

Aerial view of the enclosed wet laboratory complex, which is one of the experimental facilities turned over by DA-BFAR to SEAFDEC/AQD.

# aqdmatters

May-June 2018

Newsletter of the SEAFDEC Aquaculture Department, Tigbauan, Iloilo, Philippines

## Matters inside

Research on tiger shrimp immunostimulant wins top prize 3

China-ASEAN-AQD collaboration in aquaculture looms 3

SEA countries confer on refining eel production 4

New feed ingredient database aims to lower cost of aquafeeds 4

Igang station closes door to tourists to focus on fish breeding 6

ASFA Advisory Board approves digitization project of SEAFDEC/AQD Library 14

## PH Gov't turns over biotech complex to AQD



Acknowledgment of facilities and equipment of the Laboratory for Advanced Aquaculture Technologies or Biotech Laboratory. Seated (L-R): AQD consultant Dr. Rolando R. Platon, NFRDI executive director Drusila Bayate, AQD chief Dan Baliao, and AQD deputy Chief Dr. Koh-ichiro Mori. Standing are Training and Information Division head Dr. Edgar Amar, NFRDI staff, Administration and Finance Division head Amelita Subosa, Research Division head Dr. Leobert de la Peña and Laboratory Manager Engr. Margarita Arnaiz. [PHOTO BY JM DELA CRUZ]

The Philippine Bureau of Fisheries and Aquatic Resources (BFAR) formally turned over a biotechnology

complex to SEAFDEC/AQD last 7 May 2018 as Chief Dan Baliao signed a document acknowledging receipt of

the Laboratory Facilities for Advanced Aquaculture Technologies.



www.seafdec.org.ph

Continued on next page...

The facilities, already hosted by SEAFDEC/AQD since 2002, was a JPY 895 million (P431 million in 2001) bilateral project between the Philippine and Japanese governments as grant aid through the Japanese International Cooperation Agency (JICA) with the Philippine Department of Agriculture (DA) as recipient.

The Chief expressed his gratitude to the Government of Japan through JICA

for entrusting AQD with state-of-the-art equipment that enhanced its research capabilities. The complex included laboratories for endocrinology and genetics, feed technology, algal production and microbiology.

“Let this facility now stand as a symbol of our continued effort in our fisheries and aquaculture R&D activities. The official turn-over I accept today from DA/BFAR with heartfelt appreciation,” Baliao said.

Research Division head Dr. Leobert de la Peña, who welcomed the guests, said that AQD has been working hand in hand with BFAR for the longest time. The collaboration, he said, resulted to numerous successful innovations and aquaculture technologies.

“This partnership has reached another milestone.... rest assured that the partnership between these two research institutions will be

made even stronger and will continue to work hard to attain a sustainable aquaculture here in the Philippines,” de la Peña said.

BFAR was represented by Drusila Bayate, executive director of the National Fisheries Research and Development Institute while AQD deputy chief Dr. Koh-ichiro Mori represented the Government of Japan. [a](#)

- MET ALDON

## FAO-MSU-WorldBank gathered world's fish disease experts to improve aquaculture biosecurity

WASHINGTON DC, USA - The emergence and spread of aquatic diseases in aquaculture systems call for a new approach to aquaculture management. This brought about FAO-Mississippi State University-WorldBank to gather fish disease experts worldwide in a “Stakeholder Consultation” last 10-12 April 2018 to improve aquaculture biosecurity.

Fish diseases continue to constrain aquaculture production hampering its great potential to contribute to food security and poverty alleviation. Recognizing this, the Stakeholder Consultation on Progressive Management Pathway was convened to pool scientists' minds to address disease problems that impede aquaculture production.

SEAFDEC/AQD's fish health expert, Dr.

Leobert de la Peña and SEAFDEC/AQD chief Dan Baliao were invited to present the Philippines' biosecurity programs during the workshop. Discussions followed after each presentation of seven other countries like Chile, Norway, South Africa, Brazil, USA, Viet Nam and Kingdom of Saudi Arabia.

Dr. de la Peña discussed the economic losses in aquaculture due to diseases. He offered the strict implementation of biosecurity programs as the solution and presented sets of practices that will reduce the probability of a pathogen introduction and its subsequent spread from one place to another. He also discussed challenges faced by SEAFDEC/AQD and its program related to biosecurity.

Other topics presented included health management in small-scale aquaculture, effective extension services to support biosecurity systems,

and socio-economic impacts of aquatic diseases.

The stakeholder consultation aimed to develop a Progressive Management Pathway to assist national and international improvement of biosecurity in aquaculture production.

