

Fishing Technology Digest

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



INSIDE THIS ISSUE: PAGE NO:

Responsible Fisheries and Aquaculture.....	2	INFOFISH, based in Malaysia, and set up with the assistance of FAO, provides Advisory Services related to Fishing Technology for the Asia-Pacific. It strives to facilitate dissemination of information on fishing technology and equipment for the industry besides research and training. It also promotes links among research institutions, administration and industry. Since 1992, INFOFISH, issued a quarterly newsletter collating global fisheries news and advancements related to fishing technology and fish harvesting.
Fishing Technologies.....	3, 4 & 5	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 equipment and innovations are also featured. Comments and contributions are welcome, as are requests and recommendations for inclusion in the mailing list.
Equipment and Supplies.....	5	
Workshop and Training.....	5	
The Ocean Decade.....	6	
National News.....	6, 7, 8 & 9	
Publication.....	9	
Event Calendar.....	10	



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Global fisheries and aquaculture production reaches a new record high



World fisheries and aquaculture production has hit a new high, with aquaculture production of aquatic animals surpassing capture fisheries for the first time, according to a new report from the Food and

Agriculture Organization of the United Nations (FAO) released on 7 June 2024. The 2024 edition of [The State of World Fisheries and Aquaculture \(SOFIA\)](#) said global fisheries and aquaculture production in 2022 surged to 223.2 million tonnes, a 4.4 percent increase from the year 2020. Production comprised 185.4 million tonnes of aquatic animals and 37.8 million tonnes of algae. “FAO welcomes the significant achievements thus far, but further transformative and adaptive actions are needed to strengthen the efficiency, inclusiveness, resilience and sustainability of aquatic food systems and consolidate their role in addressing food insecurity, poverty alleviation and sustainable governance,” said FAO Director-General QU Dongyu. “That’s why FAO advocates [Blue Transformation](#), to meet the overall requirements of better production, better nutrition, a better environment and a better life, leaving no one behind.”

Read more: [here](#).

18th INFOFISH World Tuna Trade Conference and Exhibition

TUNA 2024, held under the theme ‘Advancing Blue Transformation, Sustainability and Innovation through the Global Tuna Industry’ was convened from 20-22 May 2024 at the Shangri-La Hotel in Bangkok, Thailand. There were over 300 delegates in attendance from over 40 countries and a total of 41 booths representing 36 companies and organisations. The conference was chaired by Ms. Rhea Moss-Christian, Executive Director of the Western and Central Pacific Fisheries Commission (WCPFC), with Dr Chanintr Chalisarapong, President of the Thai Tuna Industry Association (TTIA), as the co-Chair. The co-organisers of the event included the Thailand Department of Fisheries, and Thai Tuna Industry Association (TTIA); the Food and Agriculture Organisation (FAO) of the United Nations; RFMOs (WCPFC, IATTC, IOTC); ANFACO; Atuna.com; and the TUNA 2024 media partner, Undercurrent News. The conference included seven sessions of talks and discussions: 1. An overview of Blue Transformation, sustainability & innovation in the tuna industry; 2. Global tuna industry effort and actions towards sustainability and innovation and sub-sessions, 2.1. Tuna industry efforts and actions towards a resilient and sustainable industry; 2.2.

Strengthening industry commitments, partnerships, and innovation towards sustainability; 3. Blue Transformation and Sustainable Supply Chains; 4. The global tuna market and improving production, market promotion, access, trade and investment, innovation and sustainable Tuna Industry growth and sub-sessions, 4.1. Global tuna market trends from across major regional markets; 4.2 Improving production, market promotion, access, trade & investment, innovation, and sustainable tuna industry growth; 5. Advancing global food security and livelihoods for healthier communities; 6. Blue Transformation, innovation, research, science and technology and sub-sessions, 6.1. Innovation and food safety; 6.2. Smart and innovative fishing technology; and 7. Blue Transformation and the future of certification, social accountability, and sustainability in contributing to a safer, clear, and responsible global tuna industry and planet. The 2nd High-Level Ministerial and Industry Roundtable on Sustainable Tuna Fisheries was held also on 22 May on the sidelines of the conference. The two key themes discussed were (i) cooperation and partnership; and (ii) fair access to major markets. A Joint Communique was issued as an outcome of this Ministerial and Industry Roundtable.

