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ASIAN FISHERIES SOCIETY

e-Newsletter

## Message from Editor



Wishing all readers a very Happy and Productive 2015.

Year 2014 saw a number of activities organised by Asian Fisheries Society and its branches: 10<sup>th</sup> Indian Fisheries and Aquaculture Forum (10ifaf) and [International Workshop on Aquatic Animal Disease Surveillance](#) organised by the Indian Branch; organisation of Sustainable Workshop and participation in China-Taiwan Bilateral Conference on Mariculture Technology, Innovation and Development for Young Scientists by the Taiwan branch; 5<sup>th</sup> Global Symposium on Gender in Aquaculture and Fisheries (GAF5) by the Gender Group and 9<sup>th</sup> Symposium on Diseases in Asian Aquaculture (DAA9) by the Fish Health Section of AFS, details of which are given in this issue.

Also arrangements are in full swing for holding the "2<sup>nd</sup> International Symposium on Aquaculture and Fisheries Education (ISAFE2)" scheduled for 22-24 April 2015 in Shanghai, China. This symposium is being jointly organized by AFS and Shanghai Ocean University (SHOU), details of which are given in this issue.

Various international organisations have made estimates or revised past estimates on the demand for fish by year 2050, indicating the need for doubling aquaculture production, a stupendous task to achieve without impacting on the ecosystem, throwing challenges at research and development institutions. Details of these publications are given in this issue.

Shrimp disease – the early mortality syndrome (EMS) has played havoc with brackishwater aquaculture in many of Asian countries, reminding us the need for better management of aquatic ecosystem and health of aquatic animals.

The newsletter also provides a list of conferences/symposia to take place in the next 12 months, important publications that have come out in 2014 and some major news items.

I look forward to Members' contributions to the newsletter.

**Dr. M. V. Gupta**

### Inside this issue:

President's Message	2	Upcoming Conference: ISAFE 2	11
- AsiaPacific-FishWatch Breaks Information Barriers - Gender in Aquaculture and Fisheries Update	3-4	-News	12-24
Fish Health Section (DAA9)	5	-Upcoming Conferences: Others	25-27
News From Indian Branch (10ifaf)	6	AFS Membership Renewal Notice	28
-5th Global Symposium on Gender in Aquaculture and Fisheries (GAF5) -International Workshop on Aquatic Animal Disease Surveillance	7	Synopsis Volume 27: Issue 4	29-30
		AFS Publication for Sale	31
News From Taiwan Branch	8		
- Sustainable Aquaculture Workshop held in Keelung, Taiwan	9		
EFREN EDUARDO C. FLORES	10		

## President's Message

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The 2<sup>nd</sup> International Symposium on Aquaculture and Fisheries Education (ISAFE2) jointly organized by Asian Fisheries Society (AFS) and Shanghai Ocean University (SHOU) will be convened on SHOU campus at Lingang New City in Shanghai from Wednesday 22<sup>nd</sup> to Friday 24<sup>th</sup> April 2015. The symposium, with the theme “**Better Education, Better Professionals, Better Industry**”, will discuss issues highlighted during ISAFE1 and on-going issues confronting aquaculture and fisheries education in the Asia Pacific (AP) region.

The symposium has received strong support from China and overseas. The following 11 institutions are co-sponsoring ISAFE2:

- ◆ Network of Aquaculture Centres in Asia-Pacific (NACA);
- ◆ Fisheries and Aquaculture Department of FAO, UN;
- ◆ The Postgraduate (Master) Programme on Tropical Fisheries with International Linkage;
- ◆ Tamil Nadu Fisheries University, India;
- ◆ Chulalongkorn University, Thailand;
- ◆ University of the Philippines Visayas, Philippines;
- ◆ Faculty of Fisheries Sciences of Hokkaido University, Japan; and
- ◆ Four Chinese co-sponsors, namely, Fisheries and Aquaculture Teaching Instruction Committee for Higher Education, Ministry of Education of China, Shanghai Municipal Office of Fisheries Management, Shanghai Fisheries Society, and Shanghai Fisheries Economy Research Institute, China.

More information is given in the section on Upcoming Conferences.

**Prof. Shuolin Huang**

## AsiaPacific-FishWatch Breaks Information Barriers

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Two-thirds of the world's fish are harvested or farmed in the Asia-Pacific region, yet information on the fish is often difficult to find, piecemeal and confusing. The Asian Fisheries Society and its partners set out to break through this critical information barrier by creating AsiaPacific-FishWatch.

AsiaPacific-FishWatch ([www.asiapacfish.org](http://www.asiapacfish.org)) is developing profiles of the most important types of fish and shellfish produced in the Asia-Pacific region, covering the seas, rivers, lakes and farms of the western and central Pacific ocean and the Indian ocean. The profiles will be comprehensive and cover sustainability, production, supply chains, environment and climate, and biology. "Our aim is to explain Asia-Pacific fish products for consumers, the general public, fish exporters and importers, development agencies, fisheries managers and scientists," says Dr Meryl Williams, the project Director .

All information in AsiaPacific-FishWatch is reviewed by the top experts in each commodity and subject. It is non-partisan and does not engage in advocacy. Its content emphasizes information relevant to sustainability and people in the supply chain.

The new AsiaPacific-FishWatch website was publicly launched in November 2014 (<http://www.asiapacfish.org/index.php/item/17-asiapacific-fishwatch-breaks-information-barriers>), Now that we have completed information on skipjack tuna (<http://www.asiapacfish.org/index.php/species/item/5-skipjack-tuna>), we are in the process of finalizing the species profile for yellowfin tuna (see <http://www.asiapacfish.org/index.php/species/item/18-yellowfin-tuna>). Members will be notified when all the yellowfin information is complete and the next species are being loaded.

Now that the information on tunas is nearing completion as test or pilot profiles, we are in the process of seeking funds for the preparation of more species, including some key aquaculture species.

In the meantime, we have set up news and information outlets using:

- ◆ Twitter (follow all the latest on Asia-Pacific fisheries and aquaculture regional news on @Asiapacfish), and
- ◆ Facebook: "like" us on <https://www.facebook.com/asiapacificfishwatch> and catch up with the news.

For more information Contact: **Dr Meryl J Williams, Director of AsiaPacific-FishWatch.**

## Gender in Aquaculture and Fisheries Update

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2014 has been another productive year with launching of a Special Issue of *Asian Fisheries Science* journal containing gender papers, acceptance of the invitation from Elsevier to allow indexing of this and some past symposium proceedings, and successfully holding GAF5 in conjunction with the 10<sup>th</sup> Indian Fisheries and Aquaculture Forum in Lucknow, India.



**Launching of GAF4 proceedings at the Opening Ceremony of 10IFAF in Lucknow, India.**

## Gender in Aquaculture and Fisheries Update (continued)

Indexing of the gender Special Issues by Elsevier: In October 2014, an agreement was signed with publishers Elsevier for indexing and extracting data from selected full text articles of the gender special Issues, and integrating the data into online search products such as Scopus. This should make the gender papers more readily accessible in searches.

5<sup>th</sup> Global Symposium on Gender in Aquaculture and Fisheries (GAF5): For the first time, the Asian Fisheries Society held its Gender Symposium (GAF5) in conjunction with the 10<sup>th</sup> ifaf in Lucknow, India.



*Participants of GAF5*

The three days from 13-15 November were packed with 50 stimulating contributions comprising: 21 oral presentations, including 8 in the Focus India sessions, 3 special workshops, including one with 7 oral presentations, 6 films and videos, 1 panel discussion comprising of 3 speakers and audience discussion, 9 posters and a networks meeting (<http://genderaquafish.org/gaf5-2014-lucknow-india/gaf5-program-abstracts-and-ppts/>).

We were very pleased to welcome many new researchers and development experts who are starting to work on gender within fisheries and aquaculture institutions and development agencies, especially non-government organisations (NGOs). The Best Paper Award was won by S. Inaotombi (presenter) and P.C. Mahanta: *Aspects of Traditional Knowledge on Women Participation in Fisheries: A Case Study from Manipuri Women of North Eastern India*.

The two Highly Commended papers were: (1) *Gender Inequalities in Access to and Benefits Derived from Natural Fisheries in the Barotse Floodplain Western Province, Zambia* authored by Surendran Rajaratnam, Steven Cole, and Catherine Longley; and (2) *Decreasing Trend in Participation of Women in Fish Marketing in Patna, Bihar* authored by Bibha Kumari.

The two Best Poster Awards went to: (1) P. Sruthi, Liya Jayalal, Nikita Gopal for: *Gender Roles in Fisheries along the Vembanad Estuarine System*; and (2) Liya Jayalal, P. Sruthi, Nikita Gopal for: *Workspaces of Women in the Ornamental Fish Value Chain in Kerala*.