A progressive management pathway (PMP) is a tool to assist countries to put into place appropriate and sustainable levels of risk management in aquaculture production systems. The PMP for Aquaculture Biosecurity (PMP-AB) is an extension of the Progressive Control Pathways (PCP) approach which has been internationally adopted to assist countries in planning and monitoring risk reduction strategies.

Fisheries and aquaculture remain important sources of food and nutrition. Food and Agriculture Organization reported that hundreds of millions of people around the world rely on fisheries and aquaculture for their

livelihoods. The drastic decline of fish production due to diseases, however, has caused revenue losses to people as well as the government.

The discussion on how aquaculture development brings new challenges to aquatic animal health was emphasized. These challenges include compliance to international treaties, practical implementation of regional guidelines and national strategies, increasing biosecurity and biosecurity awareness at all levels, empowering farmers to manage disease and other risks through better management practices, and conducting targeted research that will support biosecurity assessments. [a](#)

- MET ALDON

# Research on tiger shrimp immunostimulant wins top prize

PASAY City - A SEAFDEC/AQD scientific paper is a recent recipient of the Dr. Elvira O. Tan Award for 2018.

The paper titled “A probiotic *Bacillus* strain containing amorphous poly-beta-hydroxybutyrate (PHB) stimulates the innate immune response of *Penaeus monodon* postlarvae” was awarded the top prize in the aquatic science category.

Dr. Joseph Leopoldo Q. Laranja is the principal author of the paper. Other authors include Dr. Edgar C. Amar and Ms. Mary Joy Geaga of SEAFDEC/AQD as well as Mr. Yufeng Niu, Mr. Peter De Schryver and Prof. Peter Bossier of Ghent University, Belgium.

Dr. Amar, secondary author of the paper, received the award in Dr. Laranja’s stead.

“I am very honored to receive the award,” Dr. Amar shared in an interview. “In fact, I have become more motivated to do more research, especially since the present

thrust of the [SEAFDEC/AQD] management is geared towards shrimp.”

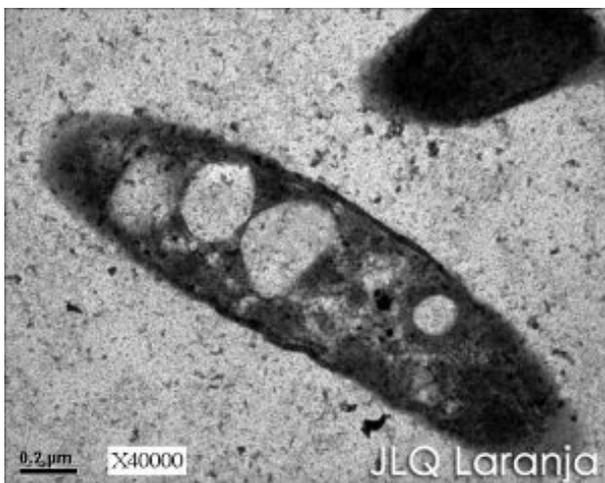
He also stressed the importance of preventing diseases by increasing the resistance of animals.

“It is important to promote the health of *Penaeus monodon* since it is susceptible to many kinds of diseases - like viral, bacterial or parasitic diseases,” Dr. Amar explained. “This is a study which will give farmers the option on which fish health management scheme to adopt.”

The research paper discussed the potential of the probiotic strain of *Bacillus* sp. containing PHB to increase the resistance of the giant tiger shrimp (*Penaeus monodon*) against diseases.

The award was given last 22 June 2018 during awarding and recognition ceremonies of the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development at the Philippine International Convention Center. **a**

- JR PAGADOR / RD DIANALA



Transmission electron micrograph of *Bacillus* sp. JL47 containing the intracellular amorphous PHB. Photo credit: Laranja, JLQ. 2017. Amorphous Poly-b-hydroxybutyrate (PHB) – accumulating *Bacillus* spp. as biocontrol agents in crustacean culture. PhD thesis, Ghent University, Belgium.

# China-ASEAN-AQD collab in aquaculture discussed



AQD chief Dan Baliao shakes hand with Me Jianguo Pro of the China-ASEAN Center for Joint Research and Promotion of Marine Aquaculture [PHOTO BY RE MAMAUAG]

FUZHOU, China - The China-ASEAN Center for Joint Research and Promotion of Marine Aquaculture Technology invited SEAFDEC/AQD Chief Dan Baliao to attend a forum to discuss collaboration with SEAFDEC/AQD. The forum carried a theme “Cooperation, sharing, development.” SEAFDEC scientist, Dr. Roger Edward Mamauag, joined Chief Baliao during the discussion in the forum. Other invited foreign aquaculture experts were from Indonesia, Malaysia and USA.