Source: INFOFISH Trade News No. 6/2024.

IOTC agrees on new FAD measures

The 28th annual meeting of the Indian Ocean Tuna Commission (IOTC) was held in Bangkok, with 11 new conservation and management measures adopted. The main achievement was the adoption of a new management framework for drifting FADs, including the immediate prohibition of the use of fully non-biodegradable drifting FADs; the reduction of the number of drifting FADs per vessel (from 300 today to

250 FADs in 2026 and 225 in 2028), and the introduction of the first-ever register of FADs. The parties to the IOTC also agreed on management procedures for skipjack tuna and, for the first time, for swordfish. However, the EU's proposal to establish a fisheries closure of one month in the Indian Ocean was not adopted.

Source: Megapesca Lda Fish Files Lite Newsletter; May 2024.
www.megapesca.com

Study: Trout surrogates allow multiple spawns for king salmon

A cell-transplant project has enabled rainbow trout to act repeatedly as surrogates for king salmon, a species that spawns only once in its life cycle, researchers said. The method, developed by scientists of the Tokyo University of Marine Science and Technology, is expected to improve farming of pricy salmon varieties, contribute to healthy populations and protect the diversity of salmon genetic resources from climate change damage. “Artificial culturing will play an increasingly important part from now,” said Goro Yoshizaki, a professor of fisheries science at the school. “We will be researching a new style of farming fish with high commercial value while utilising rainbow trout as their parents.” The king salmon, or Chinook salmon, takes three to seven years to reach adulthood. They release eggs or sperm cells only once before dying. Rainbow trout, a smaller species from the same *Oncorhynchus* genus, can spawn every year throughout their six- to seven-year life. This difference is attributed to germline stem cells, which turn into eggs and spermatozoa. These cells remain in

the rainbow trout’s body for years, but they disappear from king salmon following one round of reproduction. The research team aimed to confirm whether king salmon eggs could be generated with assistance from the rainbow trout’s excellent spawning ability. Germline stem cells from king salmon were transplanted into young rainbow trout that were rendered incapable of producing their own germ cells. Five of the 24 female rainbow trout laid eggs annually over three years between ages 2 and 4, while 10 of the 27 males produced sperm for four consecutive years from ages 1 to 4, the results showed. After fertilising the spawned eggs and sperm, the team concluded that king salmon fry were reproduced based on DNA examinations, hatching time and other features. According to the team, the method can obtain king salmon eggs and fry every year through the surrogate trout parents. The reproduced king salmon mated, resulting in the birth of grandchildren of the first-generation king salmon, the team said. The findings were published in the U.S. scientific journal *Science Advances*.

Read the full article: [here](#).

ASEAN-Indo-Pacific collaboration to advance sustainable aquaculture technology

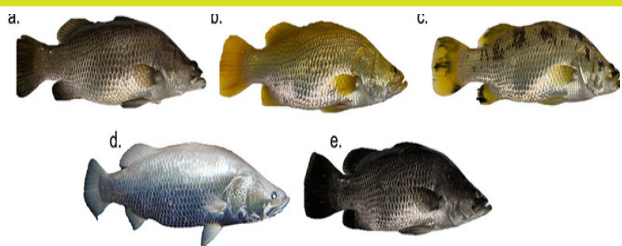
The development of sustainable aquaculture is important as the main driver of meeting food needs, and to encourage national economic growth, in the future. This was conveyed by the Secretary General of the Ministry of Maritime Affairs and Fisheries, Prof. Dr. Rudy Heriyanto Adi Nugroho, via video message at the opening of the ASEAN-Australia Indo-Pacific Workshop on the Use of Technology for Sustainable Aquaculture at the Intercontinental Hotel Sanur, 21-22 May 2024. Aquaculture production in the Asia-Pacific region continues to grow from 64.1 million tonnes in 2008 to 126 million tonnes in 2021. This growth shows the important role of aquaculture in regional economic growth and the importance of adopting sustainable practices to ensure its sustainability. Representing Australia as the organising partner, the Australian Ambassador to ASEAN, Tiffany McDonald, emphasised Australia, concrete commitment to ASEAN and cooperation with the Pacific region, especially in implementing the 2050 Strategy for the Blue Pacific Continent from the Pacific Islands Forum (PIF), including in promoting

