The project includes the development of a new technology that makes it possible to use surplus heat to dry the seaweed which is then sold to the healthcare industry. In this way, SeaFree contributes to a more sustainable and efficient production process, added Thomsen.

**Source:** <https://thefishsite.com/>, 19 May 2023.

### BAADER 1850

Fish fillet grading, packing and inspection



#### Benefits:

- Reduced labour costs due to automation
- Higher product quality due to less handling
- Tracking of individual fillets into each box
- High hygiene standards

#### Technical Data:

- Working range (approx.): Up to 750 mm fillet length
- Throughput: Up to 50 fish/min.

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## INFOFISH Quarterly Online Meet on “Technology and Innovation to enhance productivity and reduce cost in Shrimp Farming”

INFOFISH Quarterly Online Meet entitled Workshop on Technology and Innovation to enhance productivity and reduce costs in shrimp farming held on 10 May 2023 at 1400 – 1600 hrs Malaysia Time. The main objectives of the workshop were to consolidate the key application areas of technologies and innovations in shrimp farming, identify the challenges in adoption of cost-effective technologies and innovations and the way forward. The workshop was participated by 79 participants representing Bangladesh, Malaysia, Papua New Guinea, Philippines, Sri Lanka and Thailand covering High-level managers from Fisheries and Aquaculture Authorities in INFOFISH Member Countries, Academia and Industry partners. The workshop started with the opening address by Director, INFOFISH and followed with Keynote presentation entitled ‘Technology and Innovation to Enhance Shrimp Production’ by Mr Anton Immink, CEO, ThinkAqua, UK. Mr Philip Sokou, Mariculture Manager, National Fisheries Authority of Papua New Guinea and Dr Tidaporn Chaweepeak, Senior Fishery Biologist, Coastal Aquaculture

Research and Development Division, Department of Fisheries, Thailand shared their experiences entitled ‘Aquaculture Development in Papua New Guinea’ and ‘Technology and Innovation to Enhance Productivity and Reduce Costs in Shrimp Farming in Thailand’ respectively. Dr. Krishna R. Salin, Associate Professor, Aquaculture and Aquatic Resources Management, Department of Food, Agriculture and Bioresources, Asian Institute of Technology, Thailand and Mr Antonio Bustamante, Development Manager, BIOLAN MB Thailand shared their experiences as academia and industry stakeholder respectively during panel discussion. It was clear from the workshop that high production cost of feed, increased fuel cost, limited access to input services, disease outbreak and poor survival rate and low farm gate price of the produced shrimp are some of the key challenges. However, sustainability is the only way forward and it is everybody’s responsibility. All the stakeholders in the shrimp supply chain have an important role to play and all are equally responsible towards better solution for adoption.



Group Photo of Workshop Panelists and Participants

### The Blue Prosperity Fiji Programme completed its first phase of expedition

The Blue Prosperity Fiji Programme has begun a large-scale ocean science expedition across Fiji to gain better understanding of existing marine life and resources. This effort is led by the Ministry of Fisheries, Fiji, Ministry of iTaukei Affairs, with the participation from University of South Pacific (USP), World Wildlife Fund (WWF), International Union for Conservation of Nature

(IUCN), Conservation International (CI), Wildlife Conservation Society (WCS) and Watt Institute. In the first phase of expedition, it surveyed 95 sites of Vanua Levu, Northeast Great Sea Reef, Vatu-i-Ra and Kadavu. Once the expedition is complete and data has been analyzed the research conducted will be made publicly available so that communities can better understand their ocean resources.

**Source:** Ministry of Fisheries, Fiji.

### Bangladesh: Ramps up freshwater fish conservation in bid for food security

The Bangladesh government is ramping up efforts to boost populations of commercially important freshwater fish species, including captive breeding of species at threat of extinction. Fresh water catfishes like tengra, shing, magur and gulsha have long been familiar to households across Bangladesh, thanks to their central place in the national diet and their widespread availability in freshwater bodies throughout the country. The country is crisscrossed by rivers and defined by the world's largest delta, fish is the most important source of animal protein and a staple food second only to rice. Small freshwater fishes are especially popular in everyday meals because they're comparatively cheap. But about 20 years ago, they started becoming increasingly scarce. A [2015 report](#) from the IUCN, the global wildlife conservation authority, listed a litany of threats to freshwater fish populations: "Habitat loss caused by massive siltation, infrastructure development, drying up of water bodies, dewatering, conversion of wetlands, overfishing and aquatic pollution are the major causes for the fish population decline in Bangladesh." That same report assessed the status of 253 freshwater fish species that occur in Bangladesh, and found that 64, or about a quarter, were threatened with extinction. In light of the urgency of securing the main protein source for the country's citizens, the government has embarked on a comprehensive conservation initiative aimed at