The participants of the China-ASEAN Marine Aquaculture Industry Development Forum on 29 June 2018 explored the prospect of aquaculture collaboration between China-ASEAN and SEAFDEC/AQD. The forum was organized by School of Life Sciences, Sun Yat-sen University under the leadership of Me Jianguo Pro.

Priority areas identified were the development of the marine aquaculture industry and the establishment of the China-ASEAN marine aquaculture technology network to achieve the following objectives: marine aquaculture technology cooperation research;

mature technology transfer and transformation of technology; demonstration base construction; and technical and management training between China-ASEAN countries to form a transformation model for regional cooperation in science and technology.

“We are working to help the ASEAN countries establish a competitive industry with modern high-tech as the core and enhance its production, safety and benefits, in order to achieve mutual benefits and development China and ASEAN countries,” said Me Jianguo Pro in his letter to Chief Baliao.

The Conference was composed of four different meetings including Global Aquaculture Summit 2018; Shared, Cooperative and Developing Mariculture Industry Forum; China-ASEAN Center for Joint Research and Promotion of Marine Aquaculture Technology Working Conference; and China-ASEAN Seaweed Science and Technology Cooperation Conference. These different meetings were organized by different aquaculture agencies in China. **a**

- MET ALDON

# SEA countries confer on refining eel production

**BANGKOK, Thailand**

– Aiming to improve the quality of eels produced in Southeast Asia, experts from the Philippines and other Southeast Asian countries gathered to discuss the results of baseline surveys and experiments during a technical workshop last 7 to 8 June 2018.

The demand for anguillid eels in Asia and other countries around the world is increasing but the data and information that are crucial in the protection and production of the species are still very limited.

To discuss challenges on eel farming and report on the findings of eel studies, the Southeast Asian Fisheries Development Center / Aquaculture Department (SEAFDEC/AQD) took part in the “International Technical Workshop on Tropical Anguillid Eels in Southeast Asia.”

Dr. Maria Lourdes Aralar, scientist of SEAFDEC/AQD, conducted a survey among



Participants from SEAFDEC member countries and partner agencies listen to presentations made during the workshop  
(PHOTO COURTESY OF MLC ARALAR)

eight anguillid farms in the Philippines. Survival rate during transport was the main aspect surveyed since majority of the farms produced eels for export. It was found that fungal infection and gas bubble disease are the main causes of mortality during the transport of eels. To improve survival, SEAFDEC/AQD conducted studies on their optimum stocking density and nutrition.

Feeding trials, identification of potential diseases and formulation of health management protocols

will continue to be done by SEAFDEC/AQD to refine the nursery rearing capability of local farms.

To improve the identification of eel species, SEAFDEC/AQD scientist Dr. Maria Rowena Eguia presented several morphological characteristics that could be used to differentiate eel species. These include fin length, presence and patterns of pigmentation, and proportion of anal-dorsal length. Dr. Eguia mentioned that the use of molecular

markers can further confirm the results of physical identification.

Topics on international trade, capture fishing, and the management scheme of eels were also discussed by delegates from participating countries. The workshop is part of SEAFDEC’s program entitled “Enhancing Sustainable Utilization and Management Schedule of Tropical Anguillid Eel Resources in Southeast Asia,” which is funded by the Japan-ASEAN Integration Fund. [a](#)

- JM DELA CRUZ

## New feed ingredient database aims to help lower cost of aquafeeds

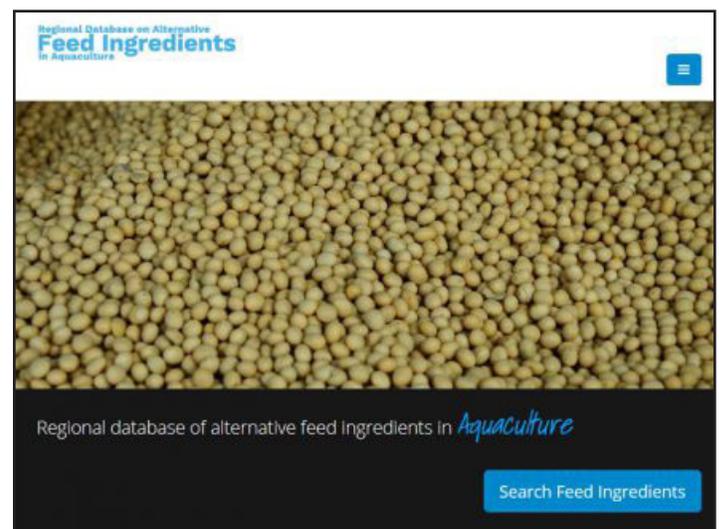
Three decades’ worth of research on fish feed ingredients in Southeast Asia will be hosted in an online database that aims to reduce the aquaculture industry’s reliance on fish-derived meals and oils, as well as significantly lower the cost of feeds.