### LINKS

**Website:** <http://genderaquafish.org/>

**Facebook:** <https://www.facebook.com/pages/AFS-Gender-in-Aquaculture-and-Fisheries/181176555231544>

**Twitter:** @Genderaquafish <https://twitter.com/Genderaquafish>

**Paper.li:** Genderaquafish <http://paper.li/f-1343620155>

**Google Group:** <https://groups.google.com/forum/#!forum/genderaquafish>

*Contributed by: Nikita Gopal and Meryl J Williams*

# Fish Health Section

## 9th Symposium On Diseases in Asian Aquaculture (DAA9)

The Fish Health Section of AFS (FHS) organized its triennial event, the 9<sup>th</sup> Symposium on Diseases in Asian Aquaculture (DAA9) during 24-28 November 2014 in Ho Chi Minh City, Vietnam in collaboration with Department of Animal Health, Ministry of Agriculture and Rural Development (MARD), Vietnam.

Three aquatic diseases, Epizootic Ulcerative Syndrome (EUS) of fresh and brackishwater fishes in 1980's, White Spot Disease (WSD) of shrimp in 1990's and now shrimp Acute Hepatopancreatic Necrosis Disease (AHPND) have contributed immensely to fostering a long lasting networking among aquatic animal health professionals in the region. The region as a whole has excelled in aquatic animal health research over the last 25 years and this is illustrated by the excellent collaborations that are being sustained between aquatic animal health professionals of Asia Pacific and reflected in the quality of science outputs from the region.

DAA9 touched upon all themes including food security, biosecurity governance, disease prevention, regional cooperation, risk management, disease preparedness, rapid diagnostics, emerging diseases, building capacity, etc. The collective goal of FHS is to minimize the impact of aquatic animal diseases and this is a challenge. DAA9 provided an opportunity to probe this further and plan for future.

The DAA9 event attracted over 260 high quality research submissions from Asia-Pacific and other parts of the World. The growing interest in emerging diseases (AHPND), diseases of fast developing aquaculture species such as tilapia and catfish and fish immunology and vaccination was evident in the DAA9 scientific program. Under 12 thematic sessions, 92 high quality research papers were presented as oral presentations. In addition, about 150 poster papers were also presented. With a view to encourage students and young researchers in aquatic animal health, 3 best oral presentations and 3 best posters were given awards. The book of abstracts is available for download at [www.daa9.org](http://www.daa9.org). DAA9 was attended by 356 delegates from 33 countries and the feedback showed appreciation for the quality of science presented and the networking opportunities provided.



*A section of participants of DAA9*

**Contributed by: C.V. Mohan**

# News from Indian Branch

## 10<sup>th</sup> Indian Fisheries and Aquaculture Forum (10ifaf)

The 10<sup>th</sup> Indian Fisheries and Aquaculture Forum (10ifaf), was organized under the aegis of Asian Fisheries Society Indian Branch (AFSIB) in collaboration with the ICAR-National Bureau of Fish Genetic Resources, Lucknow during 12-15 November 2014, with the theme “Towards Responsible Aquaculture and Sustainable Fisheries”. The Forum was attended by over 700 scientists, technocrats, policy makers, members from financial institutions, NGOs, students, farmers and entrepreneurs from all over the country and overseas.

The Book of Abstracts and Souvenir of the 10ifaf were released by the Chief Guest along with a Special Issue of Asian Fisheries Science “Gender in aquaculture and fisheries: Navigating change”.

The technical program of the Forum was conducted in six parallel Sessions under different thematic areas. A total of 208 oral presentations and 149 posters were presented. In addition, seven lead lectures were also presented by leading experts of the country.

### Poster Presentations

Parallel to technical sessions, an Exhibition with 32 stalls was organised showcasing technologies developed by different Research Institutions, and products/publications of different industries/business firms and book publishers.

### AFSIB Awards and T.V.R. Pillay Aquaculture Award

AFSIB Award and Dr.T.V.R. Pillay Aquaculture Foundation Award lectures were organized during the Forum and the winners of Prof H.P.C. Shetty award Dr. P.C. Das, and Dr. Pillay Aquaculture Award Dr. P.K. Sahoo, were felicitated. Two progressive fish farmers were also felicitated on the occasion.

### Young Scientist Award Presentations

Two best presentations by young scientists during the Forum were awarded with certificate and cash prize of Rs 5,000/- each.



*Chief Guest releasing the Book of Abstracts of 10ifaf*



*A section of participants attending 10ifaf*

## 5<sup>th</sup> Global Symposium on Gender in Aquaculture and Fisheries (GAF5)

The 5th Global Symposium on Gender in Aquaculture and Fisheries (GAF5)' was organized in conjunction with 10ifaf by the Asian fisheries Society (AFS), in collaboration with Asian Fisheries Society Indian Branch and ICAR-National Bureau of Fish Genetic Resources (NBFGR), Lucknow during 13-15 November 2014.

The three day Symposium was filled with around 50 stimulating contributions which included 20 oral presentations, including 2 Plenary Lectures and 8 papers in the Focus India session; 3 special workshops, including one with 7 oral presentations; 6 films and videos; 1 panel discussion comprised of 3 speakers and audience discussion; 9 posters and a special GAF Network Meeting.

The forum witnessed the presence of many new researchers and development experts who work on gender within fisheries and aquaculture institutions and development agencies, especially non-government organisations (NGOs). Delegates from different parts of the world including India, Malaysia, Bangladesh, Indonesia, Lao PDR, Thailand, Vietnam, Cambodia, Japan, Philippines, Mozambique, Australia, Spain, France and USA participated in GAF5.

## International Workshop on Aquatic Animal Disease Surveillance

An International Workshop on Aquatic Animal Disease Surveillance was organised by the ICAR-National Bureau of Fish Genetic Resources (NBFGR), Lucknow in collaboration with the Asian Fisheries Society Indian Branch (AFSIB) at NBFGR on 14th November 2014 and was attended by over 200 delegates from India and overseas.

There were three lead lectures followed by Panel Discussions on 'Aquatic Animal Disease Surveillance in India' by several national experts on fish disease management. . The panellists stressed the need for developing standardized protocols for reporting new or exotic diseases, risk based surveillance, mandatory registration of farms with the government agencies, involvement of the state fisheries departments in the implementation of surveillance programme, establishing disease diagnostic laboratories in each state and uniform sampling strategy. It was also reiterated that though active monitoring of selected farms should continue, the focus of the programme, the passive disease surveillance in the country should be strengthened, so that each outbreak is reported and investigated. It was also suggested that monitoring of water quality parameters must be part of disease diagnosis in aquatic animals.

*Contributed by J.K. Jena*



*Inauguration of International Workshop on Aquatic Animal Disease Surveillance*

## News from Taiwan Branch

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### **China-Taiwan Bilateral Conference on Mariculture Technology, Innovation and Development for Young Scientists**

The 2014 China-Taiwan Bilateral Conference on Mariculture Technology, Innovation and Development for Young Scientists was held on October 1-17, 2014 at Jimei University in Xiamen, China. This conference brought together about 100 young scientists and students and 13 Professors from Taiwan and China to discuss important issues of mariculture production, technology development and management.



*Participants of China-Taiwan Bilateral Conference on Mariculture Technology, Innovation and Development for Young Scientists*

### **Participation in DAA9:**

During November 24-28, 7 Professors and several graduate students from Taiwan attended and presented more than 10 oral and poster papers in the 9th Symposium on Diseases in Asian Aquaculture (DAA9) held in Ho Chi Minh City, Vietnam. Dr. Han-Ching Wang of NCKU was elected as a Member of the Organising Committee of DAA10 that will held in Bali, Indonesia in 2017.

*Contributed by Prof. Dr. Jiang-Shiou Hwang*



## Sustainable Aquaculture Workshop held in Keelung, Taiwan

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The workshop was held in the National Taiwan Ocean University (NTOU) in Keelung, from November 4- 10, 2014 with participation of 30 persons from 10 countries. The workshop discussed aspects of sustainable aquaculture, social, economic and education agenda, research in genetic stock improvements, culture systems and technology, industry participation, gender equality and biotechnology in diseases and its management. Country reports provided information on status of aquaculture in emerging aquaculture countries such as Cambodia and Myanmar.

This workshop was part of the collaborative platform for sustainable aquaculture, to link, coordinate and co-develop among industry, government, academy and research. It is the initiative of the Ministry of Science and Technology (MOST) to facilitate bilateral and multi-lateral cooperation in aquaculture education and technology with ASEAN countries.

*Contributed by Zuridah Merican*



## EFREN EDUARDO C. FLORES:

### REFLECTING ON A MAN DEDICATED TO SERVING PEOPLE AND HIS PROFESSION

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Dr Efred Eduardo C. Flores, a regional aquatic science leader, died on 8 December 2013. Marking the first anniversary of his passing, the Asian Fisheries Society would like to acknowledge his contributions to the Society and the region. During 1992 and 2001, Dr Flores was a Member of the fourth, fifth and sixth AFS Councils.

