

ISSUE 33

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MESSAGE FROM EDITOR



The pandemic Covid-19 has been playing havoc with peoples' lives and livelihoods in general and fisheries sector is no different. We were hoping that we will be able to conquer the Covid-19 and come back to our normal lives, which does not appear to be in no way nearer.

Because of Covid-19, many activities have to be either cancelled, rescheduled or organised virtually. The same is case with some of the AFS activities - 13th Asian Fisheries and Aquaculture Forum (13AFAF), 11th Forum on Diseases in Asian Aquaculture (DAA11), the 8th Global Conference on Gender in Aquaculture (GAF8) and International Symposium on Aquaculture and Fisheries Education (ISAFE4) which were to be organised during 2021, but now have been rescheduled to 2022. Details are in this newsletter.

Kudos to GAF section of AFS which has carried a number of activities in spite of the pandemic. Another milestone is the reactivating Asian Fisheries Social Sciences Research Network (AFSSRN) which was dormant for some time and held its first Forum AFSSRN F1 in virtual mode during the year. All the details are in this newsletter. Thanks and congratulations to all involved in reactivating the important network – AFSSRN.

Stay safe, stay healthy and hope for better 2022.

M. V. Gupta

Editor

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AFS PRESIDENT MESSAGE



Dear AFS Colleagues,

In my June 2021 message, I mentioned that we should remain hopeful for better months for the rest of the year and beyond. Indeed, the last five months of the year have been better than the previous months. Hopefully, the situation around the world will continue to improve even with the threat of a new variant.

I have things to share with you that happened since June 2021. One is the launching of the website of the 13th Asian Fisheries and Aquaculture Forum (13AFAF) in September 2021. The 13th AFS Council in its June 2021 Special Meeting has made a final decision that the 13AFAF pushes through as an online conference on May 31 to June 2, 2022. The conference to be hosted by the National Cheng Kung University, Taiwan will offer a new online conference experience. Please visit the website (<https://13afaf.tw/index.php>) and know more about the conference. I hope to see you in the 13AFAF.

Second, the Asian Fisheries Social Science Research Network (AFSSRN), a section of AFS, had its first forum, AFSSRN F1, on 24-26 November 2021. It was organized as a joint conference with the Sixth International Conference on Fisheries and Aquatic Sciences (ICFAS 6). AFSSRN partnered with the College of Arts and Sciences of the University of the Philippines Visayas in organizing the joint conference offered online. The conference provided a venue for social science researchers and scientists in fisheries and aquaculture in the region to interact and foster cooperation to advance knowledge and promote the proper use of fisheries and aquaculture social sciences research practices and results in the Asia-Pacific region.

Meanwhile, the preparations for CAA 7 in China and ISAFE 4 in Taiwan in 2022 are on-going. More information on these two AFS's conferences will be made available in the coming months. The Asian Fisheries Science continuously improves in terms of citation, downloads. More good news about the journal will be shared with us by the AFS Chief Editor, Prof. Mohamed Shariff. I would like to take this opportunity to encourage AFS members to submit manuscripts for consideration in the Asian Fisheries Science.

We have an increased number of active members with membership renewal and more approved applications of membership. But we further encourage more application of membership and active membership in AFS.

Keep safe and well.

Merry Christmas and a Happy New Year!

ALICE JOAN DE LA GENTE FERRER
President 13th AFS Council

NEWS FROM THE GENDER IN AQUACULTURE AND FISHERIES SECTION



Despite the pandemic conditions prevailing in the countries of many of our members, since the June e-Newsletter, GAFS members have been hard at work with many partners on developing several projects and events, including GAF8 events online and for capacity building.

GAF Section Business

The Executive Committee of the GAF Section met online on 3 November 2021. The first major decision was to schedule the delayed ExeComm election for May 2022, conducting this online due to the COVID-19 circumstances. The formal election announcement will be made in March 2022. The Election Committee comprises Mohammad Nuruzzaman (Chair), Alice Ferrer and Danika Kleiber.

The second major decision was to set the dates for our delayed Conference, GAF8 (the 8th Global Conference on Gender in Aquaculture and Fisheries). In consultation with our hosts (the Society of Fish Technologists (India) and the ICAR-Central Institute of Fisheries Technology) the event will be held in Kochi from 21-23 November 2022. The theme, as previously advertised, is *Shaping the Future: Gender Justice for Sustainable Fisheries and Aquaculture*.

The third major decision was to set a timetable for finalising the GAFS Core Principles draft document for consultation with the members, with a plan to release it publicly on International Women's Day 2022.

Our capable GAFS e-Newsletter editor, Surendran Rajaratnam, has the third edition well in hand for release in early January 2022.

GAFS will also be holding an event, format yet to be decided, to celebrate the International Year of Artisanal Fisheries and Aquaculture (2022).

9th GAFS ExeComm Meeting, 2/3 Nov 2021



ExeComm: Top – Danika Kleiber, Mohammad Nuruzzaman, Meryl Williams; Middle – Nikita gopal, Kyoko Kusakabe, Alice Ferrer; Bottom – kafayat Fakoya, Arlene Nietes Satapornvanit, surendran Rajaratnam. Apologies Indah Susilowati.

AFS-GAFS-SwedBio Project “Dialogues in Gender and Coastal Aquaculture: Gender and the Seaweed Farming Value Chain” completed

The SwedBio-funded project was completed in late 2021 and material from the project is now going online (<https://www.genderaquafish.org/dialogues-in-gender-and-coastal-aquaculture-gender-and-the-seaweed-farming-value-chain/>), including the comprehensive final narrative report. In 2021, the project teams (ICAR-CIFT and ICAR-CMFRI in India and KMFRI in Kenya), AFS and key members of GAFS have worked hard to complete the project. In 2022, we will be promoting the outcomes and following up on impacts.

GAFS Engaged in FAO-NACA Global Conference on Aquaculture: Aquaculture for Sustainable Development (GCA+20)

The GCA+20 conference, led by FAO, NACA and the Ministry of Agriculture and Rural Affairs of China was held in hybrid in-person and online format from 22-25 September 2021. GAFS members and the Section were involved in several roles, including members of the expert drafting team of the participants’ Shanghai Declaration (Aquaculture for Food and Sustainable Development) and on the writing team, presentation and panel discussion for thematic review “TR8: Social and Human Dimensions of Aquaculture.” On behalf of the Friends of the Shanghai Declaration, the Chair of GAFS presented the Shanghai Declaration to the GCA+20 plenary and proposed that it be accepted by acclamation.

The GAF Section developed a formal statement of support for the Shanghai Declaration, pledging to work with partners on the critical people-centred elements of the Shanghai Declaration.

GAF8 Women and Labour Webinar

In the lead-up to a fully-fledged GAF8, our first webinar was held on 29 November 2021. The webinar, “Women Work in Fisheries, Too!” was about women and labour in fisheries. It was a cooperative event with USAID Sustainable Fish Asia Local Capacity Development (SUFIA LCD) Activity, the Central Institute of Fisheries Technology (ICAR-CIFT) and the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF). This very well-attended event was live streamed and all slides and videos of presentations are available via our page: <https://www.genderaquafish.org/gaf8/webinar-women-work-in-fisheries-too/>.

In early 2022, a Cooperative Action Plan will be published following open consultation on the draft developed by an Expert Writing Team comprised of Arlene Nietes Satapornvanit, Nikita Gopal, Rejula K., Jennifer Gee, Zumilah Zainalaludin, Surendran Rajaratnam, Swathi Lekshmi, Smita Yamsangsung, Hana Hetty Manuela and Meryl Williams.



The poster for the webinar "Women Work in Fisheries, Too!" features logos for USAID, Coral Triangle Initiative, GAF, and others at the top. It lists ten speakers with their names and affiliations: Kyoko Kusakabe (Asian Institute of Technology), Arlene N. Satapornvanit (USAID Sustainable Fish Asia Local Capacity Development Activity), Nikita Gopal (ICAR-Central Institute of Fisheries Technology), Surendran Rajaratnam (WorldFish), Jariya Sornklang (Southeast Asian Fisheries Development Center), Ravadee Prasertcharoensuk (Sustainable Development Foundation), Joe Pres Gaudiano (PLAN International), Rachel Matheson (Asian Seafood Improvement Collaborative), Caterina Meloni (Connecting Founders), Meryl J. Williams (Gender in Aquaculture & Fisheries Section/Asian Fisheries Society), and Aazani Mujahid (Universiti Malaysia Sarawak). It includes the date (November 29, 2021), time (2:00 - 5:00 pm GMT +7), a registration link (https://bit.ly/3iljmyy), and a QR code. The GAF8 logo and tagline "Shaping the Future | Gender Justice for Sustainable Aquaculture and Fisheries" are at the bottom.

Webinar: Women Work in Fisheries, Too!

Speakers:

- Kyoko Kusakabe, Asian Institute of Technology
- Arlene N. Satapornvanit, USAID Sustainable Fish Asia Local Capacity Development Activity
- Nikita Gopal, ICAR-Central Institute of Fisheries Technology
- Surendran Rajaratnam, WorldFish
- Jariya Sornklang, Southeast Asian Fisheries Development Center
- Ravadee Prasertcharoensuk, Sustainable Development Foundation
- Joe Pres Gaudiano, PLAN International
- Rachel Matheson, Asian Seafood Improvement Collaborative
- Caterina Meloni, Connecting Founders
- Meryl J. Williams, Gender in Aquaculture & Fisheries Section/Asian Fisheries Society
- Aazani Mujahid, Universiti Malaysia Sarawak

Date: November 29, 2021
Time: 2:00 - 5:00 pm (GMT +7)

Registration: <https://bit.ly/3iljmyy>

GAF8 Shaping the Future | Gender Justice for Sustainable Aquaculture and Fisheries

GAFS Submission to Consultation by UN Committee on Food Security

GAFS provided a submission to the first draft of the UN Committee on Food Security Voluntary Guidelines on Gender Equality and Women's and Girls' Empowerment in context of Food Security and Nutrition. The submission can be viewed online: <https://www.fao.org/fsnforum/comment/10656>. The submission commended the drafters on the substantial start made on this instrument and offered detailed inputs to CFS questions, based on our experience of research and development work over nearly three decades of activity in this field.

