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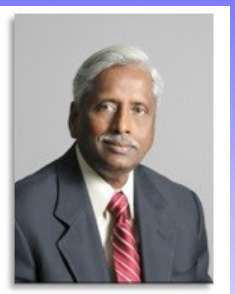
ASIANFISHERIES SOCIETY

e-Newsletter

MESSAGE FROM EDITOR



Wishing all readers a very Happy and Productive 2025.

AFS had a very productive 2024 in terms of activities undertaken by different sections of the Society - Gender in Aquaculture and Fisheries (GAFS), Fish Health Section (FHS), Asian Fisheries Social Scientists Research Network (AFSSRN), publication of the journal and various activities undertaken by branches of AFS, details of all of which are in this newsletter. Three major conferences are scheduled for 2025: (i) 9th Global conference on Gender in Aquaculture and Fisheries (GAFS9), (ii) 12th Symposium on Diseases in Asian Aquaculture (DAA12) and (ii) the 14th Asian Fisheries and Aquaculture Forum (14AFAF). The Society is looking forward to participation of all you in these conferences.

M. V. Gupta
Editor

Inside this issue:

Message From the President

Greetings and welcome to the December newsletter. In the last six months, the Council, Branches and Sections of AFS have again been very active (see separate reports for the E-newsletter). The 14th Council met in hybrid mode in Kuala Lumpur Malaysia July 2024 (meeting #66), ExeComm has had one special Meeting in August 2024 and a second special meeting to focus on the arrangements for the 14th Asian Fisheries and Aquaculture Forum (AFAF) in October. Plans for 14AFAF are progressing very well, thanks to the leadership of Dr Jena and the hard work of members in the Indian Branch. We look forward to this meeting in New Delhi from February 12 to 14, 2025. I have continued as Editor-in-Chief of the Society's journal, Asian Fisheries Science, meet regularly with the Assistant Editor, Dr Sanjoy Banerjee, to discuss the status of manuscripts and progress of publishing issues. The journal has published two issues in July and September, each with 5 papers and is preparing the December issue for publication.

I have also continued to be involved in the Students and Early Career Researchers group (ECRs), coordinated by Dr Clara Obregon and Mr Carlo Vergel. They have now had 11 online meetings, with a total of over 40 participants in these meetings. The discussions from the meetings have provided valuable advice to Council on how AFS can best provide support for ECRs. Matters like establishing focussed sessions for ECRs in our conferences and forums, supporting access to funding for conferences and research projects, and establishing a mentor/mentee program, were some of those identified by the ECRs. This was used to plan a Special Session for ECRs as part of the International Institution of Fisheries Economics and Trade. This year, we saw the greatest number of applications for the Kanazawa Research Fellowship and possibly the establishment of this virtual group has provided greater awareness of this fellowship. A total of 28 high-quality applications were received and it made the selection of the two award winners very challenging for the Awards Committee.

With guidance from Prof. Alice Ferrer and the University of the Philippines Visayas, the Asian Fisheries Society held our inaugural webinar in August, 2024 on the Society with presentations from the President and our Chairs of the three sections – the Asian Fisheries Social Science Research Network (Prof. Marieta Sumagaysay), Fish Health (Dr Kua), and Gender in Fisheries and Aquaculture (Dr Nikita Gopal). This was followed by three webinars on Ecosystem Based Fisheries Modelling (Prof. Neil Loneragan), the social dimensions of small-scale fisheries in Australia and Vanuatu (Dr Clara Obregon), and the performance of tuna fisheries and blue food equity in Indonesia (Prof. Budy Wiryawan). The webinars were very well attended and feedback from the participants showed that they enjoyed and valued the webinars and found them very informative. Thanks to all our resource people for their interesting presentations, Prof. Alice and UPV for hosting the webinars and all participants.

The next council meeting will be held on 11th February 2025, immediately before the 14AFAF in New Delhi. This will be the final meeting of the 14th Council (meeting #67) and the 15th Council will be elected during the General Assembly at 14AFAF. It will hold its first meeting (#68) towards the end of the 14AFAF.

The breadth and depth that we have in our Society and the contribution by our members in fisheries, aquaculture, fish health and the cross-cutting disciplines in the social sciences and gender in aquaculture in fisheries, is inspiring. I am also constantly reminded that Asia is the global seafood basket and what we do as individuals and a Society counts not only in Asia but is very significant to global seafood production. Thank you for your participation in AFS and contributions to the Society. I look forward to meeting AFS members (past, present and new) at 14AFAF in New Delhi in February 2025

President 14th AFS Council
Professor Emeritus Neil Loneragan

GAF Section Business

The GAFS ExeComm held two online meetings on August 14, 2024 and December 21, 2024 to discuss the business of the GAFS for the coming months.

GAF8 Publications and Products

ICSF Yemaya Newsletter: GAF8 was supported by ICSF through its publication 'Yemaya'. The Yemaya Newsletter #69 presented the report of the panel discussion from GAF8 titled 'Asia/Gender: Shrinking spaces' which highlighted how ruptures in the form of environmental stress and political economic pressures impacted small-scale fishing communities.

Yemaya # 69 (ICSF): "Asia/Africa: Shrinking spaces" Special Session report from GAF8: https://icsf.net/yemaya/asia-africa-shrinking-spaces/

Projects

GAFS-TNC Project: GAFS has been awarded a new project "Gender Equity in Freshwater Fisheries Conservation" supported by The Nature Conservancy (TNC). The main objectives of the project are to conduct a global scan on the status of gender equity in freshwater fisheries; to summarize the status of gender equity in freshwater fisheries in seven countries using the 2023 Illuminating Hidden Harvests Report, country-specific resources (gender analyses and action plans developed by TNC), additional published materials; and to identify and assess the key groups and institutions to engage in order to promote gender equity in freshwater fisheries.

The GAFS-TNC project team has successfully completed a desktop review of global gender issues in freshwater fisheries and is on track to finalize seven country-specific reviews for Tanzania, Angola, Gabon, Ecuador, Peru, Colombia, and Brazil.

GAFS-IDRC Project: The project "Making nature-based climate solutions (NbCS) in aquaculture in Southeast Asia monitoring more gender-responsive: What gets measured gets done" supported by IDRC Canada's AQUADAPT-SEAPAC grant is in progress. Two desk reviews - one on gender and aquaculture and the other on gender and MEL (monitoring, evaluation and learning) have been completed. Based on this and further discussion with the GAFS project team, gender monitoring schema has been developed. Pilot projects are to be conducted in the Philippines (San Dionisio, Iloilo province) for seaweed; Thailand (Mahasarakham province) and Cambodia (Banteay Meanchey province, Siem Reap province, Takeo province) for rice fish. Reconnaissance visits were made and the pilot projects are ready to embark on gender analysis at the sites.

HLPF 2024

Dr. Kafayat Adetoun Fakoya, Secretary, GAFS, submitted a case study, "Low-hanging fruit: A women's knowledge-based approach to blue carbon restoration and conservation in West Africa" to the International Scientific Council (ISC). The case study was eventually published in a paper, "From science to action: Leveraging scientific knowledge and solutions for advancing sustainable and resilient development", the ISC submitted to 2024 High-Level Political Forums. The case study highlighted local solutions as pertinent to knowledge co- production in climate mitigation, adaptation and also linked with several SDGs in developing countries. TRY oyster harvesters of The Gambia are a women-led group that has successfully gained rights to co-management of mangroves.