Fish-derived meals and oils take up to 40% of formulated feeds especially

for carnivorous species due to their well-balanced nutritional profile.

“Reducing the amount of fish-based ingredients in feed formulations by using non-fish alternatives will significantly benefit the aquaculture industry,” said Dr. Roger Edward Mamauag, fish nutrition expert and head of the Nutrition and

*Continued on next page...*



A preview of the Regional Database on Alternative Feed Ingredients in Aquaculture. The database can now be accessed through the URL, [afid.seafdec.org.ph](http://afid.seafdec.org.ph).

Feed Development Section of the Southeast Asian Fisheries Development Center Aquaculture Department (SEAFDEC/AQD) which is spearheading the development of the database.

He said relying less on fishmeal and fish oils will lower feed prices which account for more than 50-60% of fish production cost.

The database aims to host existing and emerging feed ingredient information in an easy to navigate platform as part of an initiative to promote awareness in the aquaculture industry that utilizing non-fishmeal based ingredients can be economical.

Information culled from over 100 published scientific papers on the inclusion of these ingredients in aquafeeds had been reviewed and included in the database which may be accessed by students, researchers, aquaculturists and feed manufacturers.

Alternative feed ingredients available across Southeast Asia include leguminous seed meals, leaf meals of various terrestrial

plants such as *ipil-ipil*, papaya, and cassava as well as non-conventional sources like snails and worms.

The feed ingredient database is developed by SEAFDEC/AQD in collaboration with SEAFDEC member-states and funded by the Government of Japan-Trust Fund (GOJ-TF) through SEAFDEC/AQD's former and present deputy chiefs Dr. Chihaya Nakayasu and Dr. Koh-ichiro Mori.

### Unsustainable fish-based ingredients

"Aquaculture is a very important sub-sector in our region," said Dr. Kom Silapajarn, SEAFDEC secretary general during the Workshop on Regional Database on Alternative Feed Ingredients in Aquaculture held in Bangkok, Thailand last 17 May 2018 participated by representatives from SEAFDEC member-states.

"However, the sub-sector is faced with one very pressing concern that impedes its stable growth, which is its unsustainable reliance on fish

meal and other fish-based products as sources of feed ingredients in aquaculture feeds," he added.

The increasing demand for the region's aquaculture products means aquafeed production will likely intensify, along with the demand for fish meals and oils.

### Regional collaboration

The need for a comprehensive database of ingredients was first proposed during the Regional Technical Consultation on the Development and Use of Alternative Dietary Ingredients or Fish Meal Substitutes in Aquaculture Feed Formulation held in Nay Pyi Taw, Myanmar on 9-11 December 2014 in an effort to widely disseminate information on alternative feed ingredients generated from numerous researches conducted in the region.

"I think this is a very important initiative. We can mobilize other professionals in the feed industry, and from the regional laboratories, we can get as much information as we can," said Dr. Yuan Derum,

coordinator of the Education and Training Programme of the Network of Aquaculture Centers in Asia-Pacific.

"And we put all the information together, make it available for people who are interested and who will really use it to formulate economical feed for small-scale farmers," he added.

"It's a necessary database because it will serve as reference for the different stakeholders, whether they are aquaculture practitioners, students, or any industry players because the information that will be contained in the database are pertinent information as to the use of locally available or alternative feed ingredients, their levels of inclusion in the diet, and their effects on the biological performance of the species," commented Dr. Frolan Aya, a fish nutrition expert from SEAFDEC/AQD who is involved in the development of the database.

The database will be officially launched on 13 July 2018 coinciding with SEAFDEC/AQD's 45th anniversary. [a](#)

- JB BIÑAS

## Intensive training on shrimp and marine fish culture completed

Nineteen participants completed the 35-day intensive training course on "Manpower Development on Shrimp and Marine Fish Aquaculture" held at SEAFDEC/AQD from 5 February to 10 April 2018.

The said training course, conducted for graduates of fisheries schools, was initiated to develop the skills and knowledge necessary for the aquaculture of shrimp and marine fish as well as address

the manpower needs of the growing aquaculture industry.

The training course covered topics on shrimp and marine fish biology, seed production, nursery, cage and pond culture, as well as topics on natural food production, feed preparation and disease management. Trainees also gained skills on pond and cage culture like pond preparation, stocking, soil and water instrumentation, feeding



Trainees study the morphology of tiger shrimp, *Penaeus monodon*

management, sampling, repairs and harvesting.

Shangrilla Seposo, one of the training course graduates, recalled that the hardest part was the time pressure and the fact that what they learned in four years had to

be compressed in two months. Still, she said the experience made them realize how it will be in the real workplace.