AFSSRN First Conference

Many GAFS members took an active part in organising, presenting and participating in the Joint International Conference Sixth International Conference for Fisheries and Aquatic Sciences (ICFAS 6) and Asian Fisheries Social Science Research Network Forum One (AFSSRN F1) from 24 - 26 November 2021. We congratulate AFSSRN on their first Forum and the election of their new Executive.

GAFS continues to be very active in its outreach, through its website, its GAFS members e-mail group, the broader Genderaquafish email group, and social media outlets (Twitter and Facebook). GAFS members are receiving a monthly premium news service on GAF news items, and GAFS will release its third annual e-Newsletter later in the year.

Since the June 2021 e-Newsletter, the following Stories have been posted on our website. Please check them out!



6 November 2021: “Rocking the boat: resistance to marine conservation policies along lines of ethnicity, class and gender in the Wakatobi National Park, Indonesia” by Melody Lynch

<https://www.genderaquafish.org/2021/11/06/rocking-the-boat-resistance-to-marine-conservation-policies-along-lines-of-ethnicity-class-and-gender-in-the-wakatobi-national-park-indonesia/>

Local Sama-Bajau do not passively accept the conservation regulations imposed upon their communities. Instead, they continue to access marine and coastal resources for their culture and livelihoods in ways that they consider to be morally fair. Despite much ‘women’s work’ being made illegal by the protected area, and social stigmatization, the women are important providers and contributors to household livelihoods.

5 November 2021: “GAF8 Webinar: “Women Work in Fisheries, Too!”

<https://www.genderaquafish.org/2021/11/05/gaf8-webinar-women-work-in-fisheries-too/>

This webinar – “Women Work in Fisheries, Too!” – on gender and labor in fisheries will be conducted to increase awareness and recommend cooperative actions that are necessary in having a gender and social inclusive approach to address labor issues in the fisheries sector.

26 October, 2021: “Towards a ‘thick description’ of gender relations: a new framework based on dried fish value chains” by Madu Galappaththi

<https://www.genderaquafish.org/2021/10/26/towards-a-thick-description-of-gender-relations-a-new-framework-based-on-dried-fish-value-chains/>

Dried fish is considered a ‘hidden’ sub-sector within small-scale fisheries, and is particularly important in Asia and Africa. Women make up a significant portion of the workforce in this sub-sector. A new framework may reveal a thick description of gender relations.

20 October 2021: “Reducing the Gender Gap for Women in Aquaculture in India through Targeted Affirmative Action” by Sreeja Lakshmi

<https://www.genderaquafish.org/2021/10/20/reducing-the-gender-gap-for-women-in-aquaculture-in-india-through-targeted-affirmative-action/>

Career development and promotion for Indian women in science are important issues. Barriers to successful entry and re-entry to science or a sustainable move of a women researcher can be accomplished by providing more fellowships and funding programs for women – in other words, targeted affirmative action.

4 October 2021: “GAFS Supports Shanghai Declaration”

<https://www.genderaquafish.org/2021/10/04/gafs-supports-shanghai-declaration/>

Read the Gender in Aquaculture and Fisheries Section’s statement of support for the Shanghai Declaration: Aquaculture for Food and Sustainable Development.

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: Meryl Williams, Nikita Gopal and Kafayat Fakoya on behalf of GAFS ExeComm

AFS BRANCHES & SECTIONS

Fish Health Section (FHS)

Due to the pandemic, the 11th Symposium on Diseases in Asian Aquaculture (DAA11) which was initially planned to take place in 2020 in Kuching, Malaysia has been rescheduled to be held on 23rd to 26th August 2022 <https://www.daa11.org/>. To keep the FHS-AFS members and fish health community connected, the FHS-AFS organises **Virtual Seminars on the Path to DAA11**.

The poster features the logos of the Fish Health Section and the Asian Fisheries Society at the top. The main title is "Virtual Seminars on the Path to DAA11" with the URL (https://www.daa11.org). Below this, the specific webinar title is "Fish Vaccination: Theory, Innovations and Application (A Webinar)" scheduled for "4 August 2021" from "13:00-15:00 BKK time; GMT+7". The speakers listed are Dr. Kim Thompson (Moredun Research Institute, United Kingdom) with the topic "Overview of fish vaccination - from principles to applications", Prof. Win Surachetpong (Kasetsart University, Thailand) with "Tilapia lake virus: Understanding the host immunity and challenges for vaccine development", and Dr. Roberto Cascione (VIRBAC, Thailand) with "Fish vaccine: from vaccine development to field applications". A blue banner at the bottom states "To join, please register in advance".

Webinar #3. Fish Vaccination: Theory, Innovations and Application, 4 August 2021

The third webinar of the series was held on 4th August 2021 and attended by 509 participants from 32 countries and territories (Australia, Austria, Bangladesh, Canada, Cambodia, China, Croatia, France, Greece, India, Indonesia, Italy, Japan, Kenya, Korea RO, Kuwait, Malaysia, Myanmar, Nepal, Norway, Pakistan, Philippines, Singapore, Spain, Sri Lanka, Taiwan, Thailand, Turkey, United Kingdom, USA, Vietnam and Yemen). Eminent speakers during the webinar included Dr. Kim Thomson, Moredun Research Institute, United Kingdom; Dr. Win Surachetpong from Kasetsart University, Thailand and Dr. Roberto Cascione from Virbac, Thailand. Video recording of the webinar is available at FHS website (www.fhs-afs.net).

Webinar #4. Small and Terrible! Significant Bacterial Diseases in Aquaculture, 8 December 2021.

Fish Health Section **Asian Fisheries Society**

Virtual Seminars on the Path to DAA11
(<https://www.daa11.org>)

**Small and Terrible!
Significant Bacterial Diseases in
Aquaculture**
(A Webinar)
8 December 2021
13:00-16:00 BKK time; GMT+7

SPEAKERS:

 **PROF. INDRANI KARUNASAGAR**
(Nitte University, India)
"Overview of bacterial diseases of aquatic animals"

 **PROF. HAN-CHING WANG**
(National Cheng Kung University, Taiwan)
"Relationship between shrimp gut health, microbiota and AHPND"

 **DR. PIKUL JIRAVANICHPAISAL**
(Manit Genetics Co., Ltd, Thailand)
"The gut as the first line of defence against bacterial diseases: Comparing fish and shrimp"

To join, please register in advance

The 4th webinar of the series was held on 8th December 2021. A total of 239 participants from 20 countries and territories (Australia, Bangladesh, Belgium, Brunei Darrusalam, China, Hong Kong, India, Indonesia, Israel, Korea RO, Malaysia, Myanmar, Philippines, Singapore, Sri Lanka, Taiwan, Thailand, United Kingdom, USA, and Vietnam) attended the webinar. Distinguished speakers in the webinar included Prof. Indrani Karunasagar from Nitte University, India; Prof. Han-Ching Wang, National Cheng Kung University, Taiwan and Dr. Pikul Jiravanichpaisal, Manit Genetics Co. Ltd., Thailand. PDFs and video recordings of presentations are available at FHS website (www.fhs-afs.net).

Asian Fisheries Social Science Research Network (AFSSRN)

AFSSRN Holds First Forum

The Asian Fisheries Social Science Research Network (AFSSRN) held the First Asian Fisheries Social Science Research Network Forum (AFSSRN F1) jointly with the Sixth International Conference on Fisheries and Aquatic Sciences (ICFAS 6) on November 24-26, 2021 via Zoom. The theme of the joint conference was *The Science and Art of Fisheries and Aquaculture: Life Above and Below Water*.

Dr. Svein Jentoft of UiT - The Arctic University of Norway was the conference keynote speaker and his keynote address was titled *Sustainable Small-Scale Fisheries Are Also About Communities*.

One of the highlights of the joint conference was the Social Scientist Assembly with Dr. Robert S. Pomeroy as keynote speaker. Dr. Pomeroy, in his keynote address *Social Science For Fisheries And Aquaculture In Asia: Solving Problems And Creating Opportunities*, emphasized that social science and scientists are at the center of addressing the enduring challenges in capture fisheries and aquaculture, and presented a social science research and development agenda for the Asian region to solve problems and create opportunities.

The assembly also had a panel discussion on *the Importance of Social Science in Fisheries and Aquaculture* with the following as panelist: Dr. Nikita Gopal, principal scientist at ICAR-Central Institute of Fisheries Technology, India and AFSSRN officer with her talk *Mainstreaming Social Science Research in Fisheries And Aquaculture— Shifting to Trans-Disciplinary Approaches*; Dr. Yinji Li of Tokai University, Japan with her talk on *The Meaning of Social Science and Transdisciplinarity in Securing Small-Scale Fisheries Sustainability*; and, Dr. Agus Heri Purnomo, principal researcher at Research Center for Marine and Fisheries Socio-economics, Ministry of Marine Affairs and Fisheries, Indonesia with his talk on the *Importance of Social Science in Fisheries and Aquaculture*. Dr. Gay Defiesta, professor at the University of the Philippines Visayas and AFSSRN officer moderated the panel discussion.