SSF Summit & COFI

Dr. Kafayat Adetoun Fakoya, Secretary, GAFS, discussed her recent experiences at the Second Small-Scale Fisheries Global Summit held at the FAO Headquarters, Rome, Italy from 5-7 July 2024 to mark the tenth anniversary of the SSF Guidelines. On the first day of the Committee on Fisheries 36th Session (COFI), FAO headquarters, Dr. Kafayat collected the Margarita Lizárraga Medal Award on behalf of Dr. Meryl Williams.

IIFET 2024 Conference

Dr. Nikita Gopal, Chair, GAFS, delivered a Keynote on Gender in fisheries and aquaculture economics research for Inclusive and Resilient Aquatic Food Systems at the 21st biennial International Institute of Fisheries Economics and Trade (IIFET) Conference held at Penang, Malaysia from 15-19 July 2024.

Dr. Meryl J Williams, Founder Chair, GAFS, was honoured with the International Institute of Fisheries Economics & Trade 2024 Distinguished Service Award for her career dedicated to enhancing the economic and social welfare of global fishing communities during the Conference.

Workshop on Integrating Gender into Fisheries and Aquaculture Economics and Trade Research

A pre-Conference Workshop on Integrating Gender into Fisheries and Aquaculture Economics and Trade Research was held at World Fish Headquarters in Penang, Malaysia, on 15 July 2024, a day before the official start of the IIFET 2024 Conference. Although the importance of integrating gender perspectives has been recognized in various academic disciplines and in various sectors for socio-economic development, progress in gender integration in Fisheries Economics has been relatively minimal to date. That many researchers/ practitioners have felt the same way is evident in the high application rate to this workshop.

The workshop consisted of four modules – introducing gender in fisheries/ aquaculture economics and trade research; the micro view of gendering the households; the macro view of markets, trade, technology and governance; and principles and data for gender analysis. Around 70% of the participants considered themselves as "beginners" of gender analysis, though most were seasoned researchers in fisheries/ aquaculture and some in economics. The knowledge and insights of such experienced participants together with the well-articulated concepts and examples provided by the facilitators made the discussions and exercises in the workshop rich and exciting.

Participants near the end of the day, showing a full and engaged room. Photo: M. Williams

Very positive feedback was given by the participants, including their interest in future workshops. Although the participants differed in terms of experience and expertise, interactions with other like-minded researchers benefited them. Another strength was a more than average gender balance for gender research workshops, which tend to be missing men.

This first-ever IIFET gender workshop was a grand success, not only because of the large number of participants with varied interests and experiences, high engagement, and reflections on its value by participants but also because of its contribution to IIFET. Specifically, the Workshop likely contributed to higher attendance by women researchers at the IIFET 2024 Conference itself. Approximately 18% of the IIFET 2024 attendance was comprised of Gender Workshop participants, and 47% of the attendees of IIFET 2024 were women. Such visibility and the contribution of the gender workshop are expected to invite even higher attendance by senior fisheries economists for future gender workshops. Building upon the foundations of this workshop as a basic course, future workshops could offer more advanced gender modules such as the use of tools for gender analysis and coaching in publishing gendered fisheries and aquaculture economics research.

9th Global Conference on Gender in Aquaculture and Fisheries (GAF9)

The 9th Global Conference on Gender in Aquaculture and Fisheries (GAF9) on the theme "Transforming Aquaculture & Fisheries for gender justice" will be held from 1-3 October 2025 at the Asian Institute of Technology, Thailand.

GAF9 encourages the submission of abstracts for oral and poster presentations under the following sub themes:

- Women/gender in the blue economy
- Gender and climate change: Navigating the impacts on fisheries and aquaculture
- Nature-based solutions in aquaculture and fisheries
- Innovative frameworks/methodology for gender research in fisheries and aquaculture
- Counting and discounting: men's and women's work in fisheries and aqua*culture*

GAFS Communications

GAFS continues to be very active in its outreach, through its website, its GAFS members e-mail group, Genderaquafish e-mail group and social media outlets (Twitter and Facebook). GAFS members are receiving a monthly premium news service on GAF news items.

Here are the latest stories from our website https://genderaquafish.org/stories.htm

"Workshop on Integrating Gender into Fisheries and Aquaculture Economics and Trade Research", posted on November 4, 2024 Link
"From concept to pilot: gender monitoring schema" By Dr Veena N, posted on December 26, 2024 Link

Keep in touch with GAF Website: https://www.genderaquafish.org/; https://www.genderequality.genderaquafish.org/

Facebook Page: https://www.facebook.com/AFS-Gender-in-Aquaculture-and-Fisheries181176555231544/

Twitter: @Genderaquafish https://twitter.com/Genderaquafish

Contributed by: Nikita Gopal, Chair, Kyoko Kusakabe, Vice-Chair, Kafayat Fakoya, Secretary GAFS Executive Committee

AFS SECTIONS

Fish Health Section (FHS)

Publication
Newsletter

FHS eNewsletter No. 22 is being prepared and will be published in January 2025. Previous editions of the FHS eNewsletter are available for online access on the FHS website.

Special Edition for DAA11 publication
The second issue was made available online on June 30, 2024. Alongside this special edition of DAA11, a total of 14 scientific papers from DAA11 have been published and can be accessed at https://www.fhs-afs.net. The third issue is currently being prepared in advance of DAA12.

https://www.fhs-afs.net/pdf/pub/4.Special_Edition_MFJ3eb754953a.pdf

https://www.fhs-afs.net/pdf/5.Special%20edition_Malaysian%20Fisheries%20Journal%20MFJ%20Vol-24%202024.pdf.

Conference organized by FHS

Upcoming Event-The 12th Symposium on Diseases in Asian Aquaculture (DAA12), India

The Fish Health Section (FHS) of the Asian Fisheries Society (AFS) in collaboration with ICAR-Central Institute of Brackishwater Aquaculture, Chennai, India will host the 12th Symposium on Diseases in Asian Aquaculture (DAA12) during September 23-27, 2025 at Chennai, the vibrant city of Tamil Nadu, India. Renowned for its cultural heritage, beautiful beaches, and historical landmarks like Mahabalipuram, Chennai offers an exceptional setting for fostering the exchange of knowledge and innovation.

The theme for DAA 12 is "Transformative Innovations Shaping the Future of Aquatic Animal Health Management". Under the theme, the 5 days-long deliberation promises an engaging lineup of 7 technical sessions designed to showcase the latest advancements and research in aquatic animal health. Topics for some of the key sessions are Finfish and Shellfish Health, One Health and Aquatic Animal Biosecurity, Aquatic Animal Epidemiology, Disease Surveillance, and Reporting, New Emerging Technologies in aquatic animal health management. These sessions will feature expert speakers from around the globe for providing invaluable insights into critical areas of aquatic animal health management. Each session is designed to foster discussion, share cutting-edge research, and explore innovative solutions for the challenges in aquaculture. DAA12 will continue the legacy of advancing aquatic animal health research, following previous symposia.

We warmly invite researchers, industry professionals, academia, and students to join this exciting symposium and collaborate on sustainable solutions for aquaculture's future. Mark your calendar and prepare to immerse yourself in cutting-edge science and rich cultural experiences in DAA12 at Chennai, India!