reviving 39 fish species. "We introduced artificial reproductive techniques to return these fishes, and most of the species are now cultivating at the field level," said Yahiya Mahmud, director-general of the [Bangladesh Fisheries Research Institute \(BFRI\)](#). This initiative builds on the gene bank that the government established in 2020 to ensure it holds germplasm from which it can, if needed, bring back a species from the verge of extinction. The BFRI leads the initiative and has focused on conserving 162 fish species, including those declared threatened by the IUCN. Researchers use nursery and hatchery techniques to make the species available nationwide. According to the 2015 IUCN report, a total of 1.2 million Bangladeshis are involved in fishing on a full-time basis for their livelihood, while another 10 million are engaged in subsistence fishing either to supplement their incomes or for household consumption.



**Source:** The Monga Bay, 4 July 2023.

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## **Cambodia: Govt calls for crackdown on fisheries crimes**

Cambodian Minister of Agriculture, Forestry and Fisheries Dith Tina, who serves as chairman of the inter-ministerial commission for the prevention and suppression of fisheries crimes on the Tonle Sap Lake, conducted a helicopter inspection of the five provinces that border South-East Asia's largest freshwater lake. Tina was accompanied by provincial leaders on the tour of Kampong Chhnang, Pursat, Kampong Thom, Battambang and Siem Reap provinces, said in a ministry press release. "The purpose of the inspection was to monitor the current situation of many of the lake's largest fisheries," it added. The commercial fishing season is closed from June to October, in order to allow the Kingdom's fish stocks to spawn and replenish themselves. Tina called on fisheries officials and local authorities to investigate suspected fisheries crimes and arrest anyone suspected of denuding fisheries resources with commercial equipment. Ly La, director of the Fisheries Administration's (FiA) Kampong Chhnang provincial cantonment,

explained that while the fishing season is closed, the authorities conduct educational outreach programmes to remind people that they are prohibited from using commercial fishing equipment at this time of year. He said the outreach programmes were carried out by each district's joint forces, consisting of the armed forces, community leaders and fisheries specialists, along with regular patrols to catch lawbreakers. "Family-scale fishing is still permitted, as this is the primary source of protein for many households on the lake," he said. "Three cases have been sent to court since the fishing season closed. One case involved the illegal clearance of land and one was a case of a canal being dug without authorisation. In addition we caught people using electric shock gear to fish. Each of these matters is now before the courts," he added. In April last year, the government established the inter-ministerial commission for the prevention and suppression of fisheries crimes on Tonle Sap. The commission has the right to use the helicopters of the Royal Cambodian Air Force (RCAF) to carry out its mission.

**Source:** <https://www.thestar.com.my/>, 27 June 2023.

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## **Fiji: Smart partnership to manage fisheries resources**



Fiji will continue to explore smart partnerships with other countries in a bid to manage its fisheries resources sustainably. This was highlighted by Minister for Fisheries Kalaveti Ravu while speaking

at the China Pacific Islands Forum on Fisheries Cooperation and Development in China. The meeting focused on ways and means of addressing these challenges through partnerships. Ravu said a smart partnership between China and Pacific Island countries will help in the sustainable management of fisheries and broader ocean resources. He said this will also build a closer community with a shared future for all parties. The Minister also highlighted the importance of this natural resource-based and economic service sector in assisting Fiji's road to national economic recovery, which cannot be further undermined.