From 1992-1996, Dr Flores was Chief of the SEAFDEC Aquaculture Department (AQD). Prior to leading SEAFDEC, he had been Dean of the College of Fisheries of the University of the Philippines (1986-1992). In his last paper, which was published posthumously, Efred revealed that, while Dean, he had taken part in the research of the Visayas Marine Anthropological Studies (VMAS) that allowed him to work with social scientists who see the maritime environment from a different perspective as would a natural scientist. In his tribute, Dr. Relicardo Coloso, head of research under Dr Flores at SEAFDEC AQD, said that *“he was keen on instituting a multidisciplinary approach to research at AQD with natural scientists working hand-in-hand with social scientists and stakeholders, especially fisherfolk, in developing aquaculture technologies”*. Although these integrated partnership approaches may be more typical today, at the time Efred was experiencing and learning their power, they were being talked about but not so commonly put into practice.

After completing his term at AQD, Efred returned to the University of the Philippines, but a few years later had an opportunity through a big Asian Development Bank project, to put into practice the multi-disciplinary approaches and harmonious team relationships that he had come to regard as essential in aquatic resource efforts.

Efred retired shortly afterwards and then his contributions turned towards the problems of strengthening education, research and development capacity, both in the Philippines education system generally, and then specifically to the fisheries sector of the Philippines. Before his death, Efred was putting the findings into practice and working with one of the responsive universities by helping develop a training program in how to undertake scientific research.

Vale Efred Flores – your many contributions will be appreciated and remain important for a long time to come.

These reflections are drawn on material provided by his beloved daughter Ms Emi Y Flores, who was the Executive Officer of AFS from Nov. 2003 to March 2009, beloved wife Yoko, and the SEAFDEC AQD articles. I thank them for these materials, but take full responsibility for any errors and shortcomings.

*By Meryl J Williams*

# UPCOMING CONFERENCE

## The 2<sup>nd</sup> International Symposium on Aquaculture and Fisheries Education (ISAFE2)

The 2<sup>nd</sup> International Symposium on Aquaculture and Fisheries Education (ISAFE2) jointly organized by Asian Fisheries Society (AFS) and Shanghai Ocean University (SHOU) will be convened on SHOU campus at Lingang New City in Shanghai from Wednesday 22<sup>nd</sup> to Friday 24<sup>th</sup> April 2015. The symposium, with the theme “**Better Education, Better Professionals, Better Industry**”, will discuss issues highlighted during ISAFE1 and on-going issues confronting aquaculture and fisheries education in the Asia Pacific (AP) region.

The symposium has received strong support from China and overseas. The following 11 organisations are co-sponsoring ISAFE2:

Network of Aquaculture Centres in Asia-Pacific (NACA);  
Fisheries and Aquaculture Department of FAO, UN;  
The Postgraduate (Master) Programme on Tropical Fisheries with International Linkage;  
Tamil Nadu Fisheries University, India;  
Chulalongkorn University, Thailand;  
University of the Philippines Visayas, Philippines;  
Faculty of Fisheries Sciences of Hokkaido University, Japan; and  
Four Chinese co-sponsors, namely, Fisheries and Aquaculture Teaching Instruction Committee for Higher Education, Ministry of Education of China, Shanghai Municipal Office of Fisheries Management, Shanghai Fisheries Society, and Shanghai Fisheries Economy Research Institute, China.

ISAFE2 will have 3 keynote speakers in the Plenary Session. They are:

Prof. Yudong Cheng, President, Shanghai Ocean University, China;  
Prof. Tatsuro Matsuoka, Kagoshima University, Japan ; and  
Prof. John Bostock, University of Stirling, UK.

The symposium will also be organising 10 other sessions and three special sessions as given below:

A special session by Fisheries and Aquaculture Department, FAO of UN chaired by Dr Matthias Halwart;  
A 'Fisheries Higher Education and International Linkages'(Postgraduate Programme on Tropical Fisheries and International Linkages)- chaired by Prof. Tatsuro Matsuoka; and  
A special session by Tamil Nadu Fisheries University chaired by Prof Baskaran Manimaran.

To encourage more participants to ISAFE2, the deadlines for abstracts submission and Acceptance Notification have been extended as given below:

Last date for Abstract submission – 9<sup>th</sup> February 2015 and  
Acceptance Notification – 20<sup>th</sup> February 2015.

Participants can log onto the symposium website: [isafe2.shou.edu.cn](http://isafe2.shou.edu.cn) for registration, paper submission, accommodation and other information. We look forward to welcoming all participants to ISAFE2 and SHOU on 22<sup>nd</sup> April 2015.

# News

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## [FAO Predicts Future Aquaculture Growth Greater Than Expected](#)

Fish farming will likely grow more than expected in the coming decade, by as much as 4.14% per year through 2022, according to a new report from Food and Agriculture Organization of the United Nations (FAO). This projection is faster than the 2.54% growth forecast made earlier in 2014 in a joint report by FAO and the Organization for Economic Cooperation and Development (OECD). “The primary reason for increased optimism is that there is ample room for catching up with more productive technologies, especially in Asia, where many fish farmers are small and unable to foot the hefty capital outlays the industry requires to expand output without running into resource constraints,” said Audun Lem, a senior official at FAO’s Fisheries and Aquaculture Policy and Economics Division and one of the lead authors of the 120-page report ([http://dx.doi.org/10.1787/agr\\_outlook-2013-en](http://dx.doi.org/10.1787/agr_outlook-2013-en))

The document can be downloaded from: <http://www.fao.org/3/a-i3822e.pdf>

*Source: FAO Fisheries and Aquaculture Circular No. 1089. FIPM/C1089(EN).*

## [Asia Drafts Plan for Sustainable Intensification of Aquaculture](#)

Representatives from six countries in the Asia-Pacific region, the world’s largest consumer of fish products (Bangladesh, Indonesia, Philippines, Sri Lanka, Timor-Leste and Viet Nam) are working with FAO global and regional fishery and aquaculture experts in the development of an FAO regional initiative to enhance production of aquaculture in an environmentally sound and sustainable way – “blue growth.”

In order to keep up with the demand, FAO predicts Asian aquaculture production will need to increase by more than 60 percent to meet the projected consumption demand by 2030 -- just to meet the demand in Asia. The region already accounts for 90 per cent of global aquaculture production and 50 per cent of present global consumption.

FAO will support each country with its own initiatives in blue growth strategies and workplans and have them in place by March or April 2015 in advance of FAO’s biannual Conference in Rome, Italy in June 2015.

**See more at:** <http://www.thefishsite.com/fishnews/24269/asia-drafts-plan-for-sustainable-intensification-of-aquaculture#sthash.2wdDQvIL.3muYWICP.dpuf>

## [Global Salmon Initiative Launches First Progress Report](#)

The Global Salmon Initiative (GSI) has launched its inaugural progress report ‘Building the Foundation for a Sustainable Future’. This is the first report to come from the industry-led collective, and highlights its approach and progress towards advancing significant improvements in the environmental, social and economic sustainability of the salmon farming industry, which could form an example for tropical fish farming. The report provides an overview of the initiative’s current activities, and highlights progress in improving biosecurity, sourcing sustainable feed, achieving the ASC standard, building partnerships and enhancing transparency in reporting and communications.

*For more information, visit:*

<http://www.thefishsite.com/fishnews/24391/global-salmon-initiative-launches-first-progress-report?sthash.FQbSlmji.mjo#sthash.FQbSlmji.518ydQel.dpuf>

# News

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## [Global Shrimp Production to Double in Next Decade](#)

George Chamberlain, President of the Global Aquaculture Alliance (GAA), predicts that the global production of farmed shrimp is poised to double in the next decade from 4 million metric tons (MT) to 8 million MT, thanks to layers of sophisticated disease controls employed by the industry.

The journey to control disease will never end, but improved surveillance, genetic resistance, breeding techniques, biosecurity measures and innovative feed additives to combat diseases like Early Mortality Syndrome (EMS) are starting to bear positive results.

“We need to revolutionize our biosecurity systems to overcome these problems,” said Tim Flegel, advisor to Thailand’s National Center for Genetic Engineering and Biotechnology, during a disease risk management panel.

Zone management is a control method that is gaining ground, said Peter Marshall, founding director of RS Standards and chair of GAA’s Zone Management Technical Committee.