Session		Name of the Speaker
Inauguration Session	Keynote Presentation	Dr. C. V. Mohan
Technical session -I	New emerging technologies	Dr. Agus Sunarto
Technical session -II	Finfish health	Dr. Andy Shinn
Technical session -III	Shrimp health	Dr. S. Kallaya
Technical session -IV	Molluscs and Seaweeds Health	Dr. Naoki Itoh & Dr. Elizabeth Cottier-Cook
Technical session -V	Aquatic Animal Epidemiology, Disease Surveillance and Reporting	Dr. Edmund J Peeler
Technical session -VI	One Health and Aquatic Animal Biosecurity	Dr. Iddya Karunasagar & Dr. Melba Reantaso
Technical session -VII	Aquatic Animal Disease Diagnostics, Prophylactics and Therapeutics	Dr. Dong Ha

Showcasing our technical session and the keynote speakers for DAA12.

Contributed by: Dr. Kua Beng Chu

Asian Fisheries Social Scientists Network (AFSSRN)

For the second semester of the year 2024, the AFSSRN has lined up a series of events and activities, as follows:

2024 AFSSRN Webinar Series
Four (4) monthly webinars that ran from July to October 2024 focused on the theme "Narrowing the social science and fisheries technology divide." The objectives include: (a) to highlight the importance of mainstreaming social science in fisheries technologies, (b) to advocate for the inclusion of social sciences in fisheries instructions, research and community work, and (c) to heighten awareness and appreciation on the fusion of the social sciences and fisheries technologies for sustainable fishing by providing country experiences. Speakers come from India, Indonesia, the Philippines, and Malaysia.

AFSSRN Webinar #1 (31 July 2024)
Dr. Ananthan, P.S. talked on "Governing Inland Fisheries: The Indian Story." Discussion and insights focused on the what and why governance is important in fisheries; how inland fisheries/resources are governed in Indian context drawing insights from few case studies; and how to address the governance-related challenges, hence, mainstream social science in fisheries development. Dr Ananthan is Professor/Principal Scientist, Social Science Division, ICAR-CIFE, Versova, Mumbai.

AFSSRN Webinar #2 (28 August 2024)

The second webinar was on "Introduction of the e-logbook in the Blue Swimming Crabs Small-scale Fishery in Lampung Province, Indonesia," which highlighted how technology facilitated regular data collection on blue swimming crabs; how small-scale fishers are motivated to voluntarily report catches regularly; and how social science analysis helps stakeholders understand behavioral changes towards increased likelihood of e-logbook adoption. Dr. Abdul Halim served as the webinar speaker. He is Country Representative of the Environment Defense Fund, Indonesia Office.

AFSSRN Webinar #3 (25 September 2024)

AFSSRN Webinar #3 featured Ms. Jee Grace Suyo – Diala, faculty of the Department of Management, College of Management, University of the Philippines Visayas. Her paper, "Sustainability in Focus: The Role of Social Networks in the Advancement of the Philippine Seaweed Industry," highlighted how social networks and power relations among seaweed value chain actors influence the development of the seaweed industry; and how the social and gender lens can reveal important sustainability indicators that might be otherwise inadvertently overlooked.

AFSSRN Webinar #4 (30 October2024)

The fourth AFSSRN webinar, "Integrating Technology, Nature and Community: Enhancing Climate Resilience and Sustainability in Malaysian Coastal Communities through Innovation,' discussed and gave insights on the use of advance technologies for environmental monitoring and educational platforms; and on how coastal communities can benefit from the Integrated Multi-Trophic Aquaculture (IMTA) for healthier ecosystems that ensure sustainability of coastal aquaculture practices and livelihood opportunities. The speaker, Dr Natrah Ikhsan, is a faculty of the Department of Aquaculture, Universiti Putra Malaysia.

Research

The 3-country study (i.e., India, Indonesia, Philippines) on the *"Knowledge, Perception and Attitude of Stakeholders on Single-Use Plastic and its Effects on the Marine Environment: a Gendered Value Chain Analysis of Fisheries,"* was completed, and highlights of the results were presented during the AFSSRN General Assembly held on 11 December 2024, via zoom.

The findings show that fisheries value chain players are aware of the problems that result from unsustainable practices on single-use plastics (SUP). However, they lack knowledge about microplastics. They showed relatively positive attitude to reduce SUP use as they are willing and ready to shift behaviors but hopes that addressing the problems is not only about enforcing bans on SUP but also disrupting the SUP businesses/manufacturing. The government has a crucial role to play in this aspect. In terms of perceptions, the scores are generally high and favorable to reducing SUP.

Moreover, there is no significant gender differential in KAPs between men and women. Across the different value chain nodes, there exists pockets of differentials in KAPs.

Authors: India: Neha W. Qureshi, Saba Nabi, Nikita Gopal

Indonesia: Armen Zulham, Erlania and Tri Heru Prihadi

Philippines: Marieta Bañez Sumagaysay, Gerwyn Enerlan, Axl Fitgerald Bulawan

Nomination and Election of AFSSRN Execom 2024-2027

The outgoing Execom has served the AFSSRN for the past 3 years (2021-2024). Based on its Bylaws, a nomination and election process will be held to select the members/officers of the Execom for the period 2024-2027.

A Nomination and Election Committee was created, headed by Dr. Alita Roxas of the Mindanao State University – Iligan Institute of Technology with members: Gerwyn Enerlan and Heniekyle Adena, both from University of the Philippines Tacloban College. A calendar of activities was approved by the Execom. Elected to various posts:

Chair -	Dr Nikita Gopal (India)
Vice Chair -	Dr. Gay Defiesta (Philippines)
Secretary -	Dr. Neha Qureshi (India)
Treasurer -	Dr. Moe Shwe Sin (Malaysia)
Members	Dr. Rhodella Ibabao (Philippines)
	Dr. Umi Muawanah (Indonesia)
	Mr. Joey Pedrajas (Philippines)
	Asst Prof Paul Joseph Ramirez (Philippines)
	Dr. Armen Zulham (Indonesia)
Ex-officio member –	Dr. Marieta Bañez Sumagaysay (Immediate Past Chair)

The officers/members of the AFSSRN Execom 2024-2025 took their Oath of Office during the 2024 AFSSRN General Assembly held online on 11 December 2024.