"The diversity of the participants made it difficult for us at first considering the different backgrounds and

*Continued on next page...*

preknowledge, however, were able to surpass it”, Seposo added.

Rey Lagutin, another trainee, thanked everybody for the support and motivation, especially the heads of the different stations for the knowledge and skills they learned from the practicals.

Another trainee, Therese Marie Geanga, remarked how the practical approach helped supplement their learnings from the university.

“All the knowledge and information we needed were provided by the resource persons, the heads and the supervisors. I liked it because I learned more in practical sessions because in school it was more on theory, and here, it was really hands-on,” Geanga said.

After the training, the performance of participants will be evaluated and they will be assigned to different AQD projects or recommended to

different government offices, non-government organizations and the private sector.

### Second session

With the success of the first session of the training, Caryl Genzola, OIC of the Training Section, stated that the proposal for a second session is in the works. He also shared that there might be the possibility of opening the training course to other related science courses.

“For the batch session 2, we already agreed to open it to other courses like science courses, like BS Biology, Marine Biology, or Chemistry, because you know, these trainees will not only be deployed at hatcheries and at farms but at the same time, they will also be working in laboratories,” Genzola explained. [a](#)

JR PAGADOR / MET ALDON

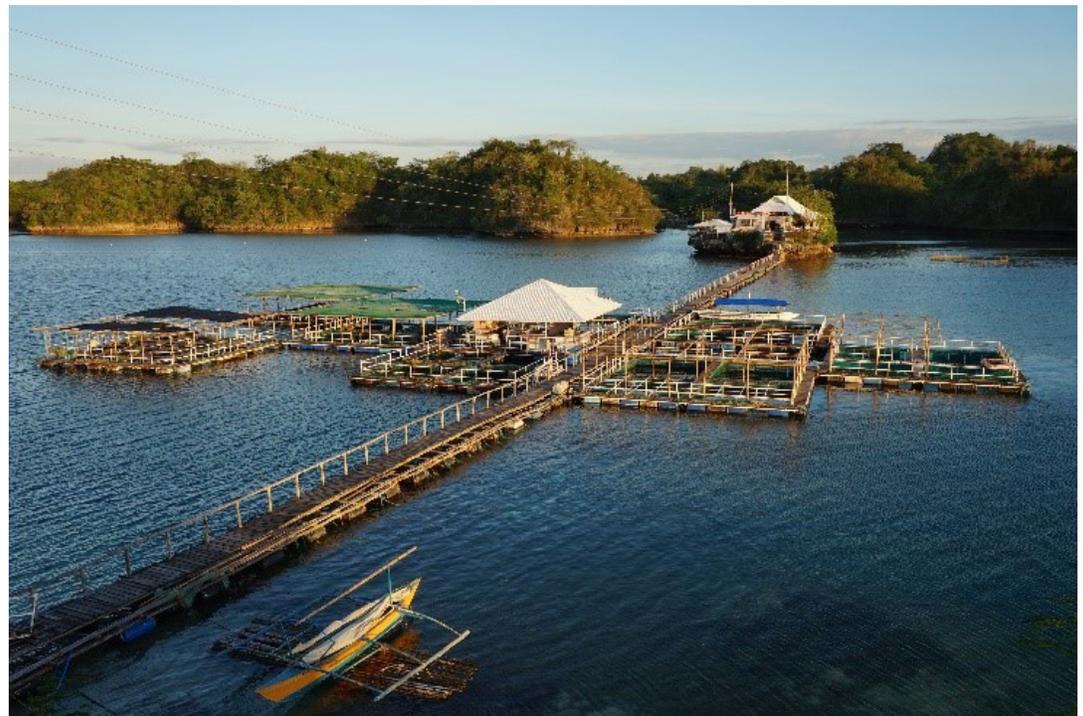
## Igang station closes door to tourists to focus on fish breeding

As it intensifies its breeding programs to provide more seeds to fish farmers, AQD closed its Igang Marine Station to tourism beginning 1 June 2018.

The research station, composed of several islets interconnected by foot bridges and fish cages, is a popular tourist destination for island hoppers visiting Guimaras province. In 2017 alone, about 15 thousand guests were reported to visit the facility.

However, the boat loads of tourists coming to see the large fish breeders are suspected to be affecting the spawning performance of the fish, says Igang Marine Station head Mateo Yap. Giant grouper breeders, one of the attractions in the station due to their large size of 50 kilograms each, are among the experimental animals suspected to be disturbed by frequent visitors.

Peter Palma, a project staff working on the grouper, said that the breeders are not spawning as expected and by limiting visitors, they hope to “factor out the effect of noise,



Breeding cages at AQD's Igang Marine Station

unnecessary movements in cages, to focus on experiments and determine the reason for the non-spawning of the fish.”