**Source:** <http://www.seafoodsource.com/news/aquaculture/26969-goal-2014-global-shrimp-production-to-double-in-next->

## [Oman shrimp aquaculture project first of several in \\$150m food security campaign](#)

Dubai-based Emirates Star Fisheries is leading a fund to promote aquaculture growth in the Middle East, which will take on shrimp, seabream, and yellowfin tuna. An \$80m shrimp farming project in Oman is the first project under the Food Security Growth Fund (FSGF), and several more are to follow, spear-headed by the company, says the Executive Director Shetty Prathapchandra. The Oman operation, which will be able to produce 13,000 metric tons of seafood annually once up and running – 10,000 of which tiger shrimp – is being jointly funded by “high net worth individuals, banks, venture capitals, sovereign funds and investment funds”, with ESF leading. The project will involve inland aquaculture, cage farming, and mariculture, according to early reports of the fund starting up.

**Source:** <http://www.undercurrentnews.com/2014/08/26/oman-shrimp-aquaculture-project-first-of-several-in-150m-food-security-campaign/>

## [Institution of Aquaculture Singapore](#)

Although Singapore is not an aquaculture nation on the global map, this did not prevent a group of zealous aquaculture investors and professionals from forming the Institution of Aquaculture Singapore in April 2014 with the objective to promote the development of a sustainable aquaculture industry in Singapore and beyond through collaborations and sharing of know-how and practices with international aquaculture associations and societies.

Many of the group’s members have substantial investments in overseas aquaculture operations in the areas of farming seacucumber, shrimp, tilapia, milkfish and groupers etc.

Further information can be obtained by contacting through email at [secretariat@aquaculturesg.org](mailto:secretariat@aquaculturesg.org).

- See more at: <http://www.thefishsite.com/fishnews/23735/new-aquaculture-institution-set-up-in-singapore#sthash.X7ZoX3qd.dpuf>

# News

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## [Bangladesh: Shrimp farmers staring at losses](#)

Shrimp farmers and processors have sunk into hard times after a slump in demand and depreciation of major exporters' currencies. Industry operators said many buyers have pushed back the shipment of their orders, while a section of them are even seeking discounts. As a result, the stockpiles are rising at the processors' end.

The ample production of vannamei in India and Vietnam has been blamed for the most part for the slump in demand for the locally-grown black tiger shrimps.

Source: The Daily Star

## [World's largest shrimp farm to come up in China](#)

In March 2014, China's Sino Agro Foods revealed plans to construct the world's largest prawn/shrimp farm. To be located in Guangdong Province, the farm is expected to produce around 300,000 metric tons which will be sold on the national and international market. Production is expected to begin in the second quarter of 2015 and the complex is expected to create over 100,000 jobs.

See more at: <http://www.thefishsite.com/fishnews/24749/2014-news-roundup-russian-ban-sustainable-fish-feed-antibiotic-resistance#sthash.FdoD9XuL.dpuf>

## [Urgent appeal to control spread of the shrimp microsporidian parasite \*Enterocytozoon hepatopenaei\* \(EHP\)](#)

*Enterocytozoon hepatopenaei* (EHP), is a microsporidian parasite confined to the shrimp hepatopancreas (HP) and morphologically resembles an unnamed microsporidian and infect exotic *Penaeus vannamei* imported for cultivation in Asia and can be transmitted directly from shrimp to shrimp by the oral route.

EHP is associated with severe growth retardation in *P. vannamei*. A warning to Asian farmers and hatchery operators after 2009 to monitor *P. vannamei* and *P. mondon* for EHP in broodstock and post larvae (PL) was not heeded because of the overwhelming focus on early mortality syndrome (EMS) or acute hepatopancreatic necrosis disease (AHPND). Available information indicates that EHP outbreaks are occurring widely in China, Indonesia, Malaysia, Vietnam and Thailand and very recently in India. Thus, EHP is an emerging problem that is under urgent need of control.

A nested PCR detection method and a LAMP method are available to check feces of broodstock and to check whole PL for the presence of EHP. The pathogen can also be detected by light microscopy. The PCR detection method is preferred.

For more details visit: [www.enaca.org](http://www.enaca.org)

## [Stronger Animal Disease Surveillance Needed Worldwide](#)

Following the recent spread of highly pathogenic avian influenza H5N8 virus in Asia and Europe, the World Organisation for Animal Health (OIE) warns of the need to strengthen surveillance and early detection systems for diseases of domestic and wild animals throughout the world and recommends making this a major objective of official health policies.

In recent decades, the impact of the globalisation of movements of animals, people and commercial products has greatly increased the possibilities for pathogens to spread from one side of the world to the other in record time. Yet the recent discovery of virus H5N8 in Europe serves as a reminder to the international community that a simple natural phenomenon such as migratory movements of wild birds can also cause the worldwide dissemination of a disease.

Source: <http://www.thefishsite.com/fishnews/24690/stronger-animal-disease-surveillance-needed-worldwide#sthash.bIFCzXpp.dpuf>

## News

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### [Feed Containing Natural Antibodies to Combat Pathogenic Bacteria](#)

A new research project headed by [DTU Vet](#) is seeking to use feed containing natural antibodies to combat pathogenic bacteria as a replacement for treating fish fry with antimicrobial agents. The antibodies are derived from fish blood. The Danish Agritech Agency's Green Development and Demonstration Programme (GUDP) has granted the project funding of DKK 5.7 million.

"We want to produce food enriched with antibodies to combat pathogenic bacteria so that we can implement what is known as 'passive immunization' of the fry to make them resistant to the infections," says Professor Peter Heegaard from DTU Vet who is heading the research.

The project will attempt to harvest the antibodies from blood collected in connection with the standard process for slaughtering fish. The feed will then be tested on fish suffering from bacterial infections including Rainbow Trout Fry Syndrome (RTFS), enteric redmouth disease (ERM) and furunculosis, which are currently responsible for major losses in rainbow trout breeding.

**Source:** <http://www.vet.dtu.dk/english/News/Nyhed?id=F34495C3-EB1D-4C33-B435-32BBBC85245D>

### [High-Level Panel on Technology Bank for Least Developed Countries](#)

United Nations Secretary-General Ban Ki-moon announced the members of a High-level Panel to advise on the organizational and operational aspects of the proposed Technology Bank and Science, Technology and Innovation Supporting Mechanism dedicated to the least developed countries.

The Secretary-General has appointed Romain Murenzi, Executive Director of The World Academy of Sciences in Trieste, Italy, and former Minister of Education, Science, Technology and Scientific Research of the Republic of Rwanda, as the Chair of the Panel. The list of Panel members includes five women and five men from least developed countries (LDCs) and their development partners from the North and the South. .

The Secretary-General has asked the High-level Panel to prepare practical recommendations on this important matter, which can provide a strong impetus to accelerating structural transformation and sustainable development of the LDCs.

**Source:** <http://www.un.org/press/en/2014/note6431.doc.htm>

# News

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## [Indian Fishermen's Associations Protest Against Recommendation on Deep-sea fishing](#)

Organisations of fishermen, including those of deep-sea artisanal fisherfolk in several coastal States of India, are protesting against the recommendations of an Expert Committee that reviewed India's marine fishing policy and the existing guidelines for deep-sea fishing in the country's Exclusive Economic Zone (EEZ).

The committee report says that production in India from the near-shore waters has plateaued with very little scope for increasing production in waters up to a depth of 200 metres, while waters beyond a depth of 500 m are not optimally exploited with considerable scope of expansion mainly for tuna and tuna-like species.

The controversial clauses that are being contested are: (i) creation of a buffer zone between the near-shore and off-shore regions (waters between 200 m and 500 m in depth) along the coast and to regulate fishing there; (ii) open off-shore regions for fishing by foreign and joint venture companies (a suggestion that was rejected by an expert committee in 1996) until the domestic fishers acquire the capability and techniques for effective deep-sea fishing; (iii) allow tuna fishing by deep-sea vessels even during the period of uniform ban on fishing implemented by the Government of India every year.

**Source: Eureka**

## [New UN-backed open-source tool will support community resilience-building](#)

Each year millions of people dependant on agriculture, forestry and fisheries are confronted by droughts, floods, plant pests or animal diseases, and conflict. When that happens, the livelihoods of communities can be left in tatters, while disruptions to food production and distribution undermine the food security of nations and entire regions.

In a news release FAO announced a coalition of some 15 partner entities and launched the Index for Risk Management (InfoRM), to develop a new data crunching tool to help national governments, development and relief organizations in their efforts to prevent and respond to crises such as animal diseases, plant pests and even conflicts, to shed new light on what drives crises and what communities need in order to face them. The index builds up a picture of risk by bringing together some 50 different indicators measuring three dimensions of risk: hazards and exposure of people, vulnerability of communities to those hazards, and their capacity to cope with them.

This data is synthesized into a consolidated, simple risk profile for each country, which includes natural and human hazards, vulnerability and lack of coping capacity. Currently, InfoRM covers 191 countries.

**Source: SAMUDRA News Alert 28 November 2014**



## News

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### [Great Barrier Reef Dredging Could Damage Fish Populations](#)

A study conducted at James Cook University says fish populations could be significantly damaged by the dredging of seabed sediment, with new research finding that larvae development is hindered by murky water.

