



NACA conducts workshops on white spot disease and shrimp health management in I.R. Iran



Participants in the Gorgan workshop, Golestan Province.

The Coordinator of the NACA Aquatic Animal Health Programme, Dr Eduardo Leaña, held a series of four workshops on white spot disease and shrimp health management practices in Iran from 23-29 May. The visit was fully funded and hosted by the Beyza21 Feed Mill Company in coordination with the provincial offices of the Iranian Fisheries Organization (Shilat).

On 23 May Dr Leaña conducted a workshop for around 50 farmers, processors and officials from the Iranian Fisheries Organization in Gorgan, Golestan Province, which had been hit hard by whitespot in 2015 during low water temperature conditions. Aside from whitespot and shrimp health management practices, his lectures covered biosecurity and better pond and feed management, which are key factors in preventative health management. This was followed by an intensive discussion session with participants covering issues from the nature of white spot virus to probiotics and other preventative measures. The lectures and discussion sessions were simultaneously translated into the local language.

The second workshop was held on 25 May in Bandar Abbas, Hormozgān Province, with about 30 participants from the public and private sectors including shrimp farmers and members of the shrimp farmer's association.

The third workshop was held on 27 May in Bushehr with around 100 participants. Bushehr faces problems with whitepot on an annual basis and this disease is still the most serious problem for shrimp farmers in the province.

The last workshop was held on 29 May in Abadan, Khuzestan Province with around 30 participants from both public and private sectors. Abadan was the first province in Iran to be

hit by whitespot more than 15 years ago, and the disease has been a persistent issue causing severe losses for many farmers.

The workshops were well received and the discussions between public and private sector participants were enthusiastic and stimulating for all involved. NACA wishes to express thanks to both the Beyza21 Feed Mill Company and the Iranian Fisheries Organization for hosting Dr Leaña and for organising the workshops.

Don't forget to register for the 11th Asian Fisheries and Aquaculture Forum!

As preparations for the 11th Asian Fisheries and Aquaculture Forum (3-7 August, Bangkok) are nearing finalisation, we suggest that participants ensure they register soon to take advantage of the early bird registration rates! To register or obtain more information about the forum, please visit the link below:

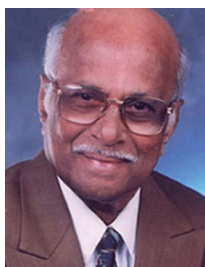
<http://www.enaca.org/modules/afaf/welcome.php>

...and don't forget to register for the Global Conference on Climate Change Adaptation for Fisheries and Aquaculture either!

The "FishAdapt" conference (8-10 August, Bangkok) will be held back to back with the 11th AFAF. Early bird registration rates will close soon! To register or obtain more information about the conference please visit the conference website at: <http://www.fishadapt.com>

NACA pays tribute to Professor H.P.C. Shetty – Patron of the Pillay Aquaculture Foundation

Professor H. P. C. Shetty (17 May 1930 - 11 November 2015) was the first Director of Instruction of the College of Fisheries Mangalore, established in 1969, the first such College in India, thereby laying the foundation for fisheries education. He was responsible for setting the syllabus and developing the campus of the College in Mangalore. He was involved in replicating the Mangalore Fisheries College model elsewhere in India and even abroad. As an Aquaculture Consultant to FAO, Rome, he prepared the curriculum for post-graduate degree programmes in Nigeria, Brazil and the Philippines.



Born on 17 May, 1930, Prof. Shetty was a student of St. Aloysius College, Mangalore. He did two post-graduate degrees (M.A and M.Sc) in Zoology and Biology from Madras Christian College. On completing his studies in 1956, Prof. Shetty began his career as Officer-in-Charge of Mahanady Estuarine Fisheries Research Investigation, Odisha. Working in different capacities at the Central Inland Fisheries Research Institute, he led the Documentation Centre, Riverine and Lacustrine Division and the All India Coordinated Research Project on Carp Spawn Prospecting and Collection Techniques. After a short stint as Vice-Chancellor of University of Agriculture Sciences, Bangalore in 1989, Prof. Shetty worked abroad in different capacities as fisheries consultant to Government of Cambodia, senior aquaculturist, FAO and inland fisheries advisor to International Mekong Committee, Bangkok. His contribution to research, education, training and policy issues in fisheries over a period of more than 40 years has been recognised on a global basis. He has been executive councilor of Asian Fisheries Society and founder-chairman of its Indian Branch. Having participated in several national and international conferences, Prof. Shetty has to his credit over 150 research papers and several manuals and reports. He is the recipient of Asian Fisheries Award conferred by the Asian Fisheries Society. He has served on several national and international committees and advisory boards on fisheries.

Recognising his outstanding lifetime contribution to fisheries, particularly in the field of education, he was awarded the Doctorate of Science (Honoris Causa) by the University of Animal & Fishery Sciences, Kolkata, in 2009. The latest responsibility he had taken on was to promote the Pillay Aquaculture Foundation in memory of his one-time senior, Dr. T.V.R. Pillay. He remained its lifetime Patron.