To accommodate the request of the Philippine government for more milkfish fry, AQD aims to at least triple the milkfish breeders

housed in the station, currently numbering 52. “We will be bringing in more fish so it’s important that they will not be stressed,” Yap said.

Yap added that groups who wish to visit the station in June and thereafter will have to seek formal approval from the Chief.

Aside from grouper and milkfish, the station is also home to pompano, sea bass, snapper and abalone breeders. Injured turtles found around Guimaras are also given refuge in the fish cages along with giant clams and other species. [a](#)

- RD DIANALA

# Site survey for a nationwide multi-species hatchery into its second leg

The SEAFDEC feasibility study team was in its second leg scouting for ideal sites for multi-species hatcheries. They were scouring the province of Zamboanga del Norte before proceeding to Bantayan, Cebu.

The project is a multi-million collaboration between SEAFDEC and BFAR. Earlier, the team was in Agusan del Norte, Agusan del Sur and Surigao del Sur.

The site assessment survey is the first stage of the legislated multi-species hatcheries to be established in 15 municipalities in different parts of the Philippines. Site assessment includes aspects for its suitability, infrastructure, and eventual operation.

The project hopes to achieve a common goal of SEAFDEC and BFAR – increase fish production. This goal can only be achieved if the need for seedstocks is addressed first.

The 15 pilot hatcheries will be established in the following provinces: Cebu, Zamboanga del Norte, Lanao del Norte, Quezon, Surigao del Sur, Surigao del Norte, Agusan del Norte, and Albay.

The project will not only boost fish production, but also generate employment for the rural people especially in the coastal areas. The number of persons working in the fisheries industry was estimated at 1.6 million in 2015. [a](#)

MET ALDON



Site survey in Jabonga and Nasipit, Agusan del Norte (1st and 2nd photos from top). AQD chief Dan Baliao (2nd from right) and AQD consultant Dr. Rolando Platon (3rd from right) talk to the mayor of Nasipit, Hon. Enrico R. Corvera (rightmost) about the multi-species hatchery project (above).



Site survey in Lingig and Hinatuan, Surigao del Sur



AQD chief Dan Baliao and his team visit the office of Hon. Shem “Titing” G. Garay, mayor of Hinatuan, Surigao del Sur

# Abalone training gets a thumbs up from Malaysian trainees

Engr. Guan Bee Ch'ng, one of the Malaysian trainees of the Abalone Hatchery and Grow-out training course, showed his appreciation to the SEAFDEC/AQD experts who handled the course during the closing ceremony on 25 May 2018.

“We really enjoyed the lecture very much. During the lecture itself, it's not only theoretical but the wonderful part is the practical [sessions],” said Ch'ng.

The 17-day training course is composed of lectures and practical sessions on abalone biology and physiology, broodstock management and seed production, stock enhancement, and good aquaculture practices among others.



Malaysian trainees prepare settlement plates (left photo) and a trainee dissects an abalone (right photo) [PHOTOS BY EV ANTOLINO]



The trainees also had a field trip at SEAFDEC/AQD's Community-based Resource Enhancement Program site at Sagay Marine Reserve, Molocaboc Island, Sagay City.

Ch'ng said that the field trip to the community-based

program site impressed him most because of its good success story.

Engr. Ch'ng also mentioned that the visit to the community-based resource enhancement site is an eye-opener for them.

“We really want to see the continuous success of your program and it's something that we can learn and bring back to Malaysia,” said Ch'ng. [a](#)

- RH LEDESMA

# Akeanons acquire skills on crab culture

**NEW BUSWANG, Aklan** – Twenty-five residents of Aklan participated in the training course on Mangrove Crab Hatchery, Nursery and Grow-out Operations held from 22 to 24 May 2018.

The training course focused on topics such as mangrove management, overview of the mangrove crab industry and hatchery operations, nursery management, soft-shell crab farming, pond design and construction, preparation and management of feeds, and grow-out.



SEAFDEC/AQD associate researcher Mr. Jon Irish Aquino conducts a lecture on pond design and construction (left photo) and a practical session on tying of mangrove crabs (right photo) [PHOTOS BY CV GENZOLA]



“The topics and practical demonstrations were extremely interesting and useful,” was one of the feedback of the trainees stated in the report submitted to SEAFDEC/AQD.

The participants were also thankful to be given the chance to be part of the training

that helped them to acquire additional knowledge and skills on crab culture.

“The resource speakers presented the materials with expertise, humor and genuineness,” the report said.

The training course was organized by SEAFDEC/

AQD in collaboration with Kalibo Save the Mangroves Association, Inc. and Noryangjin Fisheries Market Cooperative. [a](#)

- RH LEDESMA

# SEMINARS



In order to increase awareness on laboratory safety, SEAFDEC/AQD laboratory and research staff attended the seminar on “SHARES: Safe Handling of All Reagents as an Environmental Support” by Mr. Addison Oplimo Jr. of Merck on 15 May 2018.