Aside from the Social Scientist Assembly, the 2.5 days conference had 4 plenary sessions, 22 parallel scientific sessions, 2 parallel arts sessions, 2 special scientific sessions, and 1 special event session. The conference had five themes, namely: (1) Aquatic Resources, Environments, and Fisheries; (2) Aquaculture; (3) Postharvest and Biotechnology; (4) Economics, Governance, Gender, and Fisheries Management; and (5) Socio-cultural Aspects of Fisheries.

A total of 127 scientific and artistic oral presentations were made with special mention to the Economics, Governance, Gender, and Fisheries Management with 32 scientific papers (6 sessions) and the Socio-cultural Aspects of Fisheries with 17 scientific papers (3 sessions). There were also 57 scientific posters with 9 weree social science posters.

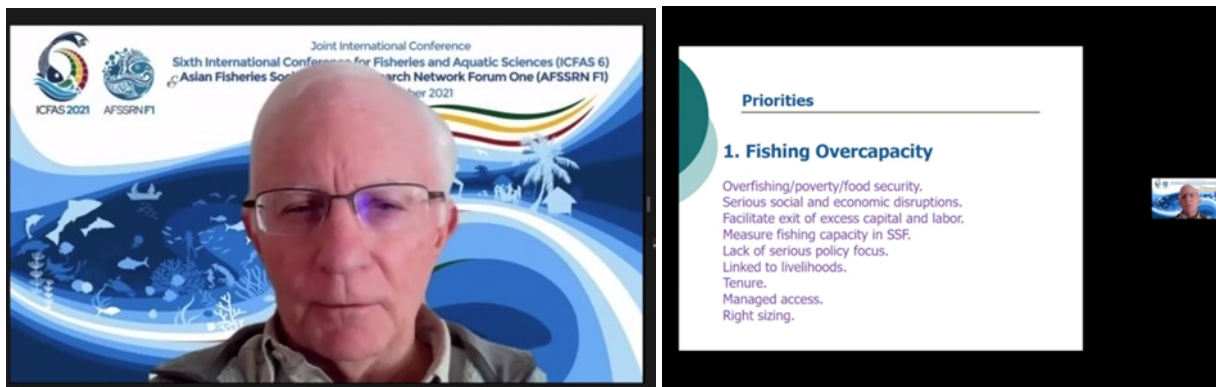
The competition of the conference were: Student Oral Speed Presentation (5 Undergraduate and 12 Graduate); Student Poster Presentation (5 Undergraduate and 11 Graduate) (3) Fishing for Solution (4 entries); digital arts (3 entries).

The conference had 634 officially registered participants from 17 countries, including United States of America, Norway, Nigeria, Nepal, India, Sri Lanka, Thailand, Vietnam, Bangladesh, China, Japan, Taiwan, Malaysia, Indonesia, Australia, New Zealand, and Philippines.

Dr. Alice Joan G. Ferrer, dean of the College of Arts and Sciences of University of the Philippines Visayas and chair of the Asian Fisheries Social Sciences Research Network chaired the organization of the joint conference. Dr. Ferrer is also the president of the Asian Fisheries Society.

The joint conference was organized by the College of Arts and Sciences (CAS) of the University of the Philippines Visayas in partnership with the Asian Fisheries Social Science Research Network, a section of the Asian Fisheries Society.

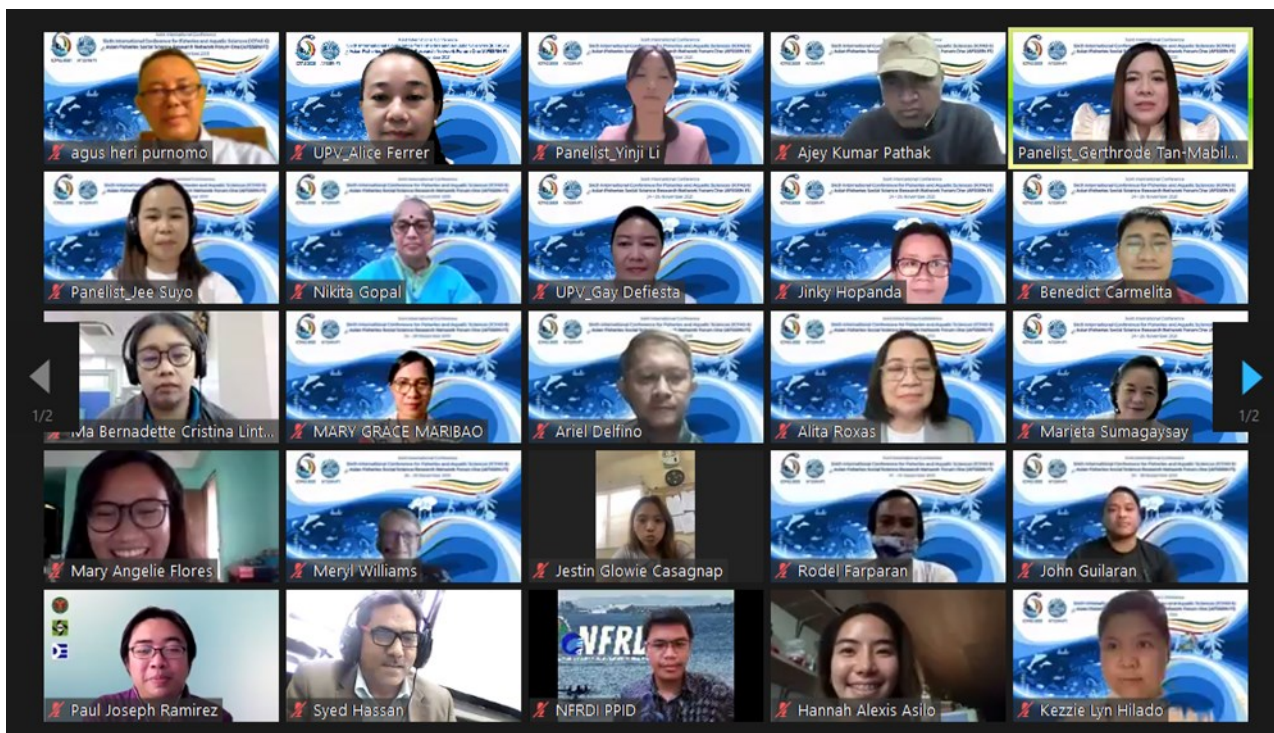
Visit the conference website at icfas.upv.edu.ph. The conference video is also available in the conference website. #. (Alice Joan G. Ferrer)



Dr. Robert Pomeroy, keynote speaker, addressing the participants during the Social Scientist Assembly in ICFAS 6 and AFSSRN F1



The Social Scientist Panelists and moderator during the panel discussion in the Social Scientists Assembly.



Session participants (a portion)

AFSSRN Elects Executive Council under the 2019 Bylaws

The Asian Fisheries Social Science Research Network (AFSSRN) conducted an online voting to elect nine members of the AFSSRN First Executive Council under the 2019 Bylaws last November 20 to 22, 2021. The results of the online voting were announced by Dr. Alita Roxas, chair of the Nomination and Election Committee, during the AFSSRN Assembly that followed the Social Scientist Assembly on 24 November 2021 during joint international conference of ICFAS 6 and AFSSRN F1 held on 24-26 November 2021.

The announcement was followed by the first meeting of the newly elected members of the Executive Council. During the meeting, the elected members selected among themselves the officers of the different positions. The result is below:

Executive Council of AFSSRN (2022-2025)

Position	Name	Country
Chair	Dr. Marietta Sumagaysay	Philippines
Vice Chair	Dr. Nikita Gopal	India
Secretary	Dr. Gay Defiesta	Philippines
Treasurer	Dr. ZarirahZulperi	Malaysia
Member	Paul Joseph Ramirez	Philippines
Member	Dr. Neha Qureshi	India
Member	Dr. Kripa Vasanth	India
Member	Benedict Mark Carmelita	Philippines
Member	Dr. Armen Zulham	Indonesia

Prof. Dr. Alice Joan G. Ferrer, chair of AFSSRN Interim Executive Council (2018-2022) automatically joins the AFSSRN Executive Council as the Immediate Past Chair.

The call for nomination was posted starting August 26, 2021 on the Asian Fisheries Society website and information on the call was sent via email to all AFS members. Deadline of submission of nomination forms was set on September 26, 2021 but was extended until October 4, 2021.

Dr. Alita Roxas was joined in the Nomination and Election Committee by Ms. Jinky Hopanda, AFSSRN officer and Mr. Joey Pedrajas, AFSSRN member. #. (Alice Joan Ferrer and Benedict Mark Carmelita).

Asian Fisheries Society Indian Branch (AFSIB)

AFSIB initiated a webinar series in collaboration with ICAR - Central Marine Fisheries Research Institute (CMFRI), with the active participation of its Scientists. The webinars were mainly targeted at Fisheries Students. The following lectures were delivered during July-December, 2021.

