

SEAFDEC AQD Matters

Senate extends support to AQD

Even the rainy weather did not hinder Senate committee chair on agriculture and food, Hon. Cynthia Villar, to be the keynote speaker during SEAFDEC/AQD's 42nd Anniversary foundation program on 10 July.

"SEAFDEC/AQD has an important role in ensuring aquaculture sustainability by providing the needs of the aquaculture sector through technology innovation, promotion of good aquaculture practices and involvement of all the stakeholders," said Senator Villar.

According to Senator Villar, there is an increasing concern on overfishing due to the growing demand for fish and seafood. She mentioned that aquaculture or fish farming is the best solution to meet the demand. "Aquaculture is truly an industry that provides numerous benefits and if we could really maximize those, we can ensure sustainability and be globally competitive," she noted.

She also appreciated SEAFDEC/AQD's effort in addressing the adverse effects of climate change, specifically extreme weather disturbances that affect aquaculture. "I hope that the technological innovations will not only make processes more efficient but also environment-friendly. It is good to know that SEAFDEC/AQD support is there," she added.

"I am also here to provide support to aquaculture *hangad ko ang patuloy na pag-unlad nito* (its development is my aspiration)," she said. As a support to the fisheries sector she sponsored the Senate



AQD Chief Dr. Felix Ayson (left) and Deputy Chief Dr. Takuro Shibuno welcome Senator Cynthia Villar

Bill No. 2414 now known as RA 10654 (An Act to Prevent, Deter and Eliminate Illegal, Unreported, and Unregulated Fishing). This law will make the country an active player in the conservation and sustainable development of the world's fisheries and aquatic resources.

She also sought to form partnerships with SEAFDEC/AQD together with the Philippines Technical Education and Skills Development Agency (TESDA). She expressed her gratitude to SEAFDEC/AQD that will provide modules and training courses that will be accredited by TESDA. After her speech, she then toured some of AQD's facilities such as milkfish hatchery and other high value marine fish breeding facilities. - GK FAIGANI

Photos in this page by IT Tendencia and GK Faigani



Senator Cynthia Villar delivers her keynote speech



Senator Cynthia Villar receives plaque of appreciation from AQD Chief Felix Ayson (right) and Deputy Chief Dr. Takuro Shibuno (left)



Research Division Head Dr. Evelyn Grace Ayson (right) briefs Senator Villar (left) about the management of AQD's milkfish broodstock

AQD celebrates its 42nd year

3-10 July 2015

SEAFDEC/AQD: Ensuring aquaculture sustainability through technology innovations, promotion of good aquaculture practices and multisectoral involvement

AQD ensuring sustainable aquaculture development

AQD Chief Dr. Felix Ayson, acknowledged the significant contribution of the department in increasing aquaculture production in the region. “We started with shrimp and milkfish. Currently, SEAFDEC/AQD is refining technologies on mud crab, abalone, shrimp and oyster in collaboration with the Department of Science and Technology – Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-PCAARRD) and University of the Philippines Visayas (UPV),” said Dr. Ayson during his message on 10 July.

He also mentioned that SEAFDEC/AQD is now making efforts to address the impact of global warming on reproduction and early development of some important aquaculture species. He noted that a lecture on climate change and its impact on fisheries and the aquaculture industry is now included in the curriculum.

Moreover, to address issues on aquaculture feed development he cited that SEAFDEC/AQD worked together with SEAFDEC Secretariat in Thailand and the Department of Fisheries in Myanmar, and the ASEAN Foundation to convene the regional technical consultation on the use of alternative ingredients in aquaculture feed formulation last December 2014.

“It has been one of the priority programs of SEAFDEC/AQD to promote community-based or family participation in both aquaculture and resource enhancement activities. We are happy to say that these projects are supported by the Government of Japan trust fund (GOJ-TF), Japan



AQD Chief Dr. Felix Ayson (left) and Deputy Chief Dr. Takuro Shibuno

International Research Center for Agricultural Sciences (JIRCAS) and Research Institute for Humanity and Nature (RIHN),” he added.