Outgoing AFSSRN Execom, 2021-2024

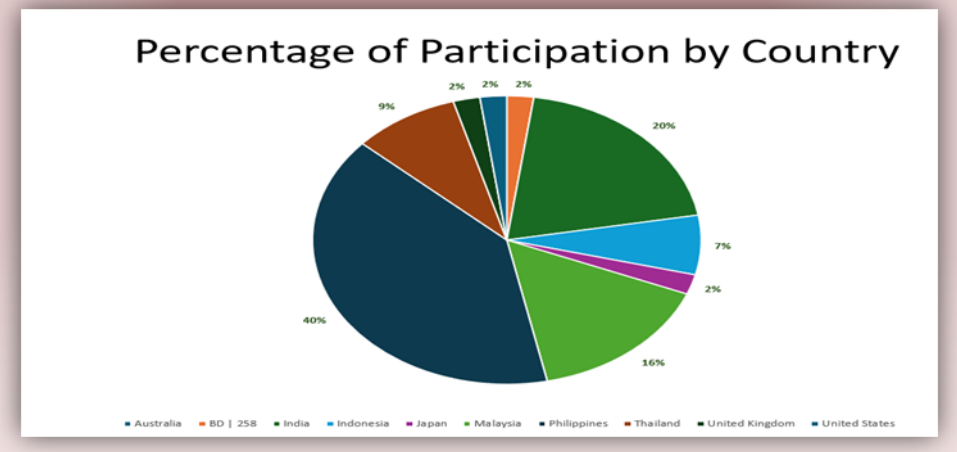
Incoming AFSSRN Execom, 2024-2027

AFSSRN General Assembly (GA)

The AFSSRN General Assembly was conducted online on 11 December 2024. It was co-hosted by the Visayas State University Tolosa located in the province of Leyte, Philippines. While 48 registered, the actual attendance was only 22 members (16 females, 6 males) coming from the Philippines, India, Malaysia, Thailand, Japan, United Kingdom, Australia, Indonesia and the USA. The AFSSRN is grateful for the gracious presence of the AFS President, Dr. Neil Loneragan, who delivered an inspirational message focusing on the importance of social sciences in fisheries research, instructions and extension work. The Business Meeting was called to order by the AFSSRN Chair, Dr. Marieta Bañez Sumagaysay, at 1:15pm (PH). It was preceded by preliminary videos featuring activities of the AFSSRN.

AFS President, Dr. Neil Loneragan

AFSSRN Chair, Dr. Marieta Bañez Sumagaysay

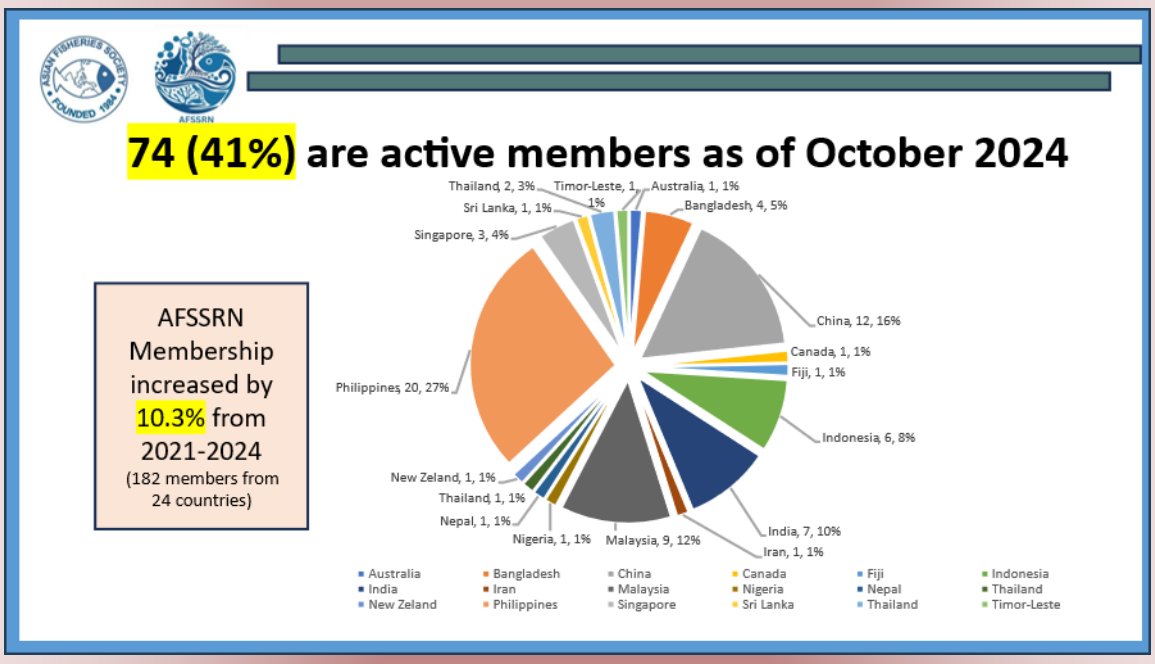


AFSSRN Bulletin

The 6th issue of the AFSSRN Bulletin (July to December 2024) features the AFSSRN webinar series., the General Assembly, and the 3-country study (India, Indonesia, Philippines) on the "Knowledge, Perception and Attitude of Stakeholders on Single-Use Plastic and its Effects on the Marine Environment: A Gendered Value Chain Analysis of Fisheries.,"

Membership

There are 182 AFSSRN members as of October 2024, with 41% active members. This is a 10.3% increase in membership from 2021 data.



MARIETA BAÑEZ SUMAGAYSAY, PhD
AFSSRN Chair, 2021-2024

AFS BRANCHES

Asian Fisheries Society Indian Branch (AFSIB)

World Fisheries Day 2024

AFSIB was among the organizers for the celebration of "World Fisheries Day" held at the College of Fisheries, Mangalore on 30 November 2024. It was inaugurated by Mr. Sathish N. Kotian, Honorary President, Dakshina Kannada Gillnet Fishermen Association, Mangalore. The programme was presided over by Dr. Anjaneyappa, H. N., Dean, College of Fisheries, Mangalore. Dr, Rajesh K. M. Principal Scientist, ICAR-Central Marine Fisheries Research Institute and Secretary of AFSIB was the Guest of Honour. Dr. Rajesh delivered a talk on Impact of climate change on marine fisheries: adaptation and mitigation measures.

Scientists, researchers, fisheries professionals and students of fisheries colleges participated in the Workshop. From the Asian Fisheries Society Indian Branch (AFSIB), secretary, Dr. Rajesh K. M., treasurer, Dr. Kumar Naik, and the executive committee members Dr. Mridula Rajesh participated in the workshop.

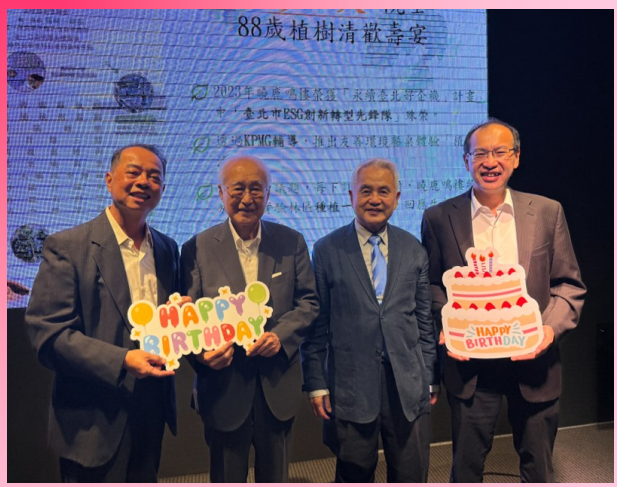
Mr. Sathish N. Kotian, Honorary President, Dakshina Kannada Gillnet Fishermen Association, Mangalore inaugurated the programme.