Prof. Shetty is survived by his wife, daughter, two sons, grandchildren and great grandchildren. Professor H. P. C. Shetty, the doyen of fisheries education, administration and research, passed away in Mangalore on November 11, 2015. Our sincere condolences go to Prof. Shetty's family.

EHP: Shrimp industry survey

**Shrimp farmers – your help is needed!
Chance to win prizes!**

FishVet Group Asia Limited is collecting data on the geographic spread and impact of EHP (*Enterocytozoon hepatopenaei*). All farmers who complete a short survey form by 30 June 2016 will be included in a prize draw with the following prizes:

- Power banks
- Fitness watches
- USB sticks
- T-shirts

To enter the competition, please download the survey form, answer the questions and email it back to info.FVGAL@fishvetgroup.com. **All data will be kept strictly confidential.**

<http://www.enaca.org/publications/announcements/2016/ehp-survey-competition.docx>

3rd International Conference on Fisheries and Aquaculture, 24-25 August, Negombo, Sri Lanka

The International Institute of Knowledge Management of Sri Lanka invites you to submit original research papers for presentation to the 3rd International Conference on Fisheries and Aquaculture (ICFA 2016) to be held from 24 – 25 August 2016, in Negombo - Sri Lanka with the theme "Aquaculture as an imperative segment of blue economy and sustainable development goals." The thematic tracks of the conference are:

- Fisheries statistics, information and education.
- Ecosystems, fisheries biology and aquaculture.
- Fisheries and aquaculture resources.
- Fisheries technology and engineering applications.
- Post-harvest techniques and aquaculture products.
- Animal welfare and aquaculture ethics.
- Fish trade and commercial implications.
- Fisheries management and governance.
- Sustainable methods of aquaculture industries.
- Global trends and issues of fisheries and aquaculture.

For more information please visit the ICFA website at: <http://aquaconference.com/>

Special Session on the Status of Aquatic Genetic Resources for Food and Agriculture

A side event during the ASEAN Fisheries and Aquaculture Conference and Exposition 2016 and the 11th Asian Fisheries and Aquaculture Forum

FAO and NACA will take advantage of the forthcoming 11th Asian Fisheries Forum (Bangkok, 3-7 August) to organise a special session on the Status of Aquatic Genetic Resources for Aquaculture in various countries from the Asia-Pacific Region. Sustainable use, conservation and management are key aspects for the long-term development of the aquaculture sector all over the world. The special session will be held on 5 August at the Bangkok International Trade and Exhibition Center (BITEC).

NACA and FAO jointly organised first workshop for capacity building in national reporting on aquatic genetic resources for national focal points in Asia-Pacific countries in April 2015. This side event will provide an opportunity to further build the capacity of national focal points in additional countries.

For the past five years FAO's Fisheries and Aquaculture Department has been leading the development of the first global assessment of the State of the World's Aquatic Genetic Resources for Food and Agriculture. This assessment will provide a stocktake of the current situation and future trends with regards to aquatic species being used for farming, including driving factors, impacts, and issues confronting stakeholders involved in their use, conservation and management. This global report will be based primarily on an analysis of reports provided by national focal points and will also be complemented by selected thematic background studies, data and information from relevant international organisations involved in aquaculture and fisheries.

The special session will provide an excellent opportunity to bring together experts and delegates from various countries in the Asian and Pacific region to share their experiences and approaches to assuring the sustainable use, conservation and management of aquatic genetic resources. It will also serve to raise awareness among the scientific community present during the Asian Fisheries and Aquaculture Forum, to present in detail the actions being implemented by FAO and NACA in this process and lastly it will be used to finalise some of the country reports that will become the basis of the global report that is in development.

For more information about the special session please contact Kuldeep Lal, Coordinator, Genetics and Biodiversity Programme, NACA (kuldeep@enaca.org).

www.enaca.org

Second International Technical Workshop on Acute Hepatopancreatic Necrosis Disease (AHPND)

The Second International Technical Seminar/Workshop on AHPND: There is a way Forward! will be held from 23-25 June 2016 at the Sukosol Hotel in Bangkok, Thailand.

The purpose of the meeting is to update knowledge and exchange experiences in dealing with AHPND, to validate current concepts and models under different systems and environmental conditions and to put into action the responsibilities of the different sectors (i.e. government, producer and academe) as a way forward to deal with AHPND.

The meeting will consist of three technical sessions looking at EMS/AHPND through the lens of the industry, the academe and the government sectors and a fourth session on the way forward.

- **Technical Session 1:** Industry Update on AHPND.
- **Technical Session 2:** Academic Update on AHPND.

- **Technical Session 3:** National and International Framework Update.
- **Session 4:** Way Forward.

All interested stakeholders are welcome to attend. A catering fee of US\$40 / day applies (includes lunch plus morning and afternoon tea). Reservations will be accepted until close of business on 10 June; places are limited.