1. Advances in tropical multispecies fish stock assessment with emphasis on EAFM by Dr. E. Vivekanandan
2. Prevalence of antimicrobial resistance (AMR) in fisheries/aquaculture sector by Dr. S.R. Krupesh Sharma
3. Insect protein-an alternative avenue for replacement of fishmeal by Dr. P. Vijayagopal
4. Genome editing through CRISPER-CAS by Dr. Sandhya Sukumaran
5. RAS and biofloc in aquaculture by Dr. Shubhadeep Ghosh
6. Nutraceuticals/Bioactive molecules from Indian seaweeds by Dr. Kajal Chakraborty

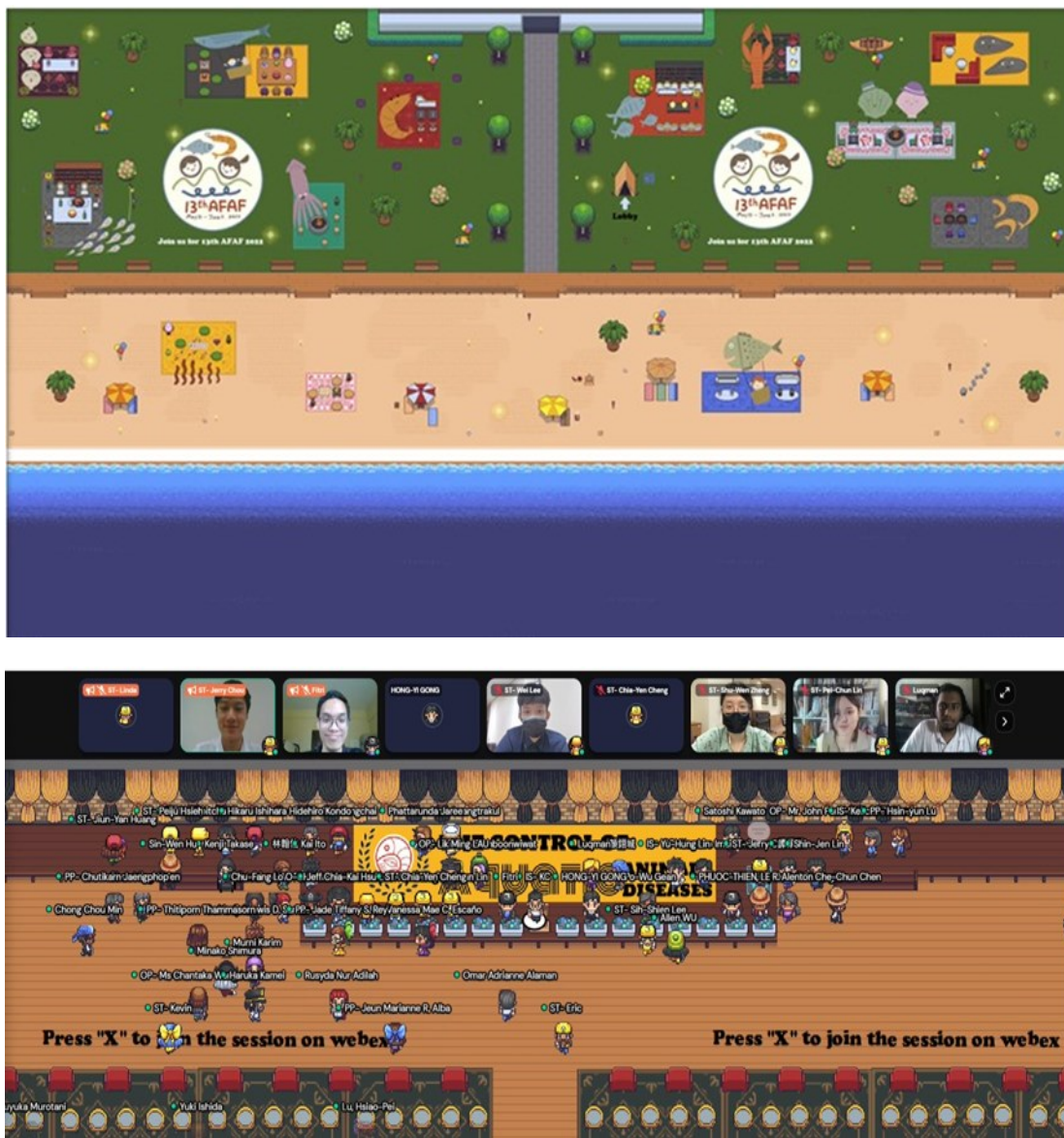
Asian Fisheries Society Taiwan Branch (AFSTB)

Mud crab (*Scylla serrata*) is one of the most popular seafood in Taiwan. Due to the depletion of natural resources in the ocean, the amount of fished or farming mud crab have dropped sharply in recent years. It took six years for Fisheries Research Institute of Taiwan to finally establish the complete aquaculture technique of mud crab. From the FAO data, it can be observed that the global production of marine crabs have continued to rise, especially the aquaculture production has almost doubled in the last 14 years. At present, the technical bottleneck of complete aquaculture of mud crab is that the survival rate from hatching to juvenile crabs is only 0.5%. The highest survival rate in the world is only around 2%. The goal of Fisheries Research Institute of Taiwan is to increase the survival rate to 5% in 3 to 5 years. In the future, the establishment of mud crab complete aquaculture technology will not only meet the needs of the market, but also protect the natural resources of mud crab from further depletion.



Photo adopted from web page of Fisheries Research Institute of Taiwan (https://www.tfrin.gov.tw/News_Content.aspx?n=241&sms=9046&s=238276#lg=1&slide=5)

3rd International Control of Aquatic Animal Diseases (CAAD) Symposium held on 10th September 2021. Due to the pandemic of COVID-19, this conference were moved to a virtual platform. More than 160 participants from 15 countries were all satisfied and amused by the virtual experience on Gather Town system, where people can interact and discuss with each other with their avatar. After the successful test of the new internet conference system, the upcoming 13th AFAF will also use the same system. The 13th AFAF will be held on May 31 to June 2, 2022. The abstract submission is open until Jan 15, 2022. Please register for the conference as soon as possible and sponsors are welcome! The official web page of the 13th AFAF is “<https://13afaf.tw/index.php>”



Picture provided by Prof. Han-Ching Wang

13th Asian Fisheries and Aquaculture Forum (13AFAF)

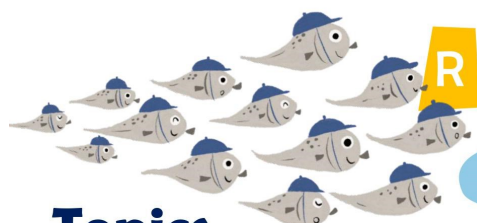


13th Asian Fisheries and Aquaculture Forum



Early bird registration and Abstract submission
- DEADLINE EXTENDED -

~~Jan. 15, 2022~~ **Feb. 10, 2022** Deadline for Abstract Submission
~~Jan. 15, 2022~~ **Feb. 10, 2022** Deadline for Early Bird Registration



Register Now!!

<https://13afaf.tw/>

Topics

1. Fisheries
2. Ornamental fisheries
3. Aquaculture diseases and health management
4. Seaweed, microalgae, live feed and nutrition
5. Gender equality in fisheries and aquaculture
6. Breeding programs and genetic biotechnology applied to aquatic animals
7. Artificial intelligence, aquaponics and solar power/aquaculture synergies
8. Climate resilience & environmental management of fisheries and aquaculture
9. Fisheries policy and governance

Registration Fees

Registration Type		Active AF5 members		Non AF5 members	
		Early Bird	General	Early Bird	General
Overseas	Regular	USD 90	USD 135	USD 135	USD 225
	Student	USD 45	USD 70	USD 70	USD 135
Local	Regular	NTD 1800	NTD 2700	NTD 3150	NTD 4500
	Student	NTD 900	NTD 1350	NTD 1350	NTD 2025



13th AF AF Office will be closed for 2022 Chinese New Year Holidays from Jan. 31 - Feb. 6, 2022



Organized by



國立成功大學
National Cheng Kung University



Co-organized by



前瞻蝦類養殖國際研發中心
International Center for the Scientific Development of Shrimp Aquaculture



BUKHAU OF ANIMAL AND PLANT HEALTH
INSPECTION AND QUARANTINE
COUNCIL OF AGRICULTURE, EXECUTIVE YUAN

4th International Symposium on Aquaculture and Fisheries Education (ISAFE4)

The International Symposium on Aquaculture and Fisheries Education (ISAFE) focuses on the status and development of aquaculture and fisheries education in the Asia-Pacific region. The 4th symposium (ISAFE4), a triennial event of the Asian Fisheries Society (AFS), is being organized by the National Pingtung University of Science and Technology (NPUST) and Asian Fisheries Society, Taiwan Branch in collaboration with Ministry of Education of Taiwan during 17-18 July, 2022. The Symposium was postponed from May 2021 due to the epidemic COVID-19, and the type is changed to virtual meeting. The website and registration system will be on-line on 15 January, 2022.

OBITUARY



Fish Breeding Pioneer - Professor Trygve Gjedrem (1928 – 2021)

It is with great sadness that the Aquaculture R&D community in Asia – Pacific region learned of the passing of Professor Trygve Gjedrem in Norway on July 21, 2021. Tributes to the beloved iconic figure have been flooding in. On 25 November 2021 in India, the Central Institute of Freshwater Aquaculture of the Indian Council of Agricultural Research (ICAR – CIFA) was one of the first national institutes in the region to convene, in tribute to the legend, a National Conference on “*Selective Breeding for Sustainable Growth of Aquaculture and way forward*”.