Dolphinfish cultured in FRI as part of restoration program

News from https://www.agriharvest.tw/archives/121257

The Fisheries Research Institute of Taiwan's Ministry of Agriculture is advancing the "Fisheries Resource Restoration and Species Breeding Program," an eight-year initiative to develop artificial breeding and rearing techniques for ten key species. In the first phase, breakthroughs were achieved with the successful breeding of blackspot tuskfish (*Choerodon schoenleinii*) and narrow-barred Spanish mackerel (*Scomberomorus commerson*), marking a global first. Released juveniles have also shown positive impacts, as 34% of *Tectus pyramis* (pyramid top shell) caught in Penghu waters carried genes from released stock, proving the program's success in resource enhancement. The program focuses on economically important species with declining wild populations. The first phase developed breeding techniques for species such as blackspot tuskfish, red seabream (*Pagrus major*), and mahi-mahi (*Coryphaena hippurus*), with plans to transfer these technologies to the aquaculture industry. The second phase aims to develop breeding methods for species like mangrove red snapper (*Lutjanus argentimaculatus*), Nagasaki seabream (*Pentapodus nagasakiensis*), and silver pomfret (*Pampus argenteus*).
Challenges persist for certain species, such as high mortality rates in ponyfish (*Leiognathus equulus*) and the technical difficulties in rearing narrow-barred Spanish mackerel due to their aggressive behavior and space requirements. Despite these obstacles, the program continues to enhance fisheries resources through juvenile release and aims to expand collaborations with private sectors, promoting sustainable fisheries development and contributing to coastal resource restoration.

Dr. I Chiu Liao, a founding member of the Asian Fisheries Society, an academician of Taiwan's Academia Sinica, and a globally renowned master in aquaculture, celebrated his 88th birthday on November 4, 2024. Over 60 members of the Taiwan branch of the Asian Fisheries Society, along with friends from Taiwan's academic and aquaculture industries, gathered to celebrate this special occasion. Dr. Liao, as vibrant and healthy as ever, announced the upcoming release of a new book on Tilapia aquaculture, slated for publication in 2025. This will be the sixth aquaculture book edited by Dr. Liao in this century, and it is highly anticipated by the aquaculture community!



AFS SECRETARIAT NEWS

1.0 AFS Secretariat Meeting (2nd September 2024)

The Asian Fisheries Society Secretariat meeting was held on Monday, 2nd September 2024 in Faculty of Agriculture, Universiti Putra Malaysia. There were 3 attendees, Prof.Neil, Dr. Nur Leena Wong Wai Sin, and Mrs. Malathi Thanamsegaram joined this meeting.

1.2 AFS Execomm Website Meeting

Asian Fisheries Society (AFS) Execomm website meeting was held on Thursday, 8th August 2024 using an online platform. There is presence of the President, Vice President, Secretary, Treasurer, Dr. David and Executive Officer joined online.

1.3 AFS 5th Execomm Meeting

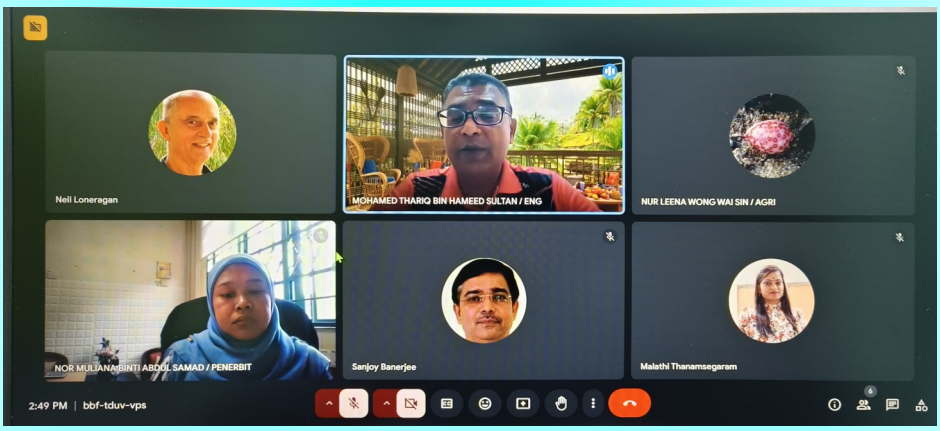
Asian Fisheries Society (AFS) Execomm Meeting was held on Friday, 11th October 2024 using an online platform. There were 9 attendees, Prof. Neil Loneragan, Prof. Liping Liu, Prof. Murni Marlina Abd Karim, Dr. Nur Leena Wong Wai Sin, Dr. Joykrushna Jena, Dr. Ravishankar, Dr.Kuldeep Kumar Lal, Prof. Wilfredo Campos and Mrs. Malathi Thanamsegaram joined this meeting.

1.4 Meeting with Worldfish

The Asian Fisheries Society, meeting with World Fish was held on Thursday, 26 September 2024 in InfoPort Universiti Putra Malaysia. There were 5 attendees, Prof. Murni Marlina Abd Karim, Dr. Nur Leena Wong Wai Sin, Mr.Sean Lee, Dr. Jorn Schmidt, the newly appointed Director of Sustainable Aquatic Food Systems at WorldFish and Mrs. Malathi Thanamsegaram joined this meeting.

1.5 AFS -UPM Press Meeting

Asian Fisheries Society (AFS) and UPM Press Meeting was held on Thursday, 10th October 2024 using an online platform. There were 5 attendees, Prof. Neil Loneragan, Prof. Ir. Ts. Dr. Mohamed Thariq, Director of UPM Press, Pn. Nor Muliana Abdul Samad, Dr.Sanjoy Banerjee, Dr.Nur Leena Wong Wai Sin, Prof. Murni Marlina Abd Karim and Mrs. Malathi Thanamsegaram joined this meeting.



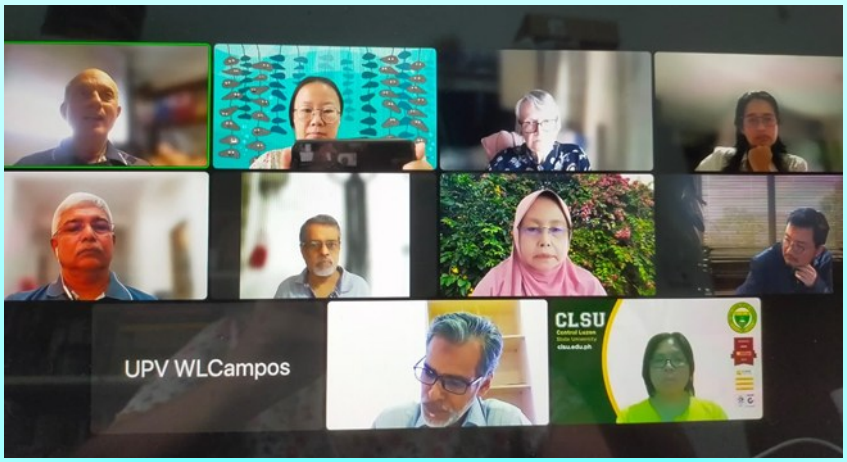
2.0 Membership

AFS encourages members to renew and to be Permanent Active Members (PAM). There is notice has been added to the AFS mailing list for renewal.

- **Membership Account**
  The username and password remained as below:
  Username: ID Number password: afs@123

3.0 Asian Fisheries Society - Editorial Meeting

Asian Fisheries Society - Editorial Meeting was held on Thursday, 27th June 2024 using an online platform.



4.0 AFS new website

We had aimed to implement the revitalised website (https://www.klst.one/asianfisheriessociety/) by the end of 2024. However, Council identified some additional requirements that are now nearly completed. The latest tasks plan on journal migration is ongoing by Dr. David.