sustainable aquaculture practices. In promoting a more inclusive Indo-Pacific, ASEAN is expanding its reach to Pacific countries to participate in concrete blue economic cooperation projects of mutual interest, including sustainable aquaculture. Apart from being an implementation of the ASEAN-Australia Joint Leaders Statement on Strengthening Food Security and Nutrition in Response to Crises, this workshop is also an implementation of commitments made by ASEAN and Australian Leaders at the ASEAN-Australia Special Summit, March 2024 in Melbourne, among others to prioritise food security, sustainability and the digital economy. The speakers and participants also visited the Superior Shrimp and Shellfish Broodstock Production Center (BPIUUK) in Karangasem, to learn directly about the use of technology in cultivating shrimp and shellfish broodstock production. Aside from ASEAN member countries, this workshop was also attended by representatives from Timor-Leste, Fiji, Kiribati, Nauru, Palau, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, and a representative of the Indian Ocean Rim Association (IORA) Secretariat.

Find out more information: [here](#).

Researchers uncover secrets of the golden barramundi

James Cook University researchers and Mainstream Aquaculture are a step closer to unlocking the mysteries of gold and platinum barramundi after



identifying what gives the species their unique looks. The study, [which was published](#) in Aquaculture, revealed that genes in the pigment-producing cells in gold and platinum barramundi lacked the ability to produce melanin and other pigments, resulting in the rare colorations of the iconic fish. "Without the black and silver melanin shading in the skin, the other pigment cells that produce yellow and gold colors come through to make the fish look gold," said Professor Dean Jerry, study co-author and Director of the ARC Research Hub for Supercharging Tropical Aquaculture through Genetic Solutions at James Cook University. "In the case of platinum fish, it appears as if both melanin and yellow pigment cells stop producing pigments, leaving the fish to be white/platinum in color. "Prof Jerry said the flesh of the golden barramundi had a lighter, whiter appearance

compared to the greyer flesh of a regular barramundi. "It does not change the eating qualities of the fish—golden barramundi has the same great taste and texture that we know of, but they look more attractive as a fillet to the consumer," he said. "One of the things that can put the consumer off a regular barramundi fillet is that when you compare it to, say, an imported Basa catfish fillet from Vietnam, it looks gray, which wrongly gives the impression that it isn't fresh. Mainstream Aquaculture's Dr. Paul Harrison said the company was "pleased to be working on the development of this product with researchers at James Cook University." "Bringing a new product like this to the market takes a lot of work involving a mix of science, [selective breeding](#) and investment in commercialization," he said."

Read more: [here](#).

ICAR-DCFR commercialises rainbow trout feeds and RAS technology

Indian Council of Agricultural Research - Directorate of Coldwater Fisheries Research (ICAR-DCFR) Bhimtal, developed, validated, and commercialised high-performance three feeds for rainbow trout i.e., starter, grower, and brooder feeds and Recirculating Aquaculture (RAS) technology for augmenting coldwater fish production in the Indian uplands. ICAR-DCFR and Growel Feeds Ltd signed a memorandum of understanding for the transfer and licensing of rainbow trout feed package technology. Dr. Pramod Kumar Pandey, Director, ICAR-DCFR, Bhimtal, signed the MoU on behalf of ICAR-DCFR. Dr. Pandey emphasised that the feed and RAS technologies are important milestones for expanding the coldwater

aquaculture landscape and rainbow trout production in India. He also highlighted the role of private-public partnerships in developing impactful technologies for fish farmers. The futuristic and climate-resilient RAS technology minimises water use by 1/100-fold, and the net productivity of rainbow trout can be increased to four-fold in a shorter culture duration. The salient features of the rainbow trout feeds developed by Dr. Biju Sam Kamalam and team are a substantial improvement in growth rate, feed efficiency, size uniformity, flesh quality, reproductive competence, and offspring quality, coupled with a remarkable reduction in fish culture duration and health issues. The hybrid event was attended by ICAR-DCFR scientists and research scholars.

Find out more information: [here](#).