Researchers studied the larval development of clownfish in tanks at the university. The fish larvae were subjected to varying degrees of sediment – from 15 milligrams per litre up to 45 milligrams per litre – to see how the silt affected their progress.

The research discovered that larvae raised in even only slightly increased sediment took far longer to develop into juvenile fish. The development time increased from around 11 days to up to 22 days – doubling the time the fish took to reach juvenile status.

**Source: *Samudra News Alert* 24 October 2014**

### [Focus on Indigenous Peoples, Local Communities at COP12](#)

The CBD Alliance, a network of civil society organizations who have a common interest in the Convention on Biological Diversity (CBD), has called the 12th meeting of the Conference of the Parties to the CBD (COP12), held during 6 - 17 October 2014 at Pyeongchang, Republic of Korea, to recognize the critical contribution of Indigenous Peoples and local communities to marine and coastal biodiversity through a range of mechanisms, including Indigenous and Community Conserved Territories and Areas (ICCAs) and other actions.

Marine and coastal biological diversity is one of the long-enduring priority programmes within the work of CBD. COP12 will be discussing a range of issues on marine and coastal biological diversity that have significant implications for the human rights and lives and livelihoods of indigenous peoples and local communities around the world.

### [ISSF Rates Bigeye Tuna Stocks as 'Overfished'](#)

The International Seafood Sustainability Foundation's (ISSF) new Status of the Stocks rating report downgraded Pacific bigeye tuna stocks from a "green" rating — signifying the stock is healthy — to "orange," meaning the stocks are overfished.

"This year, the stock assessments for both Pacific stocks of bigeye tuna (eastern Pacific and western and central Pacific) showed that the abundance has fallen below the level that would correspond to maximum sustainable yield (MSY)," Victor Restrepo, VP of science for ISSF said. The Pacific bigeye stocks became overfished in 2012 or 2013, he added.

In addition to Pacific bigeye tuna, 39 percent of all global tuna stocks are overfished, ISSF found, while 52 percent of the all tuna stocks are at a healthy level of abundance, and 9 percent are at an "intermediate level."

In addition, 17.4 percent of global tuna stocks are being overfished, while 43.5 percent of the stocks are experiencing a low fishing mortality rate, and 39 percent have a high fishing mortality that is being managed adequately, according to ISSF.

**Source: [http://www.seafoodsource.com/news/environment-sustainability/26899-issf-rates-bigeye-tuna-stocks-as-overfished?utm\\_source=Informz&utm\\_medium=Email&utm\\_campaign=Insert+Campaign+Name+here](http://www.seafoodsource.com/news/environment-sustainability/26899-issf-rates-bigeye-tuna-stocks-as-overfished?utm_source=Informz&utm_medium=Email&utm_campaign=Insert+Campaign+Name+here)**

# News

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## [Socio-economic value of intellectual property in agriculture](#)

EuropaBio, the European Association for Bioindustries, and CropLife International launched a new study detailing the socio-economic benefits and value that intellectual property brings in agriculture. The study, conducted by Steward Redqueen, focused on the Ogura hybrid technology developed by the French Public Research Institute INRA.

Ogura, a ground breaking technology that harnesses new hybridization methods for producing higher-yielding varieties of oilseed rape, and its subsequent developments resulted in a major technological advance for oilseed rape farmers in France which translated in a total benefit of € 1.2 billion to society in France during the patent life of the product. The study showed that 80% of that financial benefit accrued to farmers and further downstream towards processors and consumers.

The case study has showed that Intellectual Property has positive effects for society, creating value to those involved along the chain, from investors to users in addition to being essential to enable innovation by providing innovators the ability to recoup investments and fund new R&D.

**See more at:** <http://www.europabio.org/press/who-benefits-intellectual-property-rights-agricultural-innovation-launch-unique-study-socio?sthash.CMvHdzqP.AQh7dEYK.mjio#sthash.CMvHdzqP.soFUl46p.dpuf>

## [World Development Report 2015 explores "Mind, Society, and Behaviour"](#)

The World Bank's annual World Development Report (WDR) 2015 holds new insights on how people make decisions; it provides a framework to help development practitioners and governments apply these insights to development policy. Research in the WDR suggests that poverty constitutes a cognitive tax that makes it hard for poor people to think deliberatively, especially in times of hardship or stress. When used with existing policy approaches, new tools ranging from simple, low-cost changes such as better framing of messages and changing the timing of aid, can significantly improve outcomes.

The newly launched report argues that development policies based on new insights into how people actually think and make decisions will help governments and civil society more readily tackle such challenges as increasing productivity, breaking the cycle of poverty from one generation to the next, and acting on climate change. Drawing from a wealth of research that suggests ways of diagnosing and solving the psychological and social constraints to development, the WDR identifies new policy tools that complement standard economic instruments.

**The complete World Development Report 2015 is available online at:**

<http://www.worldbank.org/content/dam/Worldbank/Publications/WDR/WDR%202015/WDR-2015-FullReport.pdf>

## [Singapore Introduces Certification Scheme for Fish Farming](#)

The Agri-Food and Veterinary Authority of Singapore (AVA) has introduced a certification scheme in a bid to ensure the safety and quality of local fish produce.

Four fish farms have been certified under the Good Aquaculture Practice for Fish Farming scheme for adopting good aquaculture practices. Consumers can support these certified fish farms by buying their produce with their logo, to indicate "mark of quality".

**Source:** <http://www.channelnewsasia.com/news/singapore/new-certification-scheme/1444102.html>

## News

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### [New ERASMUS Joint Master Degree in Aquaculture](#)

This international degree combines three centres of aquaculture excellence, in Scotland, Crete and France. The study will cover all three countries and also includes a six-month industry placement. Over 10 funded scholarships are available for all nationalities, for which the application deadline is the 20th February 2015. **For further information and an application form visit <http://www.sams.ac.uk/erasmus-master-aquaculture>**

### [Broodstock Management in Aquaculture: Long term effort required for regional capacity building](#)

The United Nations University Fisheries Training Programme (UNU-FTP), NACA and Nha Trang University jointly initiated a project on “Development of a Regional Training Course for Capacity Building on: Finfish Broodstock Management in Aquaculture ” in collaboration with Deakin University and Fisheries Victoria (Australia) and Holar University (Iceland) in 2012. The objective was to develop and test a training course on principles and practices of broodstock management with hatchery managers and key in-service personnel associated with hatchery operations. To date, a set of training materials have been developed, covering most aspects of broodstock management including broodstock nutrition, genetic maintenance and improvement, disease and health management and hatchery operation. The training materials have been continuously evolving through consultation in various expert workshops and accumulation of practical knowledge.

Source: [www.enaca.org](http://www.enaca.org)

### [School on the Move](#)

In rural hinterland of Odisha, India, ‘*Pathe Paathshaalaa*’— “a school on the move” for farmers — is creating the buzz on how laboratory wisdom is transferred to farmers involved in agriculture, fishery and livestock farming.

Balaram Sahu, a senior veterinary scientist, mooted the idea and has been single-handedly putting this concept into action for the last six years.

“At present, training classes for farmers are conducted by different agencies, including government institutions, on different livelihood options like agriculture, fisheries, and livestock. The resource persons go to places where the farmers stay and interact with them in an environment in which they are comfortable.

Source: <http://m.thehindu.com/news/national/other-states/school-on-the-move-for-odisha-farmers/article6605416.ece/>

### [Empowering Fishermen Through Mobile Phones](#)

Government of Odisha, India has taken up a plan to empower the Fishermen through the Mobile Advisory Services. The Four Year Program that has been taken up will benefit at least 100,000 fishermen a year. Within eight months of the program, 99,695 fishermen have been enrolled in the program and 83,686 SIM Cards have been activated, said a senior official in DoFARD.

All the active fishermen engaged in Sea, River, Reservoir, active Fish Farmers and entrepreneurs having minimum one acre farm are the Target Group.

In order to generate awareness among the fishermen and fish farmers, QUIZ Competitions are being held through Mobile Service, which has turned out to be popular, said a user.

Source: <http://www.tathya.in/new/story.aspx?sno=9435>

# News

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## [Ancient Scottish Fish 'first to have sex'](#)

A research article published in the journal Nature Scientists by an international team of researchers with Prof John Long, of Flinders University, Australia as lead author says they have discovered the origin of copulation. The researchers say a fish called *Microbrachius dicki* is the first-known animal to stop reproducing by spawning and instead mate by having sex. This primitive bony fish, which was 8cm long, lived in ancient lakes about 385 million years ago in what is now Scotland.

This discovery was made as Prof. Long was looking through a box of ancient fish fossils.