5.0 MOA /MOU with societies

- The Asian Fisheries Society and Nepal Fisheries Society (NEFIS) signed a Memorandum of Understanding on November 8, 2024.

ARTICLES

Transforming India's Fisheries and Aquaculture through AI

As India stands on the brink of a technological revolution, the fisheries and aquaculture sectors are poised to undergo significant transformation with the advent of Artificial Intelligence (AI). These high-tech advancements promise enhanced efficiency, sustainability, and productivity, offering a beacon of hope for addressing food security and employment challenges in the world's most populous nation. However, this wave of innovation also brings with it potential threats to traditional fishers, whose livelihoods are deeply intertwined with age-old practices and the natural rhythms of their environment.

In a country where inland fisheries have been the backbone of rural employment, the introduction of AI-driven technologies such as drones, robotics, and smart systems necessitates a careful balance. The promise of precision aquafarming, disease management, and optimized resource utilization must be weighed against the socio-economic impacts on communities that have depended on these waters for generations. As we explore the exciting prospects of AI in revolutionizing the fisheries and aquaculture sectors, it is crucial to address the challenges and ensure that these innovations are inclusive and equitable, preserving the cultural heritage and economic stability of India's traditional fishers.

Optimizing Fish Farming

Precision aquafarming systems leverage advanced algorithms and real-time data analytics to optimize every aspect of fish farming, from monitoring water quality parameters such as temperature, oxygen levels, and pH balance to managing feeding patterns, ensuring maximum efficiency and productivity. These systems not only enhance fish yields but also reduce wastage and operational costs. Additionally, data analysis tools can detect early signs of diseases or abnormalities in fish, enabling proactive measures to prevent outbreaks and maintain healthy fish populations, which is critical for sustainable aquaculture operations. Furthermore, continuous assessment of water quality and environmental parameters helps reduce the ecological footprint of aquaculture, promoting sustainable practices essential for protecting natural resources and ensuring Long-term industry viability.

One of the significant advantages of advanced systems in fisheries is the enhancement of supply chain traceability and transparency, where these systems can track and monitor aqua food products from 'water to table', ensuring they are sustainably sourced and delivered, thereby building consumer trust and promoting ethical practices within the industry. In addition, these technologies aid in effective fisheries management by monitoring fishing activities, identifying illegal practices, and improving estimates of catch and bycatch, providing accurate data and insights that support regulatory bodies in enforcing sustainable fishing practices and protecting aquatic ecosystems.

Revolutionizing Aquaculture

Inland fisheries have been the backbone of the Indian fisheries sector, providing maximum employment to traditional fishermen and women in rural India, playing a crucial role in supporting livelihoods and ensuring food security. This sector, including reservoirs, rivers, and lakes, contributes significantly to the fisheries industry by offering employment to a large number of traditional fishers and supporting rural communities. Most of the irrigation and multipurpose projects constructed across major rivers and tributaries sustain this sector by providing suitable habitats for fish farming. AI presents both opportunities and challenges that need to be addressed thoughtfully to benefit this vital sector.

AI can revolutionize inland fisheries by providing advanced tools for monitoring and managing fish populations, using AI-powered drones and sensors to collect real-time data on water quality, fish health, and environmental conditions. This information allows for more effective management practices and ensures the sustainability of fish stocks. Despite assurances from officials that AI-based technologies will initially be limited to marine fish farming, there is a clear potential for their expansion into all fisheries-related processes and regions. While smaller inland water bodies may not immediately see extensive AI application, larger reservoirs, significant water bodies, and irrigation projects are likely to adopt these technologies inevitably.

Embracing AI in Telangana's Fisheries

Specifically, in Telangana, a state of India, which boasts extensive water resources, there are significant opportunities to increase fish production using modern technologies. However, the state's traditional fishermen lack the skills required to achieve this potential. Past attempts to implement modern fish farming techniques like cage culture have not met with the expected success, due to local conditions and lack of awareness among fishermen.

The introduction of AI-driven drones and robots may pose a threat to traditional fishers who rely on manual methods for their livelihoods. If not implemented inclusively, these technologies could lead to job displacement and increased inequality, making it essential to ensure that AI innovations are accessible and beneficial to all stakeholders. To address potential challenges, it is crucial to involve traditional fishers in the adoption of AI technologies. Training programs and capacity-building initiatives can help fishers understand and utilize AI tools effectively, ensuring that AI solutions are user-friendly and affordable, thereby promoting inclusivity and equity. While AI offers numerous benefits, it is also important to balance modernization with the preservation of traditional fishing practices and cultural heritage. Policymakers should consider the socio-cultural aspects of inland fisheries and implement AI solutions that complement rather than replace traditional methods.

Integrating AI with Traditional Practices:

Given these special circumstances, the Government of India plans to use AI-based advanced technologies to enhance fish production and productivity in Telangana's reservoirs. Activities such as releasing fish fry, managing large-scale cage culture units, and ensuring fish health and feeding can be efficiently managed with AI-powered surface drones and robotic equipment. This comprehensive adoption of AI and modern machinery aims to revolutionize fish farming, potentially reshaping the future of traditional fishermen.

Collaborative efforts between government agencies, technology providers, and fishing communities are essential for the successful integration of AI in inland fisheries. Public-private partnerships can facilitate the development and deployment of AI solutions that meet the needs of fishers. Government policies should support the adoption of these technologies by providing funding, incentives, and regulatory frameworks that promote sustainable and inclusive practices. This will ensure that AI-driven innovations contribute to the overall socio-economic development of rural communities.

Additionally, it is crucial to empower women and youth in the inland fisheries sector by providing access to technology, training, and market opportunities, enhancing their participation and economic empowerment. Inclusive policies that address gender and age disparities are crucial for achieving sustainable development.

Alternatively, while integrating AI, policymakers should consider balancing modernization with the preservation of traditional fishing practices. Initiatives could include training programs for traditional fishers to adapt to AI technologies, ensuring these innovations are user-friendly and affordable. Another approach could be to implement hybrid systems that combine modern technologies with traditional methods, fostering a harmonious coexistence that respects cultural heritage and economic stability.

Contributed by: Pittala Ravinder, former Chairman of Telangana Fisheries Federation and Founder President of Telangana Fisheries Society

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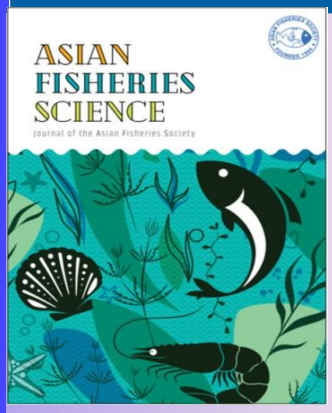
Asian Fisheries Science



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Asian Fisheries Science 37 (3) 2024

E-ISSN: 2073-3720

A Preliminary Study of the Age and Growth Patterns of a Sea Toad, Chaunax abei Le Danois, 1978, in Suruga Bay, Japan

AHMET MERT ŞENBAHAR, AKIRA ETO, MASASHI YOKOTA

https://doi.org/10.33997/j.afs.2024.37.3.001

In the present study, age and growth pattern of Chaunax abei was assessed from Suruga Bay during the period of 2021–2022 for the first time. The total length (TL) of the population ranged from 37.4–268.8 mm, and the fish weight (W) between 1.11–491.75 g. Age determination was based on annual growth ring counts of transverse sections of the sagittal otoliths and age ranged from 1 to 12 years, with the majority of fish aged 4 years old. The von Bertalanffy growth function was used to model the growth, and the parameters were found as: TL_∞ = 468.1 mm, K = 0.056 year-1, t0 = -0.402 year. This research provides the first results on the growth of C. abei and enriches the regional fisheries biology database. Furthermore, it presents the primary population data on the growth patterns of one of the chaunacid species.