For more information about the workshop please download the prospectus from the link below, or to reserve a seat contact Dr Melba B. Reantaso (Melba.Reantaso@fao.org), FAO Aquaculture Officer.

<http://www.enaca.org/uploads/announcements/ahpnd-prospectus-june-2016.pdf>

Guidebook on Farmer-to-Farmer Extension Approach for Small-Scale Freshwater Aquaculture

This guidebook was prepared as an offshoot of the International Symposium on Small-scale Freshwater Aquaculture Extension, which was held in Bangkok, Thailand in December 2013. The success stories of many small-scale farmers in both Asian and African countries have brought insights on the effectiveness and self-sustaining mechanism of the farmer-to-farmer approach of aquaculture extension. This is a scheme developed by JICA in the implementation of their Technical Cooperation Projects for rural development in several developing countries in the region.

Information included in this guidebook were mostly taken from the results of the Freshwater Aquaculture Improvement and Extension projects (phases 1 and 2) that were implemented by JICA in Cambodia. Also included are from the outputs derived from the discussions during the International Symposium, as well as from personal interviews with core and grow-out fish farmers in several provinces in Cambodia.

This document will only serve as a guide on how to implement the farmer-to-farmer approach on small-scale freshwater aquaculture extension, which was solely based on successful on-farm experiences mostly in freshwater aquaculture in Cambodia. Every subject in this guidebook can be modified depending on the existing local situation and condition where the extension programmes will be implemented. It is also hoped that this guidebook can be adapted to other small-scale aquaculture operations in the region (e.g. brackishwater and coastal aquaculture), especially in rural poor areas.

The guidebook is also available in Burmese, French, Khmer and Thai languages; a Lao translation is also in preparation and will be published soon. Publication of this book was made possible through financial support from JICA.

The guidebook and its translations will be available for free download from the NACA website shortly.

Guidebook on Farmer-to-Farmer Extension Approach For Small-Scale Freshwater Aquaculture



2015

Sustainable intensification of aquaculture in the Asia-Pacific region

Documentation of successful practices

In order to support sustainable intensification of aquaculture with a view to increasing food fish supply, livelihood opportunities, incomes and overall economic growth in the region, FAO is currently implementing a regional initiative on sustainable intensification of aquaculture for blue growth in Asia-Pacific.

This publication is an output of a joint initiative by FAO and NACA to identify and document practices that have contributed to the sustainability of intensive aquaculture in the Asia-Pacific region. The initiative included a regional workshop for sharing and validating success stories and for developing a strategy to scale up or disseminate these practices. This publication documents twelve practices that

contribute to the sustainable intensification of aquaculture and provides a background on the process of selection and documentation.

The demand for fish in Asia and the Pacific region is estimated to increase by 30 percent by 2030 as a result of the anticipated population growth and the improved living standards of the people of the region. In order to meet such an increased demand for fish, aquaculture production will need to increase by 50–60 percent from the present level by 2030 with the capture fish production remaining static.

Intensification of aquaculture is a major factor that has contributed to the outstanding growth (nearly 10 percent annually) of the industry in the Asia-Pacific region over the



Food and Agriculture
Organization of the
United Nations

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Documentation of successful practices



Network of
Aquaculture
Centres in
Asia-Pacific

Mailing address:
P.O. Box 1040,
Kasetsart University
Post Office,
Ladyao, Jatujak,
Bangkok 10903,
Thailand

Phone +66 (2) 561 1728
Fax +66 (2) 561 1727
Email: info@enaca.org
Website: www.enaca.org

NACA is a network composed of
19 member governments in the
Asia-Pacific Region.



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systems or technologies or manage-
ment practices that contribute to at least
one of the followings:

- (1) improved production and resource
use efficiency, namely land, water, feed,
and energy;
- (2) improved environmental benefits;
- (3) strengthened economic viability and
farmers' resilience; and
- (4) improved social acceptance and
equality and do not compromise the
rest.

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past three decades. Such growth has greatly contributed to food security and the nutrition of the people, rural livelihoods and economic growth in the region, which represents over 90 percent of world aquaculture production by volume. In Asia, aquaculture supplies over 60 percent of food fish, comprising more than 20 percent of the total animal protein intake of the Asian population.

The intensification of aquaculture has depended upon new husbandry practices and increased use of inputs and at the same time has raised concerns about the limited availability of such critical resources, disease outbreaks and environment degradation. Unless appropriate corrective measures are

implemented, the long-term sustainability of aquaculture growth may not be guaranteed.

The most effective approach to meet the increasing demand for fish is to promote the sustainable intensification of aquaculture, that is to say, increasing the productivity and efficiency of aquaculture production while reducing the unit consumption of resources and negative environmental and social impacts. This can be achieved through better management practices, improved governance and adoption of innovative technologies.

Sustainable intensification of aquaculture practice as used in this publication is defined as aquaculture production