**Source: Samudra News Alerts, 22 October 2014**

## [Discovery of New Species of Trout](#)

A group of researchers from Recep Tayyip Erdoğan University, Faculty of Fisheries in Turkey discovered a new trout species, *Salmo kottelati*, belonging to the *Salmonidae* family, which includes salmon, trouts, chars, graylings and freshwater whitefishes. The new species is named after Maurice Kottelat, who contributed to the knowledge of the fish fauna of Europe and Asia. The new species inhabits cold and clear water, with moderate current, and gravel and pebble substrate. Its maximum known body length is 21 cm, while the largest representative of the family can reach up to 2 m in length.

**Source: <http://www.sciencedaily.com/releases/2014/12/141212111655.htm>**

**[utm\\_source=feedburner&utm\\_medium=email&utm\\_campaign=Feed%3A+sciencedaily%2Fplants\\_animals%2Ffisheries+%28Fisheries+News+--+ScienceDaily%29](#)**

## [Carrageenan Processing Development in Panjang Island, Indonesia](#)

Panjang Island has good potential for seaweed culture and has been going on since the 1990s. Due to limitation of knowledge in processing them into carrageenan, fishermen process them into candy and “dodol” by traditional methods in limited quantity or sell them as dry seaweeds. To add value and increase income of fishermen, it is planned to introduce carrageenan production technology using double jacket pan and hydraulic press which can yield up to 40%.



**Contributed by: Dr. Adi Susanto**

## New Publications

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### **Report of the proceedings: Enhancing capacities of fishing communities: ICSF-BOBLME Sub-regional dialogue on labour, migration and fisheries management. 2013**

[http://www.icsf.net/images/proceedings/pdf/english/issue\\_139/139\\_BOBLME\\_Report\\_27\\_Oct\\_2014.pdf](http://www.icsf.net/images/proceedings/pdf/english/issue_139/139_BOBLME_Report_27_Oct_2014.pdf)[http://www.icsf.net/images/proceedings/pdf/english/issue\\_139/139\\_BOBLME\\_Report\\_27\\_Oct\\_2014.pdf](http://www.icsf.net/images/proceedings/pdf/english/issue_139/139_BOBLME_Report_27_Oct_2014.pdf)

### **Asean Seafood Journal**

Asean Seafood Journal Vol 1(2) Sept/Oct 2014 published by Vietnam Association of Seafood Exporters and Producers (VASEP) can be downloaded from: <http://aseanseafood.asia/publication/ASEAN%20SEAFOOD%20No2/HTML/#93/z>

### **ECONOMIC ANALYSIS OF SUPPLY AND DEMAND FOR FOOD UP TO 2030 – SPECIAL FOCUS ON FISH AND FISHERY PRODUCTS**

#### **FAO Fisheries and Aquaculture Circular No. 1089. FIPM/C1089(EN)**

#### **Aquaculture Drugs and US Regulations Training Module for International Producers**

This training course is designed to clarify how the US regulates drugs for aquaculture. It provides information to identify what drugs may be used and how they should be used to prevent unacceptable residues. It identifies where to look for detailed and current information, and provides a general summary of US Food and Drug Administration (FDA) requirements and recommendations for drug use in aquaculture. The training course is designed for foreign producers who export their products to the US and may also be useful for foreign regulators.

To download, log into: [http://apps.jifsan.umd.edu/portal/toc-viewer-rnr.php?course\\_id=18](http://apps.jifsan.umd.edu/portal/toc-viewer-rnr.php?course_id=18)

#### **Oceans and the law of the sea: Report of the Secretary-General**

In considering the future role of seafood in global food security, greater awareness is needed of the importance of incorporating or mainstreaming the fisheries and aquaculture sectors in these policy discussions. The report says that in terms of the future of seafood in global food security, it will be important for the international community to mainstream the role of seafood in policy discussions

relating to food security at the global, regional and national levels. It will be equally important for the various sectors involved in the management of human activities that impact on oceans and their resources to consider specific measures within the broader context of food security to ensure the continued contribution of seafood to food security, particularly with regard to its availability, access, utilization and stability. In this regard, decision-making processes would benefit from the informed participation of all relevant stakeholders, including coastal communities, small-scale and artisanal fishers and consumers.

Co-management and/or community-driven marine management that recognize community rights to resources can be very effective in supporting seafood sustainability. Given the crucial role of women in coastal fishing communities, their capacity to engage in a productive manner in the fisheries and aquaculture sectors requires strengthening. The continued contribution of seafood to global food security will depend on the ability of States to address, in an effective, efficient and timely manner, current pressures and challenges to seafood sustainability, including overexploitation and unsustainable practices in seafood exploitation, marine pollution, habitat destruction,

climate change and ocean acidification. Integrated and ecosystems approaches that consider the oceans as a whole are important.

Full report can be accessed at: [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/69/71](http://www.un.org/ga/search/view_doc.asp?symbol=A/69/71)

# New Publications

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## New fisheries publications released by ICSF

The International Collective in Support of Fishworkers (ICSF) has released three publications on fisheries that deal with: (a) marine protected areas (MPAs); (b) traditional knowledge of fishing communities; and (c) voluntary guidelines for securing sustainable small-scale fisheries in the context of food security and poverty eradication (SSF Guidelines) of the Food and Agriculture Organization of the United Nations (FAO).

The publications are:

(i) "Marine Protected Areas and Small-scale Fisheries in South Africa: Promoting Governance, Participation, Equity and Benefit Sharing"

(<http://www.icsf.net/en/monographs/article/EN/140-marine-protecte.html?limitstart=0>)

(ii) "A Participatory Study of the Traditional Knowledge of Fishing Communities in the Gulf of Mannar, India"

(<http://www.icsf.net/en/monographs/article/EN/141-a-participatory.html?limitstart=0>)

(iii) "Report on the International Workshop on Towards Socially Just and Sustainable Fisheries: ICSF Workshop on Implementing the FAO Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines)"

(<http://www.icsf.net/en/page/436-Publications.html>)

For more, please visit [www.icsf.net](http://www.icsf.net)

## Global Nutrition Report 2014

This Global Nutrition Report is the first in an annual series brought by International Food Policy Research Institute (IFPRI). It tracks worldwide progress in improving nutrition status, identifies bottlenecks to change, highlights opportunities for action, and contributes to strengthened nutrition accountability. The report series was created through a commitment of the signatories of the Nutrition for Growth Summit in 2013. It is supported by a wide-ranging group of stakeholders and delivered by an Independent Group of Experts in partnership with a large number of external contributors.

Full report can be downloaded from [www.ifpri.org](http://www.ifpri.org)

## Assessing Aquaculture Sustainability: A Comparative Methodology

Work dealing with the evaluation of aquaculture system sustainability undertaken on a global and comparative basis has so far been scanty. Moreover, such work is mostly based on very unbalanced approaches in terms of the dimensions of sustainable development that are taken into account. The approach adopted in this article by Jérôme Lazard et al, CIRAD, France, is designed to encompass all the dimensions of sustainability including the institutional one (governance).

- See more at: <http://www.thefishsite.com/articles/1992/assessing-aquaculture-sustainability-a-comparative-methodology#sthash.gLLRBcBA.dpuf>

## New Publications

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### **Best Aquaculture Practices Certification standards and guidelines**

The Best Aquaculture Practices (BAP) certification program has expanded its coverage with completion of new BAP hatchery and nursery standards for finfish, crustaceans and mollusks. The publication on certification standards and guidelines can be downloaded from: [http://www.gaalliance.accountsupport.com/cmsAdmin/uploads/bap\\_new\\_hatchery\\_nursery\\_914.pdf](http://www.gaalliance.accountsupport.com/cmsAdmin/uploads/bap_new_hatchery_nursery_914.pdf)

### **Farmed Fish Production Must More than Double by 2050, New Analysis Finds**

New research shows that farmed fish and shellfish production will likely need to increase by 133 percent between 2010 and 2050 in order to meet projected fish demand worldwide. The findings are being unveiled by the World Resources Institute (WRI), WorldFish, the World Bank, INRA, and Kasetsart University in a new paper called [Improving Productivity and Environmental Performance of Aquaculture](#). This paper is the latest instalment of the 2013–2014 [World Resources Report: Creating a Sustainable Food Future](#). The series profiles a menu of solutions to help feed more than 9 billion people by 2050 in a manner that advances economic development and reduces pressure on the environment.

The report features a “life cycle assessment” that examines how doubling aquaculture production by 2050 could change the sector’s environmental impacts and presents new findings and recommendations for sustainable aquaculture.