Asian, Pacific journalists visit huge fish farm in Fujian



All the visiting journalists were impressed by all those great infrastructures and facilities established on the sea. Sandu'ao enjoys favorable geographical conditions and excellent water quality, making it an ideal environment for breeding yellow croakers. Since 2018, Ningde City has undertaken large-scale comprehensive reforms in offshore aquaculture,

investing in environmentally friendly plastic fish cages, new types of small fish cages, and hollow floating buoys. These initiatives aim to gradually replace traditional wooden fish farms and foam floats. A total of 1.427 million fish farms have been cleared, upgraded or renovated, and the infrastructure of offshore aquaculture has been standardised. These efforts have transformed Sandu'ao into a veritable paradise for large yellow croakers. Sandu'ao is an eco-friendly aquaculture center in Ningde, that serves as a major hub for the farming of large yellow croakers. Today, large yellow croakers from Fujian Province are popular on dining tables across China. Remarkably, eight out of every 10 large yellow croakers consumed in the country come from Ningde. Visiting Ningde was a part of the Asian and Pacific journalists' trip to Fujian Province, organised by the China International Press Communication Center (CIPCC), in collaboration with China Global Television Network (CGTN), and CCTV+, a video news agency belonging to the state-owned China Central Television (CCTV).CIPCC, under

the China Public Diplomacy Association (CPDA), has initiated a program to build a platform for the media from countries around the world, especially developing countries, to observe China and study development in this country. In each edition of the program, journalists from all around the world gather together to get familiar with the modern China and exchange

their experiences in the field of journalism. In 2024 edition of the program, started in late February and planned to end in late June, over 100 journalists from more than 90 countries are participating.

Read more: [here](#).

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The Floating Fish Feeder is an excellent option to get the feed to your fish, even on lakes with limited bank access, reliably and effectively. Built with the versatility of placement in mind, the Floating Fish Feeder features a four-float design that ensures stability, even in the strongest storms. And, with up to 6 different feed times per day, the Floating Fish

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Benefits:

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- Up to 6 different feed times/day
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INFOFISH Training of Trainers on onboard tuna handling, preservation and transport



In collaboration with SEAFDEC Training Department (SEAFDEC/TD), INFOFISH organised a training course entitled "Training of Trainers on Onboard Tuna Handling Preservation and Transport" during 27-28 May 2024 at Samut Prakan, Thailand. The training aimed at providing technical knowledge on onboard tuna handling techniques applicable to various fishing operations in the ASEAN and Asia-Pacific regions. Some 13 participants representing competent authorities and the tuna industries of six INFOFISH Member Countries namely: Kiribati, Malaysia, Maldives, Papua New Guinea, Philippines and Thailand were present. The training was part of INFOFISH's Work Plan and mandate to provide

marketing information and technical advisory services for fishery products in the Asia and Pacific Region. The opening session comprised six technical presentations on the "Importance of Fish Handling; Cold Chain Logistic Management; Modern Technologies for Tuna Preservation Onboard; Different Methods for Onboard Tuna Preservation; Factors Affecting Fresh Tuna Quality and Tuna Loading and Unloading Techniques" aimed at better understanding of fish handling tools, facilities, and handling of problems in tuna handling in the Asia-Pacific region. On closing day, a field observation of tuna handling, loading and unloading techniques was conducted at the Fish Quarantine and Inspection Regional Centre 3, Department of Fisheries, Bangkok. The participants gained knowledge and experience on the basics of onboard tuna handling, preservation, and transportation methods, which will enable them to guarantee quality for significant export destinations. The acquired knowledge is expected to be disseminated among the tuna post-harvest and quality assurance officers working at field level in INFOFISH Member Countries. INFOFISH representative and Technical Officer acknowledged SEAFDEC/TD and the Department of Thailand's technical and logistic support in organising the training course. The trainees were each awarded a Certificate of Attendance.

Source: INFOFISH International Issue 4/2024/ July-August.

The first Ocean Literacy World Conference endorsed the 'Venice Declaration' for Ocean Literacy in Action

The first Ocean Literacy World Conference held in Venice (Italy) on 7-8 June 2024 and come up with Venice Declaration. The Declaration is a statement of intent for the Ocean Literacy community as it seeks to shape the agenda at the United Nations Ocean Conference (UNOC) to be held in Nice, France, in June 2025, and more generally to engage society to regenerate the most valuable ecosystem on our Planet. The document started life in a public survey on Ocean Literacy Priorities which saw hundreds of responses from ocean scientists, educators and communicators from across the world. A first draft was then written up by the UNESCO-IOC Ocean Literacy working group and shared with participants at the first Ocean Literacy World Conference. At the Ca' Giustinian in Venice, home of the Biennale, the delegates spent the first day of the Conference discussing and debating the Declaration in order to make it as inclusive as possible.