Safety, as explained by Mr. Oplimo, is “the condition of being protected from or unlikely to cause danger, risk, or injury.”

He also discussed that safety can also refer to the control of recognized hazards in order to achieve an acceptable level of risk.

“In order to have a safe work environment, it is important to consider all necessary work functions and incorporate the required safety features when designing, building, and renovating the workplace,” emphasized Mr. Oplimo in his presentation.

Mr. Oplimo also discussed about the proper personal protective equipment, emergency response in case of fire or accidents, and the proper use of fire extinguishers and blankets among others. [a](#)

- RH LEDESMA



To aid in coping with workplace burnout and stress, SEAFDEC/AQD researchers and staff attended the *Mental Health and Stress Management* seminar held last 21 May 2018.

Dr. Diosdado V. Amargo, Jr., a psychiatrist from St. Paul’s Hospital of Iloilo, served as the resource speaker for the said seminar.

Stress, as defined in Dr. Amargo’s presentation, refers to “something we experience when we face a situation and our ability to cope is challenged.”

An online poll conducted by CNN Philippines last October 2017 revealed that most Filipinos cite work and studies as the major causes of stress.

Stress stems from both negative and positive aspects in an individual’s life. Dr. Amargo states conflict among co-workers, illness, job promotion, or pay raise as some sources of stress.

He also discussed the different symptoms of stress which includes inability to concentrate, moodiness, aches and pains, and procrastination.

While stress is inevitable within work institutions, Dr. Amargo assures that it can be managed. He emphasized the value of adopting a healthy lifestyle and explained a variety of activities and techniques.

In dealing with stressful situations, Dr. Amargo introduced “The Four A’s”: Avoid the stressor; Alter the stressor; Adapt to the stressor and; Accept the stressor. In addition, he also presented a variety of relaxation activities like breathing, guided imagery and meditation exercises. [a](#)

JR PAGADOR



To avoid greater economic losses in aquaculture caused by disease outbreaks, the strict implementation of biosecurity measures in aquaculture ponds and farms is recommended.

Dr. Leobert de la Peña, a scientist of Southeast Asian Fisheries Development Center / Aquaculture Department (SEAFDEC/AQD), explained the importance of biosecurity during a research seminar at AQD’s Tigbauan Main Station last 23 May 2018.

“Biosecurity is a tool for sustainability,” said Dr. de la Peña during his presentation. He explained that biosecurity refers to the activities with the goal of preventing, controlling and eradicating risks to animal’s life and health.

There are two types of biosecurity, internal and external. For internal biosecurity, the ponds should apply standard operating procedures on risk mitigation, practice crop rotation, zoning and compartmentalization and disinfection to decrease

pathogen loads. External biosecurity includes identification of possible sources of pathogens, awareness of wild animal surrounding the facilities and strict protocols for visitors.

“The most important requirement of biosecurity is a proactive attitude,” Dr. de la Peña advised the attendees comprised of SEAFDEC/AQD hatchery technicians and personnel. “An effective biosecurity program requires understanding of hatchery and grow-out operations, knowledge of the principles of diseases transmission and biology of the cultured organism.”

SEAFDEC/AQD’s biosecurity program is an offshoot project entitled “Reinforcement and optimization of fish health management and the effective dissemination” that includes a focus on the establishment of protective measures against persistent and emerging parasitic diseases in fish and shrimp. [a](#)

- JM DELA CRUZ



# PALARO 2018 @ TMS



PHOTOS THIS PAGE BY DEVCOM SECTION

To promote physical fitness and strengthen the camaraderie of SEAFDEC/AQD employees, the Department held its annual sportsfest on 13-14 June 2018 at Tigbauan Main Station, with the theme, "Shaping a better YOU through fitness and sports."

(L-R) Deputy Chief Dr. Koh-ichiro Mori, Training Section OIC Caryl Vincent Genzola, Administration and Finance Division head Amelita Subosa, Technology Verification Section head Dr. Roger Edward Mamauag, and Research Division head Dr. Leobert de la Peña officially open Palaro 2018 by lighting the torch



The employees recite the Oath of Sportsmanship led by the Administration and Finance Division head Amelita Subosa



Quenie Montinola and Pedro Santoluis, Jr. win the marathon and 100-m dash



Team Sugpo wins men's volleyball and basketball events





(Clockwise from top left) Team Bangus wins parlor games such as Tug of War, Balloon Parade with a Twist, and Dodgeball. All billiard events both for men and women were also won by Team Bangus.