The report highlights five approaches to grow aquaculture production sustainably: (i) invest in technological innovation and transfer; (ii) use spatial planning and zoning to reduce cumulative impacts; (iii) shift incentives to reward sustainability; (iv) leverage the latest information technology; and (v) shift fish consumption toward fish that are low on the food chain. Full report can be downloaded from: <http://www.wri.org/publication/improving-aquaculture>

### **Fish to 2030: Prospects for fisheries and aquaculture. Report no. 83177-GLB. The World Bank, Washington DV: 80pp.**

Download from: <http://www.fao.org/docrep/019/i3640e/i3640e.pdf>

### **Reducing Risk in Aquaculture**

This report is the result of an international effort led by the Responsible Aquaculture Foundation and the World Bank to analyze and draw practical lessons from the experiences of aquaculture disease outbreaks in Chile, Vietnam, Madagascar and Mozambique for the benefit of stakeholders throughout the aquaculture industry. It was produced by a broad spectrum of experts and engaged a wide range of industry, government and civil society informants.

The objective of the report was to look for commonalities and exceptions in the history and structure of aquaculture in three regions of the world to elucidate key concepts in aquatic disease management. This information can help farmers, investors and policy makers better prepare for the impacts of disease.

The document can be downloaded from: World Bank Report No. 88257-GLB

# New Publications

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## **World Development Report 2015**

The World Bank's annual World Development Report provides a wide international readership with an extraordinary window on development economics. Each year, the report focuses on a specific aspect of development. The WDR 2015 holds new insights on how people make decisions; it provides a framework to help development practitioners and governments apply these insights to development policy. Research in the WDR suggests that poverty constitutes a cognitive tax that makes it hard for poor people to think deliberatively, especially in times of hardship or stress. When used with existing policy approaches, new tools ranging from simple, low-cost changes such as better framing of messages and changing the timing of aid, can significantly improve outcomes.

The complete World Development Report 2015 is available online at:

<http://www.worldbank.org/content/dam/Worldbank/Publications/WDR/WDR%202015/WDR-2015-Full-Report.pdf>

## **New open access journal: Aquaculture Reports**

This new open access journal aims to publish regionally-focused new research on novel species, systems and regions in emerging areas of aquaculture research and development.

Find out more at: [www.elsevier.com/locate/aqrep](http://www.elsevier.com/locate/aqrep)



## Upcoming Conferences

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### ◆ Global Conference on Inland Fisheries

Global conference on inland fisheries organised by FAO is scheduled for 26-30 January 2015 in Rome, Italy.

For details visit: <http://inlandfs.toisheries.org>

### ◆ SeaWeb Seafood Summit

The international seafood sustainability summit conference is scheduled for 9-11 February 2015 in New Orleans, Louisiana, USA.

For details, visit: [http://www.seafoodsummit.org/?utm\\_source=37003&utm\\_medium=Email&utm\\_campaign=AttendeeMktg](http://www.seafoodsummit.org/?utm_source=37003&utm_medium=Email&utm_campaign=AttendeeMktg)

### ◆ Aqua Aquaria India 2015

Aqua Aquaria India 2015, the third one in the series is scheduled for 20-22 February 2015 in Vijayawada, Andhra Pradesh, India.

For more information, visit: [www.aquaaquaria.com](http://www.aquaaquaria.com)

### ◆ Aquaculture America 2015

Aquaculture America 2015 is scheduled for 19-22 February 2015 in New Orleans, Louisiana, USA.

For details visit: [www.was.org/meetings](http://www.was.org/meetings)

### ◆ 2<sup>nd</sup> International Conference on Fisheries, Aquaculture and Environment in the Indian Ocean

2<sup>nd</sup> International Conference on Fisheries, Aquaculture and Environment in the Indian Ocean is scheduled for 24-26 February 2015 in Muscat, Oman. For details visit: <http://www.fishconference.om>

### ◆ International Conference on Marine Science and Aquaculture

The International Conference on Marine Science and Aquaculture is scheduled for 17-19 March 2015 in Kota Kinabalu, Sabah, Malaysia. For details visit: <http://www.ums.edu.my/implo/icomsa/index.html>

### ◆ 3<sup>rd</sup> PICES/ICES/IOC Symposium on Effects of Climate Change on the World's Oceans

3<sup>rd</sup> PICES/ICES/IOC Symposium on Effects of Climate Change on the World's Oceans is scheduled for 23-27 March 2015 in Santos

City, Brazil. For details visit: [http://pices.int/meetings/all\\_events\\_default.aspx](http://pices.int/meetings/all_events_default.aspx)

### ◆ Tenure and Fishing Rights 2015

A global forum on rights-based approaches for fisheries ("User Rights 2015) is scheduled for 23-27 March 2015 in Siem Reap, Cambodia. For details contact: [Rebecca.Metzner@fao.org](mailto:Rebecca.Metzner@fao.org)

### ◆ 7<sup>th</sup> World Water Forum

The 7<sup>th</sup> World Water Forum is scheduled for 12-17 April 2015 in Daegu Gyeongbuk, Korea.

For details visit: <http://www.worldwaterforum.org/en/>

### ◆ ASEAN Fisheries and Aquaculture Conference and Exposition 2015

The ASEAN Fisheries and Aquaculture Conference and Exposition 2015 with a theme of "ASEAN Seafood for the World" is tentatively scheduled for May 2015. For updated information, please visit: [www.seafdec.org](http://www.seafdec.org)

### ◆ World Aquaculture 2015

World Aquaculture 2015 is scheduled for 26-30 May 2015 in Jeju, Korea. For more details visit: [www.was.org](http://www.was.org)

### ◆ Aquarama 2015

The 14<sup>th</sup> International Ornamental Fish and Accessories Exhibition is scheduled for 28-31 May 2015 in Suntec, Singapore.

For details visit: [www.aquarama.com.sg](http://www.aquarama.com.sg)

## Upcoming Conferences

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### ◆ Fish Passage 2015 – Engineering and Ecohydrology for Fish Passage

Fish Passage 2015 – Engineering and Ecohydrology for Fish Passage conference is scheduled for 22-24 June 2015 in Groningen, the Netherlands. For details visit: <http://fishpassage.umass.edu/>

### ◆ International Conference on Aquaculture and Fisheries (Aquaculture 2015)

International Conference on Aquaculture and Fisheries (Aquaculture 2015) is scheduled for 20-22 July in Brisbane, Australia. For details visit: [www.aquaculture-fisheries.conferenceseries.com](http://www.aquaculture-fisheries.conferenceseries.com)

### ◆ Aqua Nor 2015

Aqua Nor 2015 is scheduled for 18-21 August 2015 in Trondheim, Norway. For details visit: [www.nor-fishing.no/aqua-nor-2015-18-21-august/](http://www.nor-fishing.no/aqua-nor-2015-18-21-august/)

### ◆ Vietfish

Vietfish is scheduled for 24-26 August 2015 in Ho Chi Minh City, Vietnam. For details visit: [www.en.vietfish.com.vn](http://www.en.vietfish.com.vn)

### ◆ Aquaculture 2015

Aquaculture 2015 is scheduled for 23-26 August 2015 in Le Corum, Montpellier, France. For details visit: [www.aquaculture-conference.com](http://www.aquaculture-conference.com)

### ◆ China International Fisheries and Seafood Expo 2015

China International Fisheries and Seafood Expo 2015 is scheduled for 28-31 August 2015 in Guangzhou, Guangdong, China. For details visit: [www.chinafishex.com/index.asp](http://www.chinafishex.com/index.asp)

### ◆ 2<sup>nd</sup> International Conference on Aquaculture, Agro Business Industry and Agritourism 2015

The 2<sup>nd</sup> International Conference on Aquaculture, Agro Business Industry and Agritourism 2015 is scheduled for 4-5 September 2015 in Krabi, Thailand. For details visit: <http://icaaa2014.weebly.com>

### ◆ World Seafood Congress 2015

World Seafood Congress 2015 is scheduled for 5-10 September 2015 in Grimsby, UK. For details visit: [www.wsc2015.com](http://www.wsc2015.com)

## Upcoming Conferences

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### ◆ **Seafood Expo Asia**

The Seafood Expo Asia is scheduled for 8-10 September 2015 in Hongkong. *For details visit: [www.seafood.expo.com/asia/](http://www.seafood.expo.com/asia/)*

### ◆ **5<sup>th</sup> International Symposium on Stock Enhancement and Sea Ranching**

The 5<sup>th</sup> International Symposium on Stock Enhancement and Sea Ranching is scheduled for 11-14 October 2015 in Sydney, Australia. *For details visit: <http://www.searanching.org>*

### ◆ **Aquaculture Europe 2015**

The Aquaculture Europe 2015 is scheduled for 20-23 October, 2015 in Rotterdam, the Netherlands.