Australia- China: New project to enhance agriculture and aquaculture cooperation

Enhancing the quality of Australian seafood and initiatives to introducing new dragon fruit cropping technologies will be among the activities and knowledge exchanged between Australian and Chinese researchers in a new project led by Charles Darwin University (CDU). CDU has received Aus \$ 240 000 through the National Foundation for Australia-China Relations 2023-24 competitive grants round for the project Advancing Tropical Agriculture Collaboration between Australia and China through Academic Exchanges and Collaborative Initiatives: Towards sustainable tropical primary production with traceable products, which

Bangladesh: Globally second in freshwater fish production

The country has risen from third to second place in the world for freshwater fish production, surpassing China, which has now dropped to third. India remains at the top of the list. This information comes from the "The State of World Fisheries and Aquaculture" report published by the United Nations Food and Agriculture Organization (FAO). The country held the fifth position consecutively for five times before 2020. The report, which is released every two years, used data from 2022. The ranking is based on fish harvested from open waterbodies such as rivers, lakes, and wetlands. However, Bangladesh has dropped from third to fifth place in terms of fish harvested from ponds and other enclosed waterbodies. In 2023, Bangladesh produced a total of 4.8 million tonnes of fish, including 3.2 million tonnes from fish farming and 1.3 million tonnes from open water bodies. Half of the fish from open water

A definitive version was presented and endorsed by the delegates on the second day. Nevertheless, as the Declaration itself states, it is conceived as a living document that will evolve through continuous dialogue among stakeholders everywhere. As such, the Declaration belongs to no single individual or institution, but to everyone. It is a common heritage which will be refined and expanded from the grassroots to advocate for Ocean Literacy worldwide, and, ultimately, to restore humanity's relationship with the ocean. As the Declaration also aims to place Ocean Literacy at the forefront of the agenda at the upcoming United Nations Ocean Conference in Nice (France), on June 2025, there was thereafter a symbolic handover of the finished document, presented by Massimiliano De Martin, Councillor for the Environment for the City of Venice, to Aurore Asso, Council advisor for Ocean Conservation & Marine Protected Areas for the city of Nice and the Côte d'Azur.

Read more news: [here](#).

focuses on exchanging techniques and knowledge of each region's agriculture and aquaculture practices. The project will be headed by CDU and involve leading delegations of about eight Australian researchers to visit Shantou and Hainan, China in 2024 and 2025, as well as facilitating delegations of about eight Chinese researchers to visit northern Australia in 2025 and 2026. Overall, the project will involve participation by more than 70 researchers across both countries and will be led by CDU Research Institute for Northern Agriculture's (RINA) Professor of Tropical Broadacre Cropping Systems Stephen Xu and Professor of Tropical Aquaculture Sunil Kadri.

Read more news: [here](#).

bodies were hilsa, with a total production of 0.65 million tonnes of hilsa in 2023. Dr Md Zulfqar Ali, director general of Bangladesh Fisheries Research Institute (BFRI), said the country's efforts to conserve open waterbodies and ban fishing during the hilsa breeding season have led to increased fish production. BFRI scientists have developed artificial breeding and advanced farming techniques for 40 out of the 261 fish species found in Bangladesh's open waterbodies. These methods are helping increase fish production in ponds, lakes, and rivers. Meanwhile, Bangladesh is 14th in marine fish production and ninth in crab farming. Around two crore people in the country are involved in fish farming and related businesses. The per capita fish consumption has risen from 7.5kg in 1990 to 30kg now. FAO's report shows that Bangladesh produces 1.3 million tonnes of freshwater fish, accounting for 11.7 percent of the global total, up from 11 percent in the previous report. India leads with 1.89 million tonnes while China comes after Bangladesh with 11.66

million tonnes. Myanmar, Indonesia, and Uganda are next on the list. The 2022 report notes that global fish production hit a record 223.2 million tonnes, valued

at USD 313 billion, a 4.4 percent increase from 2020.