**Source:** <https://www.fbnews.com.fj/>, 11 May 2023.

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## **Iran: Annual fishery export stands at USD 600 million**

By announcing that last year the fishing industry brought USD 600 million income for the country, the official said that there is a capacity of up to USD 2 billion export in the country's fishery industry. Iran's aquaculture industry is on the wave of progress and has world ranks in the production of some fishery products. It is worth mentioning that the growth and development of the country's aquaculture industry has reached the point where the country has become a model for the countries of the region and the world. The United Nations Food and Agriculture Organization (FAO) believes that Iran plays a responsible and central role in fishing and aquaculture in the region, and for this reason, it can be considered a model for the

countries of the region. Now the world markets have become the target of the export of the country's fishery products, so that head of Iran Fisheries Organization has announced that the value of fishery exports was more than USD 500 million in the Iranian calendar year 1400, with 67 percent growth year on year. "In the past, our [fish farming] cages were all imported. Now, with knowledge-based companies, 85 percent of cage equipment is produced inside the country and we are self-sufficient in preparing 98 percent of shrimp feed", the IFO head has stated. "Meanwhile, we have been able to achieve global rankings for the country in the production of some fishery products, and we rank second in total fishery output in West Asia", the official further highlighted. Last November, Iran launched the country's first fishery industries park, in which every year 1,000 tons of shrimp is produced. Over the past four years, the efforts of the Aquatics Production and

Trade Union of Iran, and the non-governmental sector have led to the addition of markets in countries such as Oman and Malaysia to Iran's target export markets

in the field of fishery.

**Source:** The Tehran Times, 7 May 2023.

### Maldives: USD 64.8 million project to boost fisheries



The World Bank has approved a USD 64.8 million project to strengthen regional fisheries management in the South-West Indian Ocean (SWIO) region to improve the competitiveness of the Maldives fisheries sector. The Transforming Fisheries Sector Management in South-West Indian Ocean Region and Maldives Project (TransFORM) aims to improve fisheries management in the region, and strengthen

the regional collaboration by producing and sharing knowledge, data, and research to support evidence-based decision-making; improving fisheries and fish stock assessments; providing targeted capacity development; and promoting effective collaboration with other fisheries management regional initiatives. Speaking about the project, the World Bank Country Director for Maldives, Nepal, and Sri Lanka, Faris H. Hadad-Zervos said, "Maldives' strong track record in sustainable fisheries management can serve as a model for other countries in the South-West Indian Ocean region." "This project also promotes a larger role for small and medium enterprises in the fisheries and allied sectors such as mariculture and aquaculture and is part of the overall strategic engagement between the Government of Maldives and the World Bank to address the weak investment and business climate that contains private sector development in the country." The project will be implemented by the regional Indian Ocean Commission and Maldives Ministry of Fisheries, Marine Resources, and Agriculture.

**Source:** <https://mbr.mv/18478/>, 18 May 2023.

### Malaysia: First Malaysian shrimp company to receive ASC certification

Sankina Aquaculture has become the first shrimp company to receive an Aquaculture Stewardship Council (ASC) certification in Malaysia. The company received the ASC certification after it worked with WWF Malaysia to put the Aquaculture Improvement Project (AIP) in place in 2019. The AIP was supported by Marina Bay Sands and WWF-Singapore to assist aquaculture farms in achieving ASC certification and advancing their sustainability journey. Under the programme, Sankina Aquaculture conducted restoration and preservation activities for the mangrove areas within and adjacent to their farm site, implementing strict protocol where wastewater was pre-treated to manage pollution and setting up systems to improve workers' welfare. As a result of the mangrove preservation efforts, sightings of migratory birds surrounding the farm have increased,



according to a WWF Malaysia. Sankina also received support from the Sabah Fisheries Department leading the way for Sankina Aquaculture to be awarded the ASC certification, making it the first shrimp farm in Malaysia to receive the globally recognised eco-label certification. "This recognition is a testament to our deep commitment to preserving the planet and ensuring a brighter future for generations to come.



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“Achieving ASC certification is a significant milestone in our journey towards sustainability,” Sankina Aquaculture managing director Jenny Ou, Global Lead ASC Improver Programme's Roy van Daatselaar hoped that the certification would inspire other farms to follow on a similar "improvement pathway". Meanwhile, WWF Malaysia chief executive officer,

Sophia Lim, said aquaculture development can thrive when managed carefully without causing harm to the environment, especially in vulnerable mangrove areas in Malaysia.