### ◆ **GOAL 2015**

The GOAL 2015 is scheduled for 26-29 October 2015 in Vancouver, Canada

### ◆ **World Congress of aquaculture and Fisheries 2015 (WCAF 2015)**

The World Congress of aquaculture and Fisheries 2015 (WCAF 2015) is scheduled for 6-8 November 2015 in Qingdao, China. *For details please visit: [www.bitcongress.com/wcaf2015/](http://www.bitcongress.com/wcaf2015/)*

# AFS MEMBERSHIP RENEWAL NOTICE

**Dear AFS Members:**

Thank you to 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 up-date their membership dues and contact information, to the Secretariat via email at [info@asianfisheriessociety.org](mailto:info@asianfisheriessociety.org) or fax to: +603-89472217.

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](mailto:info@asianfisheriessociety.org).

**Membership is open for all!**

**Please apply your membership at  
<http://www.asianfisheriessociety.org/join.php>.**

**If you have any question, kindly email us at [info@asianfisheriessociety.org](mailto:info@asianfisheriessociety.org)**

# Synopsis of Papers Volume 27 (Issue 4): Asian Fisheries Science Journal

## **Assessment of Fertilised Pond Ecosystem Productivity Using Aerobic Cellulose Decomposing Bacteria as Carbon Signature**

**SUSMITA LAHIRI, TAPAS JANA, JOYBRATA CHATTERJEE and B. B. JANA**

The growth response of aerobic cellulose decomposing bacteria (CDB) to qualitatively different fertilisers [cattle manure (CM), poultry droppings (PD), inorganic fertiliser (IF)] were examined in experimental tanks under alluvial and laterite soil conditions as well as in natural ponds with alluvial soil. A mixed application of fertiliser [organic - PD (14 kg); CM (44.5 kg) and inorganic - urea (557g); single super phosphate- 3.14 g] was applied in natural ponds. The maximum CDB population occurred in CM treatment followed by mixed application, PD and IF. CDB population in pond ecosystem can serve as carbon signature of the system productivity supporting necessary carbon amendments through manuring in the system for enhanced production.

## **Age Composition of Japanese Spanish Mackerel *Scomberomorus niphonius* (Cuvier 1832) Caught Off Hyogo Prefecture, Southwestern Sea of Japan, as Determined by the Otolith Cross-section Method**

**TETSUYA NISHIKAWA, YUKINOBU NAKAMURA and SATOSHI KATAYAMA**

The age composition of Japanese Spanish mackerel *Scomberomorus niphonius* (Cuvier 1832) caught off Hyogo Prefecture, southwestern Sea of Japan, was investigated based on the otolith cross-section method. The age analysis demonstrated that the method was useful to clarify and accurately determine age of Japanese Spanish mackerel. The method revealed that annual structures on otoliths were mainly formed in June, which was closely associated with the spawning peaks in the East China Sea. In the southwestern Sea of Japan, age 0 fish that were first caught in September or October were all larger than 250 mm FL, suggesting that fish caught in this area hatch around June and migrate from another area in autumn after growing to more than 250 mm FL.

## **Allometric Growth Pattern During Early Developmental Stages of Featherback, *Chitala chitala* (Hamilton 1822) (Osteoglossiformes: Notopteridae)**

**ANISA MITRA, PRATAP KUMAR MUKHOPADHYAY and SUMIT HOMECHAUDHURI**

The relationships between morphometric variables of *Chitala chitala* (Hamilton 1822) (Osteoglossiformes: Notopteridae) larvae reared at a constant temperature ( $30 \pm 2$  °C) from hatching to 30 days after hatching (DAH) were characterised through analysis of their allometric growth. The yolk sac and preflexion stage was distinguished by a precedence of sensorial, feeding, respiratory and swimming systems, and the accelerated growth of head. The flexion stage was characterised by a change in growth priorities.

## **Distribution, Abundance and Sustainable Yield of *Cobia *Rachycentron canadum** (Linnaeus 1766) Occurring in Indian Waters**

**M.K. SAJEEVAN and B. MADHUSOODANA KURUP**

Results of the present study provided first-hand information on the spatio-temporal distribution and biomass of the cobia along the east and west coast of India. Exploratory fishing data collected by the resource survey vessels along both east and west coasts for a period of January 1985 to December 2007 were utilised for this study. Cobia occur along both east and west coast of India and are abundant along the northern latitudes of both coasts. Bathymetrically, they were caught between 33-229 m and were more abundant in near shore waters i.e. depth zone 30-50 m. Cobia were caught along both east and west coast throughout the year. The present study estimated the potential yield of cobia from Indian waters as 798.66 tonnes.

**Reducing Cannibalism of Narrow Clawed Crayfish *Astacus leptodactylus* Eschscholtz 1823 Through Management of Photoperiod and Stocking Density****ARDAVAN FARHADI, CALEB GARDNER and PREETA KOCHANIAN**

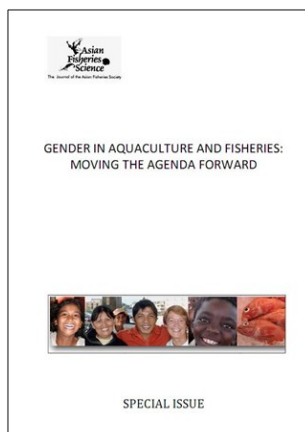
The effect of photoperiod and stocking density on cannibalism, moulting and survival of *A. leptodactylus* was examined in the context of broodstock husbandry. Cannibalism was lowest and survival highest when crayfish were housed at low density (10.m<sup>-2</sup>) and with longer photoperiod. The longest photoperiod, 18 h light (L): 6 h dark (D) conditions resulted in high survival with minor cannibalism. Longest photoperiod also had the undesirable outcome of lower frequency of moulting, suggesting possible impacts on growth.

**Measuring the Technical Efficiency of Purse Seine in Tropical Small-scale Fisheries in Indonesia****EKO SRI WIYONO and HUPIADI**

In response to external changes, fishermen usually change their fishing strategy and increase their input factors. This effort sometimes causes an excess of input factors and inefficiency in fishing operations. Small-scale fisheries play a significant role in the global fisheries industry; therefore, it is necessary to evaluate the excess of input factors and profligacy in fishing operations in small-scale fisheries in tropical areas. The objectives of this study were to measure 1) technical efficiency and 2) variable input utilisation (VIU) of purse seines in the Java Sea. The results of this study showed that most purse seines in Rembang had an excess of input factors and were inefficient in fishing operations. In order to manage purse seine fisheries in Rembang, it is proposed that reducing certain input factors, for instance the length of fishing trips (14.3%), supplies (12.5%) and ice (9.2%) will be advantageous and achieve positive results.

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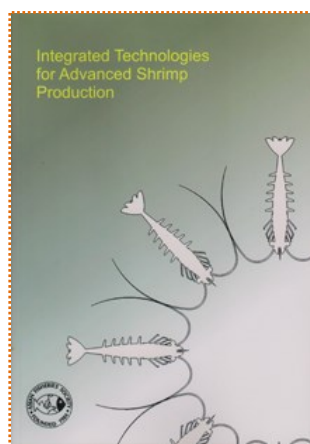
# AFS PUBLICATION FOR SALE



**AFS Member: USD15**

**Gender in Aquaculture and Fisheries: Moving the Agenda Forward**  
**MERYL J WILLIAMS, MARILYN PORTER, POH SZE CHOO, KYOKO KUSAKABE, VEIKILA VUKI,  
NIKITA GOPAL AND MELBA BONDAD-REANTASO**

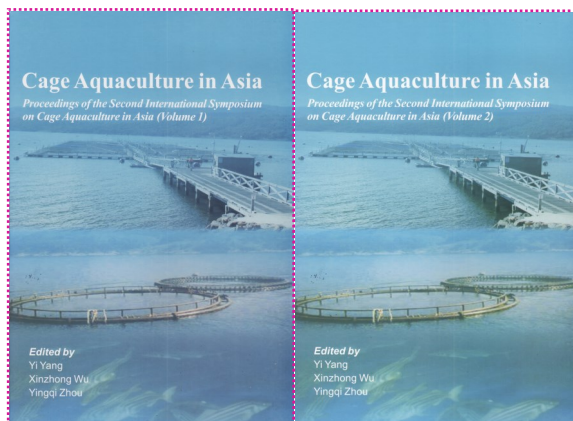
Gender in aquaculture and fisheries is still under-researched but interest is increasing. This volume shows progress in visualizing women's contribution to fisheries and aquaculture and also in structural analysis on value chains and institutions. Faced, however, with additional challenges such as climate change and economic integration, more nuanced analysis is now needed on ecological, economical, political and cultural systems. Factors such as class, age, ethnicity, race, caste, religion etc all come into play to define/condition gender relations.



**AFS Member: USD10**

**Integrated Technologies for Advanced Shrimp Production**

Edited by: Asian Fisheries Science



**AFS Member: USD70**

**Cage Aquaculture in Asia: Proceedings of the Second International Symposium on Cage Aquaculture in Asia (Volume 1 and Volume 2)**

Edited by: Yi Yang, Xinzhong Wu and Yingqi Zhou