Read the full article: [here](#).

Cambodia: EU and FAO partner to strengthen fisheries management

The Food and Agriculture Organisation of the United Nations (FAO), with funding from the European Union (EU), is supporting Cambodia's Fisheries Administration (FiA) by implementing the [Spatial Monitoring and Reporting Tool \(SMART\)](#) to improve fisheries law enforcement. FAO's support complements the Cambodia Programme for Sustainable and Inclusive Growth in the Fisheries Sector (CAPFISH-Capture) project, enhancing FiA's capacity to use the SMART tool. This platform, which includes various software and analysis tools, helps officials manage and protect fisheries resources. To date, 500 officials from the fisheries administration and cantonment have been trained in all aspects of SMART implementation. The tool allows for the collection, storage, analysis, and evaluation of data on patrol efforts, outcomes, threat levels, and other enforcement activities. [The EU-funded CAPFISH-Capture project](#) aims to improve compliance with

regulations protecting Cambodia's fisheries resources. FAO's technical assistance, in collaboration with the [Wildlife Conservation Society \(WCS\)](#), has supported FiA in developing SMART patrolling for fisheries in Cambodia to strengthen fisheries law enforcement. Song Hong, Deputy Director General of the Fisheries Administration, stated that "SMART patrolling for fisheries in Cambodia has been in place since 2021, with over 45 000 inland and over 2500 marine SMART inspections logged each year." "SMART is used worldwide in more than 1000 conservation areas across 100 countries and has been adopted by over 25 governments as a standard for data and information management. In Cambodia, it has been deployed as a law enforcement monitoring tool at various terrestrial, freshwater, and marine sites since 2013," said Theodor Visser, Technical Specialist (Freshwater Fisheries Management and Information), FAO Cambodia. SMART is developed by a partnership that includes the WCS and seven other leading conservation agencies.

Read more: [here](#).



Fiji: New minister lauds increased budget allocation for fisheries

The Honourable Minister for Fisheries and Forestry, Hon. Alitia Bainivalu delivered a comprehensive address during the 2024-2025 National Budget debate. Her statement highlighted the significant budget allocations for the Ministry of Fisheries and Forestry and their implications for the sector. Especially enhanced monitoring and development initiatives for fisheries sector. The Fisheries sector has received a robust allocation aimed at enhancing

its operational capabilities and supporting sustainable practices. A total of FJD 744 918 (USD 327 764) has been allocated to the Offshore Fisheries Management Division, focusing on bolstering Monitoring, Control, and Surveillance (MCS) systems to combat Illegal, Unregulated, and Unreported (IUU) fishing. Additionally, the Ministry is set to host the 21st Annual Session of the Western Central Pacific Fisheries Commission (WCPFC) in Suva. This significant event will bring together 550 participants from around the globe to discuss the region's tuna stocks and their sustainable development. Hon. Bainivalu also announced substantial investments in fisheries research, with FJD 837 666 (USD 368 573) earmarked for species identification, stock assessments, and species development. Technical services will receive FJD 123 024 (USD 541 31) for equipment maintenance and repair across the Ministry's facilities, ensuring operational efficiency. The Aquaculture development sector is set to benefit from an allocation of FJD 1 875 866, aimed at procuring technical equipment and supporting capital constructions. Additional funding includes FJD 150 000 for upgrades to fisheries stations,

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FJD 500 000(USD 220 000) for Coastal Fisheries Development, and FJD 700 000 (USD 308 000) for Aquaculture Associations development. Significant projects under the R allocation include FJD 400 000 (USD 176 000) for solar panel installation at the Makogai Research Station, FJD 230 000 (USD 101

200) for the Cawaro Ice plant, and FJD 350 000 (USD 154 000) to support commercial brackish water fisheries.

Source: Ministry of Fisheries and Forestry, Fiji.

Kiribati: Head of Fisheries Meeting at SPC

A 5 day (22-26 April 2024) Head of Fisheries Meeting held at the Pacific-Community-SPC headquarter in Noumea, provide a platform for all Heads of Fisheries from it 22 PICT members to discuss relevant topics of regional interests and also provides oversight of all SPC's work in the field of fisheries and aquaculture. Kiribati also have the opportunity to present its first

ever study carried out in the gender lens on Gender assessment in coastal fisheries and aquaculture key findings to SPC and member countries . This study was co-presented with Margaret Fox, Advisor for GESI in Fisheries.