Performance Evaluation of Hydroponic Grow-Outs in An Innovative Coldwater Aquaponic System Featuring Rainbow Trout and Lettuce

ABHAY KUMAR GIRI, NITYANAND PANDEY, SUMANTA KUMAR MALLIK, PARTHA DAS, HARISH CHANDRA SINGH BISHT, PRAMOD KUMAR PANDEY

https://doi.org/10.33997/j.afs.2024.37.3.002

A 45-day trial was carried out to assess the production performance of different hydroponic media in a novel do-it-yourself (DIY) low-tech re-circulating aquaponic system for temperate regions with rainbow trout (Oncorhynchus mykiss) and lettuce (Lactuca sativa). The system, designed with low-tech simplicity, was managed without alkalinity correction and depended entirely on plant growth and metabolism for biofiltration. The final individual weight, biomass gain, specific growth rate (SGR), and feed conversion ratio (FCR) of rainbow trout were significantly better ($P < 0.05$) in media beds (crushed stone and river stone) compared to control and deep water culture (DWC) systems. The final mean weights of rainbow trout in river stone and crushed stone treatments were significantly higher. The production of lettuce was significantly greater in all three treatments - river stone, crushed stone and DWC compared to the control. The DWC including the media bed systems facilitates the improved performance of lettuce saplings in terms of final height and leaf number. These results show that a low-tech media bed system without a supplementary biofiltration unit can achieve sustainable production of both fish and vegetables in temperate hilly terrains.

Characterisation of Snakehead Fish, *Channa striata* (Bloch, 1793), Byproduct and Its Gelatin Properties

ROSMAWATI, SRI FATMAH SARI, ASNANI, A. YULI ROHMA
https://doi.org/10.33997/j.afs.2024.37.3.003

This study identified the characteristics of skin, bones, and scales as a biomaterial byproduct of snakehead fish, *Channa striata* before and after the extraction process into gelatin. The biomaterials were identified, including their proximate composition (by weight of protein, fat, moisture, ash) collagen, amino acids. The physicochemical properties of gelatin in terms of yield, gel strength, viscosity pH, and functional groups were determined for scales, skin and bones. The collagen content of scales was higher than that of skin and bone. Glycine and proline in the three biomaterials were nearly equal and highest in skin, scale, and bone, respectively. There were significant differences in viscosity and gel strength of the three types of gelatin, the highest viscosity was in skin gelatin while the best gel strength was in scale gelatin. The application of the same method and solvent can produce different properties and characteristics of gelatin, and the presence of functional groups helps determine the occurrence of changes in the secondary structure of gelatin from the three biomaterials.

Effects of Rearing Temperature on Growth and Survival of Blackthroat Seaperch, *Doederleinia berycoides* (Hilgendorf, 1879), Post-Flexion Larvae and Juveniles

YUICHI FUKUNISHI
https://doi.org/10.33997/j.afs.2024.37.3.004

In post-flexion larval and juvenile stages of hatchery-reared blackthroat seaperch *Doederleinia berycoides*, the influence of water temperature on growth and survival was examined to identify the optimal rearing temperatures. Temperature treatments were conducted separately for pelagic post-flexion larvae (32 days post hatching [dph]) and settled juveniles (69 dph). The mean survival rates of post-flexion larvae were high for all temperatures. Growth increased at higher temperatures and was significantly faster at 22 and 25 °C than lower temperatures. For juveniles, mean survival rates were significantly higher at 16–25 °C than at 13 °C. Juvenile growth, like that of post-flexion larvae, was faster at 22 and 25 °C. These results suggest that maintaining a high rearing temperature (22–25 °C) is important for enhancing the growth for post-flexion larvae and juveniles of blackthroat seaperch and reducing the rearing period to the size of release seedlings.

Larval Rearing of the Giant Trevally, *Caranx ignobilis* (Forsskål, 1775), Fed Live Food Combinations of Rotifers, Copepods and *Artemia salina*

MARIA THERESA M. MUTIA, FREDERICK BUENSALIDA MUYOT, JANET LUCITO BARAL, LILIAN CRUZ GARCIA
https://doi.org/10.33997/j.afs.2024.37.3.005

The giant trevally, *Caranx ignobilis*, is a high value fish which has been studied for spawning in captivity and domestication in the Philippines in view of its aquaculture potential. Initial larval rearing of the species encountered mortality issues, and this study attempts to address the problem to improve their survival. Hatchery-bred *C. ignobilis* larvae were reared with different combinations of rotifers, brine shrimp and copepods. The results showed that the inclusion of copepods in the feeding regimen had positive effects on survival and length increment. The use of copepods for *C. ignobilis* larviculture is seen to play an important role in the success of the seed production protocol for this species. However, a sustainable supply of copepods through appropriate mass propagation techniques must be ensured to achieve higher production of *C. ignobilis* seeds in the hatcheries.

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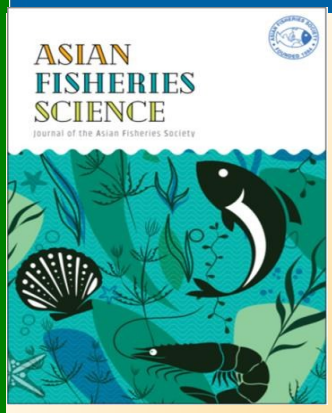

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Asian Fisheries Science 37 (4) 2024

E-ISSN: 2073-3720

Mechanosensory Perception and Food Localisation in *Pangasius nasutus* Larvae: A Developmental Perspective

FADHIL SYUKRI, NIK NOOR ALIA, YUZINE ESA, ANNIE CHRISTIANUS, FAIZ SALEHUDIN, AZIZ ARSHAD

https://doi.org/10.33997/j.afs.2024.37.4.001

The study focused on the development of sensory organs and behaviour in Patin fish (*Pangasius nasutus*) larvae. Initially, one day after hatching (DAH), the larvae displayed underdeveloped sensory organs, leading them to stay at the bottom of the aquarium and swim vertically. Over time, their sensory organs, including taste buds, free neuromasts, and the retina, developed rapidly, resulting in behavioural changes. By 3 DAH, the larvae exhibited phototaxis, horizontal swimming, and rheotaxis, aligning with their first feeding. Mechanosensory perception, facilitated by taste buds and olfactory organs, played a crucial role in locating food. Full sensory development was achieved 21 days after hatching.

Analysis of Gillnet Fishery Business for Narrow-Barred Spanish Mackerel and Indo-Pacific Mackerel: Lesson Learned From KUB Kampung Baru in Muara Kintap, Indonesia

AHMADI

https://doi.org/10.33997/j.afs.2024.37.4.002

This study examines the business sustainability of the gillnet fishery for narrow-barred Spanish mackerel and Indo-Pacific mackerel in Indonesia, managed by a collective group, Kelompok Usaha Bersama (KUB) Kampung Baru. The analysis highlights thriving operations with robust financial performance, efficient marketing channels, and significant profitability. Fisher groups demonstrated strong returns on investment, rapid payback periods, and substantial monthly incomes far exceeding local minimum wages. Marketing channels ensured fair profit distribution, with fishers retaining a major share. The findings underscore the untapped potential of this fishery to support processing businesses and exemplify sustainable and profitable industry practices.