With his passing, we have indeed lost a dedicated scientist, a mentor and above all a great teacher. My long association with Trygve and his colleagues Terje Refstie, Hans Bentsen and Bjarne Gjerde, spanning over three decades, began in November 1987 in Norway, during the designing of the GIFT project implementation plan. This meeting was organized and led by Dr. Roger Pullin, Aquaculture Program Director at ICLARM, and was attended by the then ICLARM Director General (late Ian Smith), and Dr Raffy Guerrero III and Mr. Melchor Tayamen, both from the Philippines. In several ways, November 1987 marked the beginning of a new era in Fish Genetics and Breeding in Asia when Trygve accepted the role of a mentor assigned to him by Mr. Tim Rothermel of the United Nations Development Program – Division of the Global and Interregional Programmes (UNDP/DGIP). The initial strategic results from the GIFT project encouraged UNDP/DGIP to invest significant funding for the GIFT project and also to establish an International Network on Genetics in Aquaculture (INGA) involving about 13 national institutes in Africa and the Asia – Pacific region.

Prof Trygve Gjedrem will be remembered for his commitment to establishing National Fish Breeding Programs in several countries, especially farmers-owned and operated cooperative breeding programs. His pioneering efforts to establish the first ever National Fish Breeding Program in Norway for Salmon in 1970s has been a practical working model for a number of tropical aquatic species that followed. Trygve established AKVAFORSK (now NOFIMA) as the global hub for developing tools and techniques for rapid domestication and genetic improvement of aquatic species worldwide. The brilliant young scientists assembled in NOFIMA by Trygve – ‘the apostles of fish genetics and breeding’ - have carried the relay baton forward to establish national breeding programs worldwide. Trygve’s career included many iconic roles nationally and internationally and his life is a testament to the over 100 fish breeding programs worldwide covering about 28 fish species. Trygve, along with several prominent pioneers in the field of fish genetics and breeding, established the International Association for Genetics in Aquaculture (IAGA) for convening triennially a global forum on fish genetics and breeding.

Trygve was christened the ‘POPE’ with lot of love and affection by the farmers and scientists not only because of his close resemblance to Pope John Paul II, but because of his sincere kindness, love and concern for fellow beings, especially small-scale resource-poor farmers in tropical developing countries in Asia and Africa.

Trygve will be missed!

Rest in Peace Prof. Trygve ‘POPE’ Gjedrem

Contributed by: Ambekar E Eknath

ARTICLES

Paraoir: Home of Diverse Species

The Philippines is located in the so called “Coral Triangle,” an area recognized as the world’s center of marine biodiversity due to the plenitude of marine resources in the area. It was also observed that it has more marine species per unit area than anywhere else, hence considered the “center of the center” of marine biodiversity.

To have a standardized and continuous information on these fishery resources and evaluate the status of capture fisheries sector, the National Stock Assessment Program (NSAP) was conceptualized. NSAP is responsible in monitoring landed catch and effort in major and minor fish landing centers to gather fish catch landings that is vital in determining the status of fish stocks fundamental to science-based fisheries management, formulation of policies, plans and strategies for sustainable fisheries.

As of 2021, there are 50 monitored NSAP landing sites in region 1. Out of these, Paraoir, Balaoan is one of the most diverse landing sites in Ilocos Region. Paraoir is situated near the shorelines of the West Philippine Sea and has been previously recognized as one of the model barangays in Balaoan (Figure 1). It is known for its tourist attractions (Immuki Island) and seafood products (sea urchin, seaweed, etc.).



Figure 1. Paraoir, Balaoan landing center.

From 2014-2020, a total landed catch of 227.14 metric tons (MT) was recorded. There are 194 species belonging to 44 families of fish. The landed fishes were composed of 26 families with 140 species of fish found or lives on or near the bottom part of the water column; nine families with 24 species of fish found at the upper portion of the sea; four families of invertebrates (with no backbone) with five species; siganus fry (padas); five families of small pelagics with 16 species; one family with one species of tuna which is neritic (shallow part of the ocean approximately 200 meters in depth); four families of other large pelagics; two tuna families with two species which are oceanic (water depths drop to below 200 meters); and one family of ray (pagi) with one species. Demersal species accounted 36.21% of the total catch, pelagic species of 20.48%, invertebrates of 15.83%, siganus fry of 12.24%, small pelagics of 6.69%, neritic tuna of 5.21%, other large pelagics of 1.98%, oceanic tuna of 1.18%, and rays of 0.18%.

Eleven fishing gears were identified in the area: spear gun, spear gun with compressor, beach seine, floating handline, handline, encircling gillnet, bottom set gillnet, multiple hook and line, scoop net, troll line, and bottom set longline. Forty-eight percent (48%) of the catch was contributed by spear gun, followed by spear gun with compressor with 17%, beach seine with 12%, and the remaining fishing gears shared 40%.

In terms of bulkiness, Belonidae (needle fish/long tom) dominated with 39.22 MT or 17.27%, followed by Siganidae (rabbitfishes) with 35.86 MT (15.79%), Acanthuridae (surgeonfishes, tangs, and unicornfishes) with 23.45 MT (10.32%), Octopodidae (octopuses) with 17.66 MT (7.77%), Scombridae (mackerels, tunas, and bonitos) with 16.62 MT (7.32%), Sepiidae (cuttlefishes) with 13.96 MT (6.14%), Scaridae (parrotfishes) with 10.30 MT (4.53%), Carangidae (jacks, scads) with 10.01 MT (4.41%), Serranidae (sea basses and groupers) with 7.23 MT (3.18%), Kyphosidae (sea chubs) with 6.96 MT (3.06%), and other families comprised 45.87 MT or 20.20% of the total catch.

Highest number of species was accounted from the family Acanthuridae with 25 fish species, followed by Serranidae with 16 species, Carangidae with 12 species, and Mullidae with 11 species. There were 10 species each from the families of Lutjanidae, Scaridae, and Siganidae, nine from Scombridae, eight from Lethrinidae, seven each from Caesionidae and Labridae, six each from Haemulidae and Nemipteridae, five each from Holocentridae and Muraenidae, and the rest of the families have 4 species and below.

Indeed, the numerosity of the demersal fish species found in Paraoir, Balaoan, La Union reflects how healthy the coralline habitat status is. The corrals, seaweeds, and seagrass are abundant which serve as shelter, food, spawning and rearing ground for a lot of fish in the area. Likewise, the presence of mangroves planted by the residents, provided by Bureau of Fisheries and Aquatic Resources (BFAR) Region I, creates additional advantages - buffer zone, etc.

The fisheries resources contribute a lot to income, employment, and nutrition of the resident fishers of Paraoir, Balaoan. With its vast number of fish species and other fishery resources, conservation and management measures for these resources is imperative to sustain its fisheries diversity. Moreover, information dissemination on the fishery laws and regulations to the fishers must be conducted. Fish responsibly, to attain fisheries sustainability!

Contributed By: Maureen Laroco

Practical Approach to Boost Tilapia Production from Lakes in Malaysia

Background

There are about 90 lakes or locally called, tasik, in Malaysia which cover an area of about 1,040 km². Some of them are natural, while many others are man-made for numerous purposes such as flood mitigation, hydropower generation, water supply and irrigation. Some lakes have water depths of up to 30 metres, while others are only around 1 to 2 metres in depth. Large man-made lakes like Tasik Kenyir in Terengganu, Tasik Temenggong and Tasik Chenderoh in Perak and Tasik Timah Tasoh in Perlis provide ample space for fish production.

According to some reports, only 3% of water-bodies in Malaysia are used for fish production. The latest data from Department of Fisheries indicates that the total production of freshwater fish from 3,219 ha water-bodies is around 19,552 tonnes. This production mainly comes from three culture systems: culture in cages, mining pools and pens. If aquaculture activities can be undertaken in 10% area of water-bodies, it may result in approximately 65,000 tonnes of fish, or a 3.3% increment from the current aquaculture production.

Factors affecting low fish productivity

There are a number of concerns regarding aquaculture development in natural or man-made lakes in Malaysia. Among them are the remote location and accessibility to the operational area of the lake, high mortality during transportation of fry/fingerlings from hatcheries to lake area; handling of fry/fingerlings during and after transportation, etc. Reports indicate that 50% fry usually die during transportation and handling. This is common especially when the cage operators purchase small fish in order to get lower price. The transportation of seed and fry from outside has also been associated with disease outbreaks particularly in Tasik Kenyir. All these factors lead to low productivity from the lakes.

Apart from the external factors, primary production in the lakes is low due to lack of nutrient and stagnant water. Despite the fact that most of the lakes have many rivers flowing through them, most of them have minimal water movement compared to a free-flowing river due to the size of the lake. For example in Sg Como, Tasik Kenyir, water currents were not detected beyond 10 metres and the wind speed was only 0.5-2.0 m/s. The water flow is not adequate to provide optimum oxygen level.

Besides that, eutrophication, inorganic pollution, sedimentation and siltation, over-exploitation, loss of biodiversity, habitat alteration, aquatic plant infestation, and invasive imported species are also major environmental challenges that affect lakes ecosystem.

Case study in Sg Como, Tasik Kenyir

Sg.Como Tasik Kenyir in Terengganu is the biggest man-made lake in the region with a surface area of 38,000 ha and was constructed mainly for electricity generation. Sg. Como has been identified as the Aquaculture Industry Zone. The maximum depth of Sg. Como was recorded at 30 meters. While the area allocated for aquaculture is large, only 10% of the area is presently being utilised. Up to 2,000 cages were erected by the government to enhance the production of freshwater fish initially. However, at present only 1,200 cages are in good condition. The fish production from aquaculture in Sg. Como reached up to 74,522 kg in 2020 compared to 92,195 kg in 2019 (unpublished data) with hybrid red tilapia (*Oreochromis* sp.), baung (*Hemibagrus* sp.) and patin (*Pangasius* sp.) as main species cultured. When compared to the area allocated for fish production, production in Sg. Como seems to be excessively low. If the production in Sg. Como could be optimized, it may contribute significantly to the total aquaculture production in Malaysia.