Team Sugpo wins parlor games such as the Obstacle Race and Drink and Food Relay



Team Sugpo beats Team Bangus on both men and women darts events. Team Bangus wins the mixed category.



(Top-bottom) Team Bangus wins the women's volleyball, women's chess rapid, and men's chess standard. Team Sugpo on the other hand, wins the men's chess rapid



Team Sugpo beats Team Bangus on men's badminton and women's table tennis events. On the other hand, Team Bangus wins the women's badminton and men's table tennis events



The muses of the night. Contestants of Miss Asug who brought the house down during their stint at the Palaro 2018 Closing Ceremony. Team Bangus got the crown of Ms. ASUG 2018.

The champions. Team Bangus was declared the overall champion of Palaro 2018 garnering 231 points (below). Team Sugpo is still all smiles being the runner up, with 222 points (bottom)



# PALARO 2018 @ BFS

PHOTOS THIS PAGE BY MH STINSON



Team Bangus beats Team Sugpo in the Dodgeball game



Team Bangus (left) and Team Sugpo competing in the great wall game.



Team Sugpo wins the games spider web (left photo) and marching madness (right photo). Team Sugpo won most of the games and was declared as the champion of the Palaro 2018 at BFS



The 2018 Palaro Committee (from left): Ms. Jasmine Gelvero, Ms. Richelle Bautista, Ms. Rossea Ledesma, Ms. Mary Anne Mandario, Mr. Ramil Pilon, Mr. Jon Irish Aquino (chairperson), Ms. Elisa June Pagtanac, Mr. Al Edward Omar Limoso, and Mr. Julius Manuel de Pili.

**The 2018 Palaro Committee would like to thank the following sponsors:**

- **Trends & Technologies Holding, Inc.**
- **SIL Generators and Services Company**
- **Dr. Koh-ichiro Mori**

# ASFA Advisory Board approves digitization project of SEAFDEC/AQD Library



SEAFDEC/AQD Library senior information assistant Daryl Superio (front row, 2nd from left) and the other members of the ASFA Advisory Board pose in front of the International Oceanographic Commission (IOC) Project Office for IODE building [PHOTO BY PAULA ANTON/FAO]

**OOSTENDE, Belgium** – The Aquatic Sciences and Fisheries Abstracts (ASFA) Advisory Board approved the digitization project proposed by the SEAFDEC/AQD Library senior information assistant Daryl Superio during a meeting held from 11 to 16 June 2018.

The project, titled “Digitization, Open Access Deposition and the Provision of URLs to Existing ASFA Records of the Conference Proceedings Published by SEAFDEC Secretariat, Training Department (TD), Marine Fisheries Research Department (MFRD), Marine Fishery Resources Development and Management Department (MFRDMD), and Aquaculture Department (AQD),” will be funded by the ASFA Trust Fund.

“This project aims to digitize conference proceedings of the five SEAFDEC departments,” said Superio.

“The digitized versions of the proceedings will be made available in ASFA Database and will be deposited in three open-access repositories

such as SEAFDEC/AQD Institutional Repository, Aquatic Commons, and OceanDocs,” he added.

Mr. Superio also presented SEAFDEC/AQD Library’s Aquatic News Index (ANI) which got positive feedback from the board members.

“It is foreseen that in the future ANI will become an international database for aquatic science-related news articles wherein librarians or information professionals from different countries could deposit news articles collaboratively,” said Superio. The meeting, which was attended by 38 ASFA board members from 33 international and national partner institutions from 31 countries, focused on strengthening of ASFA partnerships and improvements of the ASFA Database.

“The ASFA Database is cited as the premier database among the majority of aquatic and marine science librarians,” said Superio.

ASFA is an international cooperative information system which comprises an

abstracting and indexing service covering the world’s literature on the science, technology, management, conservation and other aspects of fisheries and aquatic

resources. The ASFA network includes 4 United Nations sponsoring agencies and more than 50 international and national partners. [a](#)

- RH LEDESMA / D SUPERIO



## **aqd matters**

is published bimonthly by the  
Development Communication Section  
SEAFDEC Aquaculture Department  
Tigbauan, Iloilo, Philippines

Editor this issue:  
**RH Ledesma**

Contributing writer-photographers:  
JR Pagador, J Biñas, MET Aldon, JM dela Cruz,  
RD Dianala, RH Ledesma

Editorial consultant:  
RD Dianala

Publications Review Committee:  
Dr. LD de la Peña, Dr. JP Altamirano, Dr. EC Amar,  
Ms. JJ Huervana, Dr. RE Mamauag, Dr. ND Salayo,  
Dr. EA Tendencia

Circulation to friends of AQD:  
SB Alayon

For contributions and feedback, kindly email:  
devcom@seafdec.org.ph