**Source:** The Daily Star, 19 June 2023.

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### **Pakistan: Bringing more seafood products to China**

Pakistan and Chinese governments are making joint efforts to bring more Pakistani seafood and agro products through the Karakoram Highway (KKH) to the Chinese market. This was stated by Ambassador to China, Moin ul Haque in a statement issued here while commenting on Pakistan's first-ever land containerised seafood cargo, which has successfully arrived in Xinjiang through Karakoram Highway. “We are working together to bring more Pakistani seafood and agro products through this land route to the Chinese market,” he said. As the world's second-largest consumer market, China is keen on importing more quality Pakistani products, Ambassador Haque

added. Ambassador Haque stressed that facilitating trade and exports of Pakistan's quality products through the Khunjerab border is Pakistan and China's shared objective. Last week, a truck carrying cold chain containers from Pakistan reached Kashgar in Northeast China's Xinjiang Uygur Autonomous Region via a cross-border land route. This is the first time that seafood containers from Pakistan have been transported by road from Karachi to Kashgar along China-Pakistan Economic Corridor (CPEC), a flagship project of the Belt and Road Initiative (BRI). “The cost and price of cold chain transport of the route is under assessment. Our Chinese partners are also exploring more opportunities to import more commodities from Pakistan,” he added.

**Source:** The Pakistan Today, 5 June 2023.

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### **The Philippines: BFAR's FishCoRe Project gets approval**

The Department of Agriculture – Bureau of Fisheries and Aquatic Resources' first-ever collaborative project with the World Bank is ready for implementation in August this year. After years of preparation, the seven-year Philippine Fisheries and Coastal Resiliency (FishCoRe) Project with a total funding of USD 209 million ( PHP 11.42 billion) is now set to provide multiple fisheries interventions to enhance both ecosystem and community resilience and benefit over 1.15 million fisherfolk, small to medium enterprises, other fisheries stakeholders, and residents in coastal communities across 11 regions and 24 provinces in the country. Fisheries is a key sector in the economy that contributed 12.81% to the country's total agricultural Gross Value Added in 2022. Currently, it provides livelihood to about 1.49 million individuals in the

country. Moreover, Filipinos mostly consume fish and fishery products, constituting 11.68% of each person's total food intake, next only to rice and rice products. Despite its importance and the already existing programs and measures implemented by the government, this sector has continuously been at the receiving end of challenges and threats to its sustainability such as illegal, unreported, and unregulated fishing, declining fish catch, high post-harvest losses, and widespread poverty in the fishing communities. These issues are exacerbated by emerging challenges such as natural calamities and climate change. The FishCoRe project eyes to address these challenges through the adoption of the ecosystem-based approach to fisheries management (EAFM), therefore enhancing the value of fisheries production and elevating income in coastal communities through science, knowledge, and technology. Find the BFAR press release [here](#).

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### **Solomon Island & China: MoU on Fisheries**

A Memorandum of Understanding (MoU) was signed by the Solomon Islands Fisheries and Marine Resources Minister during a visit to Beijing with the head of state-owned China National Fisheries Corp (CNFC) on the 16<sup>th</sup> May 2023. According to Solomon

Islands' government, the MoU will “allow CNFC to invest in the country in areas of mutual interest”. It is in Solomon Islands' intention to expand its fisheries operations with innovative development projects.

**Source:** INFOFISH Trade News, No. 12/2023.

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## Thailand: INFOFISH facilitated a workshop on identification of sharks and rays and their parts for commercial purposes

INFOFISH facilitated a workshop on identification of sharks and rays listed under CITES and their parts for commercial purposes during 2-3 May 2023 at Phuket, Thailand. The workshop was apprehended in response to a request by the Department of Fisheries Thailand. Its aim was to enable Custom Officers and Fisheries Officers to identify parts of sharks and rays before permitting the import and export of such goods at/from Thai ports. About 50 participants from the Marine Fisheries Research and Development Division, and Fish Quarantine and Fishing Vessels Inspection Division, attended the workshop which was the first fully in-person workshop since the pandemic. The event was officiated by Mr. Choltisak Chawpaknum, Director of Fisheries Foreign Affairs Division, DoF Thailand. The training was led and facilitated by Dr Haji Ahmad bin Ali, Senior SEAFDEC (Southeast Asian Fisheries Development Center) Advisor, Malaysia; and supported by Mr Tassapon Krajangdara, Senior