To overcome high mortality while transportation of fry/fingerlings over long-distances from hatcheries to lake site, a complete system/technology that allows red tilapia to breed and nurse in cages in the lake has been developed and mastered over years by FRI Glami Lemi, Negeri Sembilan, . The system is adopted by a private farmer in Tasik Kenyir. With continuous technical support from FRI Glami Lemi and full cooperation of the farmer, the endeavour has shown some successful results. This approach allows the farmers to produce their own fish seed to avoid losses during transportation and attain higher survival in culture operations. Several FRI Glami Lemi innovations such as tilapia scheduled-breeding, floating nursery tank (TAT) and mobile tilapia eggs incubator (TEI) are being applied by farmers in Sg. Como..

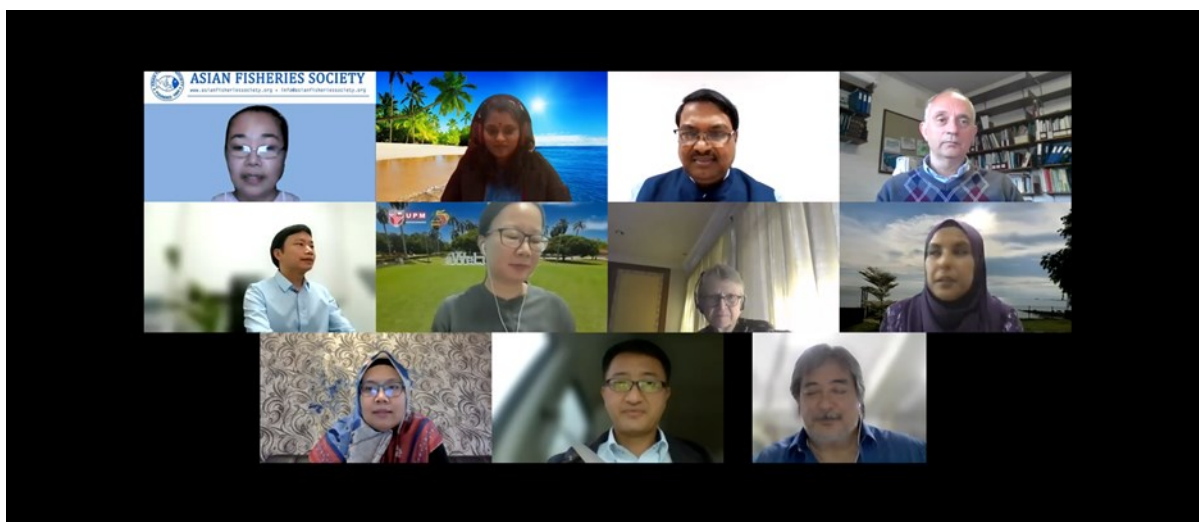
The breeding activities were carried out in hapas that have smaller mesh size to prevent eggs from getting lost during the fertilization process. Half of the farmers's cages are converted to a breeding facilities, which includes broodstock hapa, TAT as a nursery cage (for 2 weeks or until it reaches 0.5-inch fry) and nursery hapa (for 3-inch size). Shades are used to remedy the water clarity through roof top structure or simply an orchid net to cover the cage's opening. This reduces light penetration up to 70%. Another option is to include floating plants on top of the cage to make it look like an island. Fishes use the mats of these plants as covers and the shade for reproduction. Another option is to pump cooler water from 15 to 20 feet below the cage to the surface especially during hot season. On the other hand, inadequate water flow could be overcome with aeration through a blower or a wave maker. However, this requires electrical supply or generator which will increase operational costs.

Currently, tilapia production in these cages is around 3 kg/m³. This is due to the low stocking density (800 fish/cage or 7 fish/m³) with an estimated survival rate of 80%. If the stocking density is doubled after aeration, 640 kg/cage or 6 kg/m³ could be produced. With 1,000 cages available at Tasik Kenyir, production can be increased to 640 tonnes/cycle, an increase of nearly 8.5 times over 2020 production.

Contributed by: Siti Norita Mohamad, Noor Faizah Ismail & Wan Norhana Md Noordin Fisheries Research Institute, Malaysia.

AFS SECRETARIAT NEWS

The Asian Fisheries Society 59th Council meeting was held on Wednesday, 27th October 2021 using online platform. During the meeting, 12 councillors from respective countries, Chair of Gender in Aquaculture & Fisheries Section, Secretary/Treasurer of Fish Health Section (FHS) and an Editor of Asian Fisheries Science Journal were participated.



AFS-KANAZAWA RESEARCH FELLOWSHIPS

The AFS is offering awards up to US\$5,000 (research fund) to successful applicants to support their doctoral degree research and present a paper (if applicable) and send a progress report to the Fund's Committee of the ongoing research study.

Eligibility for the Grant:

Any student who is undertaking research for his/her/their doctoral degree in any aspect of fisheries and aquaculture is eligible to apply for the grant; The applicant should be from one of the countries in Asia Pasific; The applicant should not be over the age of 35 years; and The applicant should have been registered with one of the Universities in Asia-Pacific and undertaking research in any aspect of fisheries and aquaculture.

Deadline for submission: **27th February 2022**

For more details, please visit AFS website (asianfisheriessociety.org)

Membership Account

Letter for renewal of membership and Permanent Active Member were issued using email to AFS members who haven't renewed their membership fees. All the members were advised to make the payment using PayPal or Telegraphic Transfer (TT).

The username and password were remained as below:

Username: ID Number **password: afs@123**

NEWS

Bangladesh strengthens research to boost Hilsa production

The Bangladesh government has strengthened the research on Hilsa, the national fish of the country, to increase its production. Production of Hilsa is increasing every year and the country earns huge money by exporting the fish after meeting the domestic demand, said at a Hilsa research ship handover ceremony on Khulna Shipyard Ltd premises. Bangladesh Fisheries Research Institute (BFRI) is undertaking research for the sustainable development of country's Hilsa resource.

The Hilsa research ship will play a vital role to enhance Hilsa production, new loitering and breeding area identification, netting and storing, he said.

Under the Hilsha Research Strengthening Programme at Chandpur River, Bangladesh Fisheries Research Institute (BFRI) implemented the project. The Hilsa research ship has modern equipment and technology, portable mini hatchery, netting system, a research laboratory, fish finder, echo sounder, navigation, modern telecommunication and fire control system.

<https://thefinancialexpress.com.bd/national/bangladesh-strengthens-research-to-boost-hilsha-production-says-minister-1641297457>

Enzootic Genetics & Innovation and NRGene to launch all-female post-larvae

Freshwater shrimp farmers will soon have the option of purchasing all-female postlarvae (PL), juveniles and broodstock with a genomic sequence that gives them greater disease resistance, better food conversion rates and faster growth rates.

Enzootic Genetics & Innovation, a Singapore-based company, recently built a hatchery in Thailand where it hopes to produce 460 million PLs each year. This year the company is growing freshwater shrimp (*Macrobrachium rosenbergii*) in demonstration ponds to help farmers understand the differences between their current practices and the results they can expect with all-female populations supplied by Enzootic. But by 2022 the company plans to be selling directly to farmers, at prices equal to what they're paying now.

In 2018 Enzootic approached Israel-based NRGene, which provides tools to optimize and accelerate the breeding programs for global agriculture, seed and food companies. Its goal was to have NRGene tap into the sexual plasticity of freshwater shrimp and to find the gender switch whereby shrimp can switch from being male to female.

Source:

https://www.globalseafood.org/advocate/genomics-and-feed-teams-take-aim-at-improving-freshwater-prawn-aquaculture/?utm_campaign=The%20Advocate&utm_medium=email&_hsmi=198256300&_hsenc=p2ANqtz-9tJjCHtWbPi1CIQf9wDzRzG9kY7isaQFDQz5X3gfWkJumFFD9nF7Kd80_tQWP-tY_0H1qZs71F7plzWHgQg9bE81qOPQ&utm_content=198256300&utm_source=hs_email

Sustainable model aquaculture could feed the world - ILO

The lessons learnt from the COVID-19 crisis should encourage reforms towards a more sustainable and resilient aquaculture sector and food systems at large. Harnessing aquaculture's potential to effectively contribute to feeding the world's growing population in the decades to come will require concerted efforts to promote sustainable enterprises and decent work for its workforce. These are among the main conclusions of the Technical meeting on the future of work in aquaculture in the context of the rural economy (13-17 December 2021) that brought together representatives from governments, employers and workers at the ILO to discuss the decent work challenges and opportunities in the aquaculture sector.

In recent decades aquaculture has made important contributions to reducing poverty and hunger in many impoverished rural communities. It remains an important source of livelihoods and food for many rural workers today. At least 20.5 million people work in primary aquaculture production. Many more are engaged along the aquaculture supply chain. The impact of the COVID-19 pandemic has been felt by both businesses and workers in the sector. Workers, especially in processing, have been at heightened risk of exposure to the virus, with the long working hours in close quarters and low temperatures. Businesses have struggled to remain viable, which has been reflected in reduced working hours or lay-offs, impacting the livelihood of workers and their families. The lessons learnt from the crisis should encourage reforms towards more sustainable and resilient aquaculture and food systems more generally.

"Coherent policy frameworks should be created that focus on sustainable enterprise development and productivity improvements, the promotion of inclusive labour markets, skills development and adequate social dialogue mechanisms which involve Employers' federations. All these elements will drive and enable the future growth of the sector," said Employers' group Vice-Chair, Henrik Munthe. The meeting adopted conclusions that will assist governments, workers and employers to take measures to tap the potential of the sector to support full and productive employment and decent work for all, so contributing to food and nutrition security and making sure that no one is left behind.