Source: Ministry of Fisheries and Marine Resources Development, Kiribati, 9 May 2024.

Malaysia: Exported 1.5 million arowana

A total of 1.5 million arowana worth a total of RM 78million (USD 16.38 million) were exported last year, says Fisheries Department director-general Datuk Adnan Hussain. He added that the department would assist operators to obtain Convention on International Trade in Endangered Species (CITES) permits and ensure they follow proper guidelines to allow them to export arowana and boost exports in the future. The types exported include hybrid, red, gold and albino, which is in high demand in China,

Taiwan, Hong Kong and Japan,” he told reporters at an engagement event with arowana operators here. An arowana fish fry release was also held at Bukit Merah Lake as part of the engagement session, with 100 of them worth RM 150 000 (USD 31 500) being released. Adnan also shared that Perak was still the largest exporter of arowana for both domestic and foreign markets; Perak, Johor, Melaka and Selangor are the four active states in producing on a large scale for market purposes,” he added.

Read more information: [here](#).

Papua New Guinea: Traditional fishing brings sustainable rewards for Rock Lobster

The country's free diving rock lobster fishers harvest their catch by hand. Their traditional, selective technique has helped their fishery to become the island nation's first to achieve certification for sustainability. Hailing from Daru Island, the fishery is a small enterprise comprised of just seven boats, each with around six fishers onboard. The fishers dive in the Torres Strait, holding their breath or using hookahs that supply surface air via a hose. The fishery's artisanal approach ensured it scored highly when assessed for sustainability against the MSC Fisheries Standard in late 2023. The Standard requires fisheries to ensure stocks are healthy. As the fisher's hand-select each lobster, they can identify and leave enough mature lobsters to replenish the stock. The Standard also requires that fisheries have minimal impacts on the surrounding environment. Again, hand harvesting is effective here as it eliminates the danger of bycatch and discards. And with no fishing gear, the impact on habitats and ecosystems is low. To meet the Standard the fishery must also demonstrate effective management. This includes monitoring and adapting to changing circumstances. Small, artisanal fisheries often find these requirements the most challenging.



By working closely with scientists, government and experienced assessors, the fishery overcame these challenges. In fact, when graded for its harvest strategy and control rules, the scores were just shy of 'state of the art'. Marcelo Hidalgo, Sustainability Director of the Fishing Industry Association in Papua New Guinea, said, “This first-ever small-scale fishery in the Western and Central Pacific shows our commitment to sustainable fishing in Papua New Guinea to the world.” Though remote, the fishery currently exports its tropical rock lobsters to China, Hong Kong, Thailand, Vietnam and Australia. They hope the assurance of the MSC label will now open markets in Singapore and as far afield as Europe.

Read the full article: [here](#).

The Philippines: Tawi-Tawi BARMM Recognised in SOFIA 2024

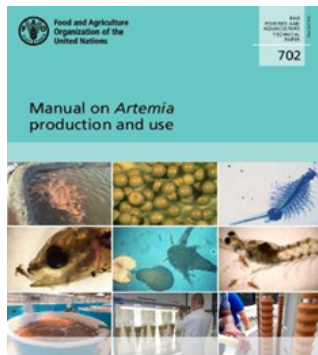
The Food and Agriculture Organization of the United Nations ([FAO](#)) has given recognition to the Philippine seaweed farmers of Tawi-Tawi in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) by dedicating a full page to their efforts and achievements in the latest edition of the FAO flagship publication, The State of World Fisheries and Aquaculture (SOFIA). The feature highlights the journey of a member of the Sama Dilaut sea nomads, and their significant contributions to sustainable seaweed farming in Tawi-Tawi. Despite facing numerous socio-economic and environmental challenges, Tawi-Tawi people have excelled in this industry, using traditional methods that have become vital for their livelihood. Tawi-Tawi now stands as a cornerstone of the global seaweed farming industry, with the municipality of Sitangkai playing a pivotal

role in promoting *Eucheuma* seaweed farming since the 1970s. By 1987, Sitangkai had emerged as the premier *Eucheuma* farming hub in the Philippines, significantly contributing to foreign exchange revenue and bolstering local economies. The FAO's recognition of Tawi-Tawi's seaweed farmers in the SOFIA report underscores the importance of their work in contributing to the global seaweed industry. This acknowledgement not only highlights the community's resilience and innovation but also emphasises the need for continued support to ensure sustainable and economically viable seaweed farming practices in the face of the new challenges emerging. "The FAO's dedication of a full page to the seaweed farmers of Tawi-Tawi in its flagship publication is a testament to the country's vital role in the global seaweed industry and its contribution to sustainable development," said Lionel Dabbadie, FAO representative in the Philippines.