Integration of Morphology and the Mitochondrial *Cox*1 Gene to Identify Killifishes, *Aplocheilus* Species, in the Attanagalu River, Sri Lanka

A.M. GIHAN KAVINDA ATHAPATHTHU, CHRISTY JEYASEELAN EMMANUEL, UDAYA PRIYANTHA KANKANAMGE EPA, DEVIKA MALKANTHI DE COSTA
https://doi.org/10.33997/j.afs.2024.37.4.003

Aplocheilus species, known as killifishes, are popular in aquariums and used to control mosquito larvae. Endemic to Madagascar, Seychelles, and South-East Asia, they were studied in Sri Lanka's Attanagalu River. Morphological identification suggested the presence of two species, *A. dayi* and *A. parvus*, but truss analysis did not distinguish them. DNA analysis targeting the *Cox*1 gene revealed genetic relationships with *A. werneri* and *A. blockii*, forming two distinct phylogenetic clusters. Genetic variation within each species indicates intraspecies diversity. The study confirms the presence of *A. dayi* and *A. parvus* in the river, highlighting genetic diversity in their populations.

Trehalose and Dimethyl Sulfoxide As Cryoprotective Solution Inclusions in a Static Liquid Nitrogen Vapour Vitrification Method for African Catfish (*Clarias gariepinus* Burchell, 1822) Sperm

CHRIS HENRI FOUCHE, MARK GOODMAN
https://doi.org/10.33997/j.afs.2024.37.4.004

Captive breeding of *Clarias gariepinus* typically involves stripping eggs from females and sacrificing or partially excising male testes for sperm collection. Cryopreservation offers a less invasive and more efficient alternative for preserving male reproductive material. This study evaluated the use of Ginzburg fish Ringer (GFR) with or without trehalose as an extender and tested cryoprotectants, including DMSO and methanol. The freezing process employed liquid nitrogen vapor, with straws demonstrating superior results over cryovials for fertilisation. Optimal outcomes were achieved with trehalose and DMSO-treated sperm, yielding fertilisation rates comparable to fresh sperm. The method efficiently fertilised eggs with minimal semen and produced healthy larvae. The study confirms the effectiveness and cost-efficiency of liquid nitrogen vapour freezing over controlled freezing equipment for catfish semen cryopreservation.

Stock Identification of Brown-Striped Snapper, *Lutjanus vitta* (Qouy and Gaimard, 1824), Inferred From Otolith Shape Analysis off the Coast of Iligan Bay, Mindanao, Philippines

MARICEL TUMAMPOS GUMOLOC, IVANE R. PEDROSA-GERASMIO
https://doi.org/10.33997/j.afs.2024.37.4.005

Otolith shape analysis is a useful method for identifying stock structures based on phenotypic traits. This study focused on the brown-striped snapper (*Lutjanus vitta*), a key fishery resource in Iligan Bay, Philippines, which has experienced declining catches due to overfishing. Researchers aimed to improve stock identification through otolith morphometrics and shape analysis. Fish samples were collected from three locations in the bay. Analysis revealed significant differences in otolith shape indices among locations but not between sexes, indicating spatial structuring of the species. These findings highlight the need for localised management strategies to ensure sustainable fisheries.

Influences of Feed Additives for Sustainable Aquaculture Production in Asia: A Review

MD. SHOEBUL ISLAM, ANIK TALUKDAR, MD. HASHIBUR RAHMAN, MD. TOUHIDUL ISLAM, MD. ARIFUL ISLAM, MD. HARUNOR RASHID, RABINA AKTHER LIMA, JAHID HASAN
https://doi.org/10.33997/j.afs.2024.37.4.006

Aquaculture is a key solution for increasing fish supply to meet food security and nutritional needs, especially in Asia. While antibiotics have been widely used in aquafeeds to prevent disease and promote growth, their adverse effects have driven the shift toward eco-friendly alternatives. Natural feed additives, such as immunostimulants, are gaining prominence for improving aquatic animal health, reducing the reliance on medicated treatments, and supporting sustainable aquaculture practices. Functional feed additives like probiotics, prebiotics, organic acids, and phytogenic compounds are now integrated into high-quality feeds, enhancing growth, feed efficiency, and health while boosting consumer confidence in farmed fish. This review highlights the critical role of such additives in advancing Asian aquaculture.

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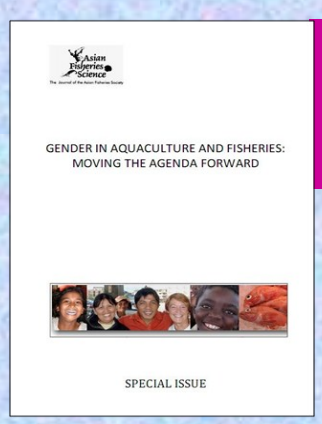

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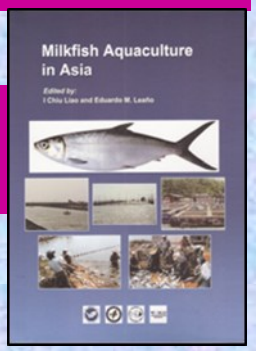
MERYL J WILLIAMS, MARILYN PORTER, POH SZE CHOO, KYOKO KUSAKABE, VEIKILA VUKI,



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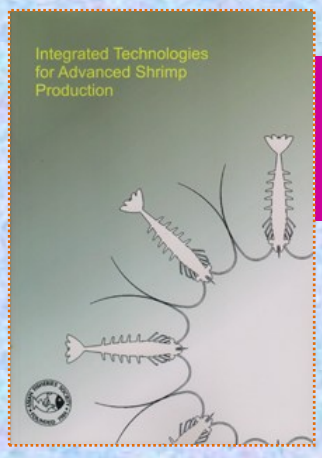

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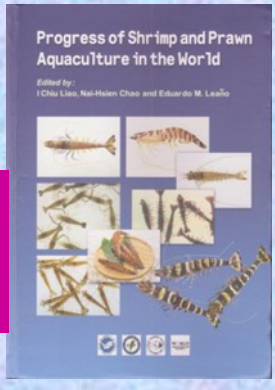

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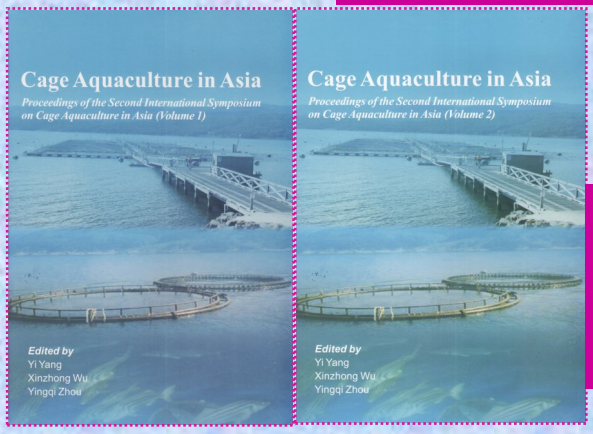

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