Fisheries Biologist, Marine Fisheries Research and Development Division, Department of Fisheries Thailand; and Mr Opas Chamason, Fishery Biologist, Professional Level from the Marine Fisheries Research and Development Division, Department of Fisheries Thailand. The topics covered in the workshop included the taxonomy of sharks and rays recorded in Thailand and the species listed in CITES Appendix I and Appendix II; the biology of sharks and rays recorded in Thailand; products of sharks and rays listed in CITES found in Thailand's markets; and an identification guide to fresh and dried sharks and rays listed under CITES at fisheries landing sites. In the practical hands-on session, participants were guided and trained on the external and internal morphology of fresh sharks and rays listed in CITES; photographic techniques for taxonomy used for important external parts of fresh sharks and rays listed in CITES; as well as on classification of sharks and rays listed in CITES according to Order, Family, Genus and Species.

**Source:** INFOFISH International Magazine, Issue No. 4/2023.

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## PUBLICATION



FAO & WCO. 2023. HS Codes for fisheries and aquaculture products – Harmonized System. Nomenclature 2022. Second edition updated and expanded. Rome and Brussels. <https://doi.org/10.4060/cc6347en>

The second edition of the HS Codes for fisheries and aquaculture products – Harmonized System,

which have been developed by Food and Agricultural Organizations of the United Nations in collaboration with the World Customs Organization (WCO).

In this updated and expanded version, there is a new section that contains images of the most commercially species. Each image contains pertinent information and distinguishing features about each species, including its scientific name, FAO name, principal characteristics, and geographical distribution.

Given the importance of HS codes in international trade, we believe that by avoiding generic product descriptions using the word "other" and combining all exceptions into a single description, this publication can help readers understand what is and is not included in all HS codes for fisheries and aquaculture products. It is important to emphasize the publication's usefulness, particularly for national customs officers.

The publication can be accessed at <https://lnkd.in/dXvyE2XK>.

**JULY**

26-28, Indo Fisheries 2023 Expo & Forum, Surabaya, Indonesia

25-27, World Seafood Shanghai, Shanghai, China  
<https://www.worldseafoodshanghai.com/en>

**AUGUST**

22-24, AQUA NOR, Trondheim, Norway  
<https://aquanor.no/en/>

23-25, Vietfish, Ho Chi Minh City, Vietnam  
<https://vietfish.com.vn/en>

23-25, 25th Japan International Seafood & Technology Expo, Tokyo, Japan  
<https://seafoodshow-japan.com/tokyo/index.html>

31-2 September, Taiwan International Ocean and Fisheries Industry Show 2023 (TIOFIS 2023) Taipei, Taiwan  
<https://www.taiwanfisheryshow.com/en/index.html>

**SEPTEMBER**

6-7, Pacific Tuna Forum (PTF), Port Moresby, Papua New Guinea  
<https://infofish.org>

11-13, Seafood Expo Asia (SEA) Singapore  
<https://www.seafoodexpo.com/asia/>

14-15, ANFACO TUNA CONFERENCE, Vigo, Spain  
<https://anfaco.es/eventos/>

15-17, China International Guangzhou Fishery and Seafood Exposition 2023  
 Guangzhou, China  
[www.chinafishex.com/?lang=en](http://www.chinafishex.com/?lang=en)

25-27, World Seafood Congress 2023  
 Peniche, Portugal  
[www.wsc2023.com](http://www.wsc2023.com)

## The Fishing Technology Digest for Asia-Pacific Region



INTERGOVERNMENTAL ORGANISATION FOR MARKETING INFORMATION AND TECHNICAL ADVISORY SERVICES FOR FISHERY PRODUCTS IN THE ASIA-PACIFIC REGION.

Here is how INFOFISH helps:

- providing technical advisory services on all phases of harvesting, handling, processing of fish, aquaculture and marketing of fishery products
- offering marketing links to and from the largest fish producing area in the world
- assisting the day-to-day fish trade by identifying new marketing opportunities for companies in the Asia-Pacific Region and new sources for supply importers
- offering technical and sales support services through informative publications
  - i) INFOFISH Trade News
  - ii) INFOFISH *International*
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- offering training and consultancy services
- organising conferences, seminar & workshops

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