Source: https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_832542/lang-en/index.htm

ADB to spend \$100 million on Sustainable Coastal and Marine Fisheries Project

The Asian Development Bank (ADB) plans to spend \$100 million on a new "Sustainable Coastal and Marine Fisheries Project" which is expected to be approved next year. \$60 million of the project's financing would come from ADB – a \$50 million loan and \$10 million grant – \$10 million from the ASEAN Infrastructure Fund and \$30 million concessional loan from Agence Francaise de Developpement (AFD), the development arm of the French government.

The project would help the fisheries sector to prop up adaptation and mitigation measures specifically tailored to each coastal and marine ecosystem, enhance climate-resilient post-harvest infrastructure, and bolster investment in safe and sustainable value chains as well as financing for marine fisheries management.

"The ADB-launched project aims to utilise the potential of the Cambodian coast, which is more than 445km long, for sustainable benefits for both fisheries and ecotourism,".

Source: <https://www.phnompenhpost.com/business/adb-plans-dole-out-100-million-marine-fisheries-development>

Minderoo Foundation's findings are a 'wake-up call' to set 'ambitious' targets to curb overfishing, but some experts question its conclusions

The decline in global fish populations is “far worse” than previously estimated, according to a new study from the Minderoo Foundation – an independent philanthropic organization in Australia that seeks “effective, scalable solutions.” The Global Fishing Index (GFI) is the largest independent assessment of global fish stocks to date, involving more than 500 fisheries experts globally. It's the first in an ongoing study that will measure country-level progress towards the global target set by the United Nations, which aims to effectively manage fisheries, end overfishing and restore fish stocks to sustainable levels.

GFI found that nearly 50 percent of global fish stocks have been depleted to less than 40 percent of their pre-fishing population. This finding is considerably higher than the previous global estimate of 34 percent. “Half of the world's assessed fish stocks are overfished and nearly 10 percent are on the point of collapse – threatening not only ocean ecosystems but also the livelihoods and food security of millions of people,” said Dr. Andrew Forrest, Chairman of the Minderoo Foundation. “Our Global Fishing Index is a wake-up call to governments and businesses around the world.”

Data from the GFI report indicates that the commitment from global leaders to achieve that goal by 2020 is “still far from being met.” Evaluating governance and sustainability of fisheries in 142 coastal states, the GFI reveals critical gaps leading to overfishing and calls for governments and industry to act. However, some experts disagree with the study's findings, poking holes in the allegedly problematic methodology and definition of “overfished.”

Source: https://www.globalseafood.org/advocate/newly-established-global-fishing-index-says-nearly-half-of-global-fish-stocks-overfished-but-is-it-right/?utm_campaign=The%20Advocate&utm_medium=email&hsmi=192263419&hsenc=p2ANqtz-84CaHeiZAMuuV_8ZXYjCg-gDBEPI-QulgOh5SEP7T527OD-BIA_jpvnUDZauFAQE7seveyTxwLF25pnY_AVHpau6hoOA&utm_content=192263419&utm_source=hs_email

Philippines, Korea expands pact on fisheries cooperation

MANILA – The Philippines and South Korea signed a memorandum of understanding (MOU) to formalize the arrangement that will ensure the food safety of fish and fishery product exports.

With the proposed strategic areas for partnership, the Philippines would be able to improve the reliability of its exports for octopus, eels, and other high value species anchored on traceability and catch documentation systems. DA-BFAR said the new partnership will likewise strengthen international cooperation and the development of a platform and framework for Korean and Filipino experts to engage in technical consultation and discussions on issues concerning seafood trade, trading sectors, technology transfer, and innovation.

The cooperation also seeks to strengthen capture fisheries and aquaculture through technology adoption and development, including postharvest, product value-adding, trade, and coastal and marine fishery management; facilitate the exchange of experiences, information, technologies, and expertise; and facilitate the promotion of fisheries trade and business investments between Korea and the Philippines.

Source: <https://www.pna.gov.ph/articles/1163273>

Philippino Fisherman Receives Ramon Magsaysay Award

Four individuals and an organization, among them a Filipino - Roberto “Ka Dodoy” Ballon, a fisherman and community environmentalist from Zamboanga Sibugay, were recipients of prestigious Ramon Magsaysay Award—Asia’s equivalent of the Nobel Prize. Ballon has been recognized for “his inspiring determination in leading his fellow fisherfolk to revive a dying fishing industry by creating a sustainable marine environment for this generation and generations to come, and his shining example of how everyday acts of heroism can truly be extraordinary and transformative.”

Source: <https://mb.com.ph/2021/11/30/pinoy-fisherman-among-asian-heroes-feted-with-ramon-magsaysay-award/>

Kiribati to open one of world’s largest marine protected areas to commercial fishing

The Kiribati government has announced it will open up one of the world’s largest marine protected areas to commercial fishing, citing economic benefits to its people. The Phoenix Islands Protected Area (PIPA) spans 408,250 sq km (157,626 sq miles) – an area about the size of California – and was created in 2006 with the entire area declared a “no-take” zone in 2015, meaning that commercial fishing is forbidden.

Kiribati, a collection of islands in the central Pacific and which has an EEZ larger than the size of India, catches 700,000 tonnes a year of tuna. More tuna is caught in Kiribati’s waters than in the waters of any other nation in the world. In a press statement issued on Monday, the office of the president of the Kiribati government confirmed it was opening the protected zone citing the huge economic cost to Kiribati, a developing nation, of the ban.

Read more:

<https://www.theguardian.com/world/2021/nov/16/kiribati-to-open-one-of-worlds-largest-marine-protected-areas-to-commercial-fishing>

Women hardest hit and least heard, delegates from Global South tell COP26

Feminist activists and leaders from around the globe ascended the stage at COP26 to say there is no climate justice without addressing gender equity and human rights for women. Wearing red masks in solidarity with their Indigenous sisters, climate activists spanning the Global South talked to a packed venue about the successes, struggles and what real climate justice must look like during a public event hosted Monday evening by the Women and Gender Constituency, a stakeholder group with the United Nations Framework Convention on Climate Change (UNFCCC). Moderator and international human rights lawyer Kavita Naidu launched the panel by acknowledging that many climate activists were absent at the UN climate conference taking place in Glasgow, Scotland.

Many have lost their lives fighting for climate justice, or face the risk of persecution or kidnapping at home, she said. And innumerable other members from the movement couldn’t attend due to stumbling blocks created by immigration rules, visas and other challenges posed by the pandemic.

Source: <https://www.nationalobserver.com/2021/11/03/news/women-hardest-hit-and-least-heard-delegates-global-south-tell-cop26>

Act now to stamp out child labour by 2025: FAO chief

Effective action and strong leadership are essential to end child labour by 2025, the head of the Food and Agriculture Organization (FAO) said.

Some 160 million boys and girls worldwide, almost one in 10, are forced into work. The majority, 112 million, or around 70 per cent, work in crop production, livestock, forestry, fisheries and aquaculture. But with the 2025 deadline fast approaching, Mr. Qu stressed that effective action and “strong and coherent leadership from agri-food stakeholders across the globe, is critical”. Child labour is a serious violation of human rights, FAO explained. It deprives boys and girls of their childhood, their potential and dignity, while also being harmful to their physical and mental development. Although not all work carried out by children is considered child labour, much of it is not age-appropriate, the agency said, and many vulnerable families, especially in rural areas, have no choice.

Contributing factors include low family incomes, few livelihood alternatives, limited access to education, inadequate labour-saving technologies, and traditional attitudes surrounding children’s participation in agriculture. The [COVID-19](#) pandemic has added to these issues.

Source: <https://news.un.org/en/story/2021/11/1104632>

Thailand intensifies suppression of illegal fishing

Deputy Prime Minister Gen Prawit Wongsuwan has directed the Department of Fisheries to step up the suppression of illegal fishing while providing compensation for unregistered fishing vessels that have not violated the law. He urged all subcommittees to expedite and follow up on the operations, and to collaborate their efforts in solving IUU fishing, as well as providing aid to affected stakeholders. A total budget of 490 million baht has been set aside for this purpose.

Further, he has ordered the Department of Fisheries to gather information on issues faced by fishermen at each location and to regularly report their findings to the national committee. Gen Prawit then asked the department to streamline the processes of prosecution overseen by the Fisheries Monitoring Center and to work more closely with the Royal Thai Police. The committee in this meeting acknowledged the progress made on the mitigation of impacts from fisheries against marine animals, as well as the efforts made to address the withdrawal of vessels from the monitoring system.

Source: <https://www.pattayamail.com/thailandnews/thailand-intensifies-suppression-of-illegal-fishing-378043>

COVID-19 and impact on Small-fisheries and fishers

Small-scale fishers, fish workers and their communities are currently facing the threat of the COVID-19 pandemic which is affecting the entire value chain and the livelihoods depending on it. At the same time, there may be promising practices and opportunities that may contribute to the prosperous future of the sector. Some examples of initiatives in support of small-scale fisheries during the COVID-19 crisis is given in the document (<http://www.fao.org/3/ca8959en/ca8959en.pdf>) to facilitate information and experience sharing. This information is updated every week. FAO requests all to share information and related web links on other relevant initiatives on COVID-19 and small-scale fisheries with us: SSF-Guidelines@fao.org.