Read the full article: [here](#).

Manual on *Artemia* production and use

Van Stappen, G., Sorgeloos, P. & Rombaut, G., eds. 2024. Manual on *Artemia* production and use. FAO Fisheries and Aquaculture Technical Papers, No. 702.



This FAO publication delves into the significance of *Artemia*, the brine shrimp, as a key component in the feeding of marine and freshwater crustacean and fish larvae. *Artemia*, which can be hatched from dormant cysts, has evolved into a fundamental resource within aquaculture, supporting a diverse range of species. There is increasing demand for *Artemia* cysts within the hatchery industry, as it has a pivotal role in the production of over 900 billion crustacean postlarvae and fish fry, contributing to a multi-billion-dollar aquaculture sector. The manual represents a comprehensive update of the FAO *Artemia* Manual on the Production and Use of Live Food for Aquaculture, as certain aspects described in earlier documents may no longer apply, and newer

techniques and knowledge have emerged. It starts with a brief overview of morphology and the stages of *Artemia*'s life cycle and introduces its ecological role and natural distribution on a global scale. This is followed by information on taxonomic classification of *Artemia*, description of characteristics specific to different *Artemia* strains, and the biology of its cysts. The next chapter provides insights into various habitats where *Artemia* is produced, covers the specifics of pond and tank-based production of brine shrimp cysts as well as biomass, and includes an exploration of techniques used in harvesting and processing *Artemia*. The final chapter details ideal conditions and equipment for using cyst products in hatcheries and elaborates methods for assessing the quality of *Artemia* cyst products. The manual ends with the provision of practical worksheets with illustrations which could be used as tools that help the reader gain a better understanding of how to effectively execute the proper procedures in daily practice. This publication stresses the importance of optimising *Artemia* use for both cost efficiency and nutritional quality, reflecting recent findings in *Artemia* biology and worldwide *Artemia* use practices. It caters to both newcomers and experts, providing valuable insights into biology, production, and use of *Artemia*, along with guidelines and methodologies for its proper utilisation in aquaculture. Therefore, it is an invaluable resource for anyone engaged with *Artemia*, developed by a team of leading global experts in *Artemia* biology and production.

This FAO Fisheries and Aquaculture Technical Paper can be downloaded free from: [here](#).

JULY

17-19, Indo Fisheries 2024 Expo & Forum Jakarta, Indonesia.
<https://indofisheries.id/>

AUGUST

14-15, The Aquaculture Roundtable Series (TARS) Bangkok, Thailand.
<https://tarsaquaculture.com/>

21-23, 26th Japan International Seafood & Technology Expo Tokyo, Japan.
<https://seafoodshow-japan.com/tokyo/>

21-23, Vietnam Fisheries International Exhibition Ho Chi Minh, Vietnam.
<https://vietfish.com.vn/>

28-30, 18th Shanghai International Fisheries and Seafood Exhibition Shanghai, China.
www.worldseafoodshanghai.com/en

28-30, Aqua Fisheries Cambodia 2024 Phnom Penh, Cambodia.
<https://veas.com.vn/event/aqua-fisheries-cambodia-2024/>

SEPTEMBER

3-5, Global Shrimp Forum Utrecht, the Netherlands
<https://www.shrimp-forum.com/>

4-6, Seafood Expo Asia 2024, Singapore.
www.seafoodexpo.com/asia/

17-19, Global Fishery Forum & Seafood Expo Russia 2024 Saint Petersburg, Russia.
<https://seafoodexporussia.com/en/>

25-27, China International (Guangzhou) Fisheries & Seafood Expo 2024 Guangzhou, China.
<http://www.chinafishex.com/>

The Fishing Technology Digest for Asia-Pacific Region



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