Source: <http://www.fao.org/3/ca8959en/ca8959en.pdf>

BioMar reports microalgae in feeds

BioMar has produced over 1 million tonnes of aquafeeds that contain microalgae, rather than fish oil, as the major source of omega-3 oils. “By including microalgae in aquaculture feed diets, we can bypass the wild fish stocks and go straight to the original source of essential omega-3s. This helps to relieve pressure on our oceans while ensuring that the fish are getting the optimal nutrition required,” said Vidar Gundersen, global sustainability director at BioMar Group, in a press release.

The innovation process began back in 2013 with the first microalgae, AlgaPrime in commercial salmon feeds realised during 2016. The first movers were Kvarøy Fiskeoppdrett, with Blue Circle and Whole Foods, and Scottish Sea Farms with Marks & Spencer. Not long after Ventisqueros (in their coho silverside) and Lerøy (in their Atlantic salmon) adopted microalgae in their diets. These higher volumes help it achieve commercial viability and today, the inclusion of microalgae is becoming more common in BioMar salmon feeds.

Source: <https://thefishsite.com/articles/aquafeed-giant-reports-microalgal-milestone>

NEW PUBLICATIONS

Women in Fisheries information bulletin



This 34th edition of Pacific Community bulletin has 17 articles and can be downloaded from:

<https://spccfpstore1.blob.core.windows.net/digitallibrary-docs/files/4a/4a1d07671547f0abc9db314723639a67.pdf?sv=2015-12-11&sr=b&sig=JuaD1GHoz5cQEojBLfCfML%2FBFgzF4dd2qYK9mCnUbU8%3D&se=2022-03-03T11%3A34%3A18Z&sp=r&rsc=public%2C%20max-age%3D864000%2C%20max-stale%3D86400&rsct=application%2Fpdf&rscd=inline%3B%20filename%3D%22WIF34.pdf%22>

Seaweeds and Microalgae: An overview for unlocking their potential in global Aquaculture Development



This publication can be downloaded from: http://www.fao.org/3/cb5670en/cb5670en.pdf?utm_source=GLOBEFISH+Newsletter&utm_campaign=bfc5b8bd0-EMAIL_CAMPAIGN_2017_11_29_COPY_01&utm_medium=email&utm_term=0_30087880c0-bfc5b8bd0-608056118

Summary report of IUCN World Conservation Congress 2020

In a world emerging from the COVID-19 pandemic, the International Union for Conservation of Nature (IUCN) World Conservation Congress successfully highlighted the dual existential crises the planet faces: climate change and biodiversity collapse. The Congress, the first major environmental event to be held in a hybrid (in-person and virtual) format, attracted around 6000 registered, onsite participants, in Marseille, France, and 3,500 online participants. It drew significant political attention, in advance of important meetings under the UN Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD) to be held in the coming months. In addition to the decisions taken during the Congress, 109 resolutions and recommendations were adopted through electronic vote by the IUCN Membership in October 2020.

For details visit: https://enb.iisd.org/sites/default/files/2021-09/iucn_congress_2020_bulletin_summary.pdf

GLOBEFISH Trade Statistics



The GLOBEFISH Trade Statistics focus on trends in trade flows for the major product groups and most important traders using the most recently available data. Data is sourced from the relevant trade statistics agency of the respective reporting country or territory. Due to differences in reporting lag, global level data will exclude any trade that had not been reported by the relevant reporting body as of the last month specified for year-to-date aggregation. Product groups are aggregated at the 6-digit Harmonized System (HS) level and will exclude any trade that is reported under other 6-digit HS codes whose commodity descriptions are insufficiently specific.

Publications on different species for the 3Q of 2021 can be downloaded from: <https://issuu.com/globefish/stacks/a3319248160e42d19e464dc575504bce>

GLOBEFISH Market profiles

GLOBEFISH announced a new product: GLOBEFISH Market Profiles. There are now Market Profiles for 205 countries and territories available on the GLOBEFISH website. Each GLOBEFISH Market Profile provides a snapshot of key data relevant to production and trade in fisheries and aquaculture products. This is supplemented with other relevant information aiming to present a concise overview of a market.

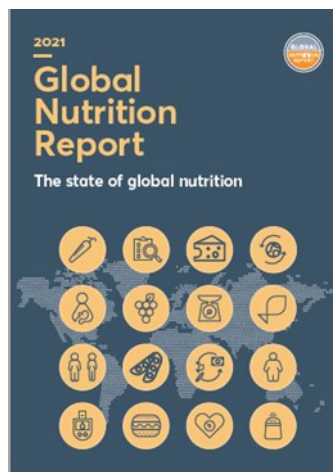
Source: <https://www.fao.org/in-action/globefish/news-events/details-news/en/c/1442921/>

Training Manual on Convention of Biological Diversity for Indigenous People and Local Communities



Can be downloaded from: <https://www.cbd.int/traditional/doc/training/cbd-training-manual-01-en.pdf>

2021 Global Nutrition Report



The report provides the latest comprehensive assessment of the state of global nutrition and progress to end malnutrition in all its forms. You can also learn more about the Nutrition Accountability Framework, which will hold all data on commitments made at the Nutrition for Growth Summit 2021 and progress made against them over time, and explore nutrition data for your country or region using the Country Nutrition Profiles.

The report can be downloaded from: <https://globalnutritionreport.org/>

AFS MEMBERSHIP RENEWAL NOTICE

Dear AFS Members:

Thank you all AFS Members for your ongoing commitment and support towards the Society!

The Secretariat has started to update the Members details in database.

Therefore, the Secretariat requests all AFS members to update their membership dues and contact information, to the Secretariat via email at info@asianfisheriessociety.org.

Kindly renew your membership dues using online payment system at <http://www.asianfisheriessociety.org/join.php> or

you may also request the membership form from Secretariat via info@asianfisheriessociety.org.

Membership is open for all!

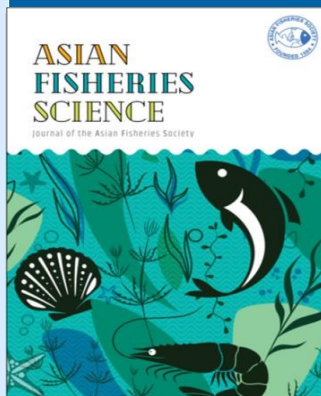
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Influence of Environmental Factors on Growth, Survival, and Heavy Metal Accumulation in Oyster, *Crassostrea madrasensis* (Preston, 1916) Cultivated in Negombo Estuary, Sri Lanka

MENAKE GAMMANPILA

<https://doi.org/10.33997/j.afs.2021.34.3.001>

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Characterisation of Extracellular Enzyme-Producing Microorganisms From the Gut of Nile Tilapia, *Oreochromis niloticus* (Linnaeus, 1758)

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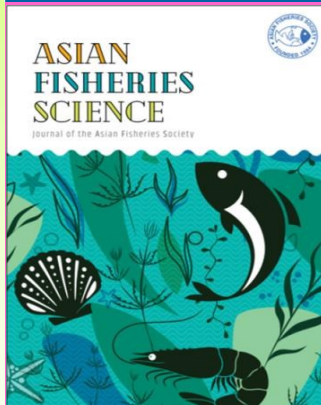
Effect of Mangrove Cover on Shrimp Yield in Integrated Mangrove-Shrimp Farming

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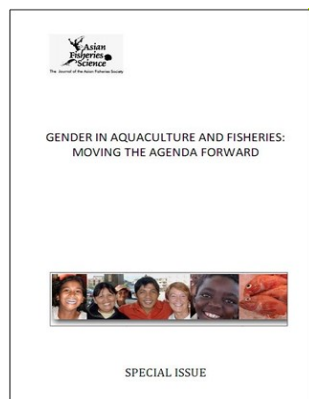
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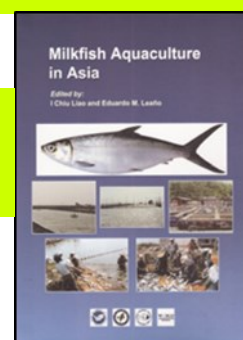


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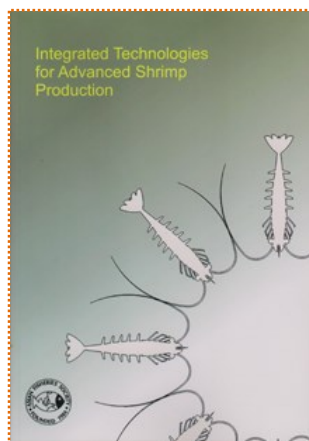
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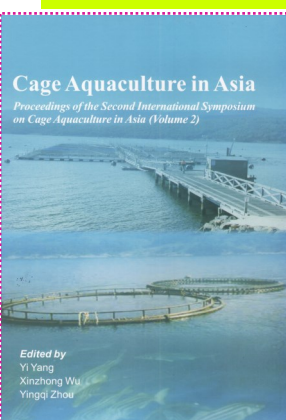
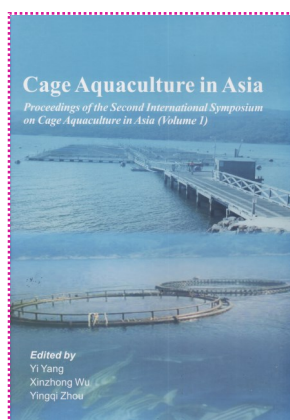
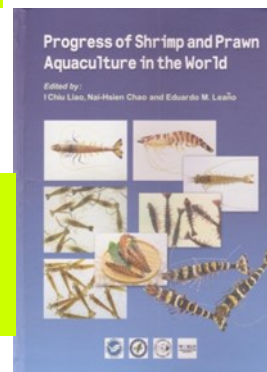
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