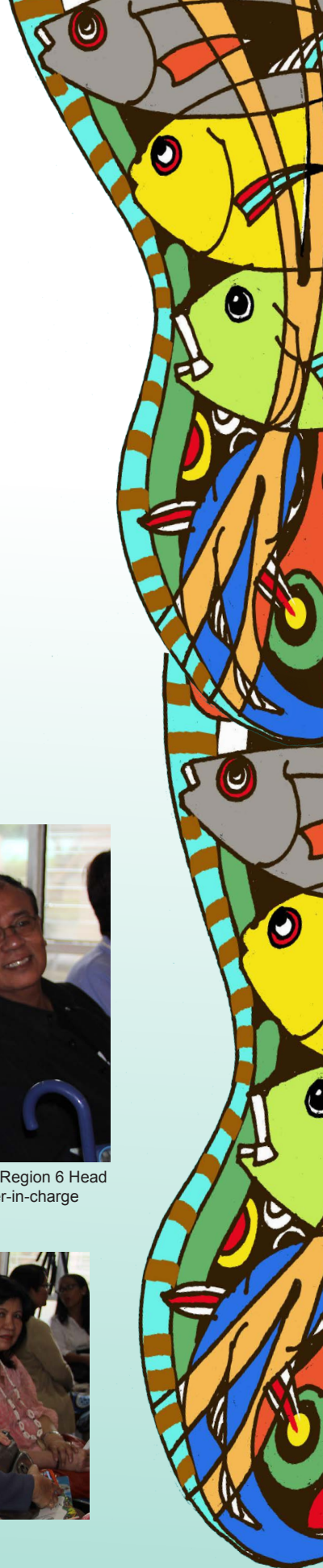
How can we ensure sustainable aquaculture? Dr. Ayson emphasized that we need the cooperation of all sectors. “The scientific community, the government of ASEAN member states and in the case of the Philippines, all government agencies, the farmers and the private sectors need to work hand in hand to achieve these objectives,” said the Chief.

On the other hand, Deputy Chief Dr. Takuro Shibuno concluded the program with the call for everyone to continue to do their share in helping to improve aquaculture technologies for fish farmers not only here in the Philippines but also in other Southeast Asian countries. - GK FAIGANI



The AQD community and guests at the 42nd anniversary program

Photos in pages 2-5 by IT Tendencia and GK Faigani



AQD earns support from its stakeholders



SEAFDEC Deputy Secretary General Mr. Hajime Kawamura came all the way from Bangkok, Thailand to grace AQD's 42nd anniversary at AQD's Tigbauan Main Station on 10 July.

Mr. Kawamura commended AQD's effort in involving various stakeholders in its R&D activities. He also praised AQD for having the vision to become a global leader in generation and transfer of appropriate and sustainable tropical aquaculture technologies for food security and holistic human development.

"We at SEAFDEC Secretariat are always ready to boost and support AQD's efforts. We are very sure that AQD could easily attain this goal and we wish you all the best of luck in this endeavor," said Mr. Kawamura.

On the other hand, Engr. Ma. Teresa de Guzman, PCAARRD's Officer-in-Charge, Office of the Deputy Executive Director for Research and Development, expressed her gratitude to AQD for the guidance and help in promoting technological innovations and good aquaculture practices. "I would like to thank SEAFDEC/AQD for being a faithful and dedicated partner," said Engr. de Guzman.

Likewise, she wished to see this partnership expand to a lot of other areas and commodities in order to demonstrate and pilot test technologies in different parts of the country. "This partnership is driving us to the forefront of aquaculture," she added. 🐟 - GK FAIGANI



UPV College of Arts and Sciences Dean Dr. Resurreccion Sadaba (left) and AQD Scientist Dr. Relicardo Coloso



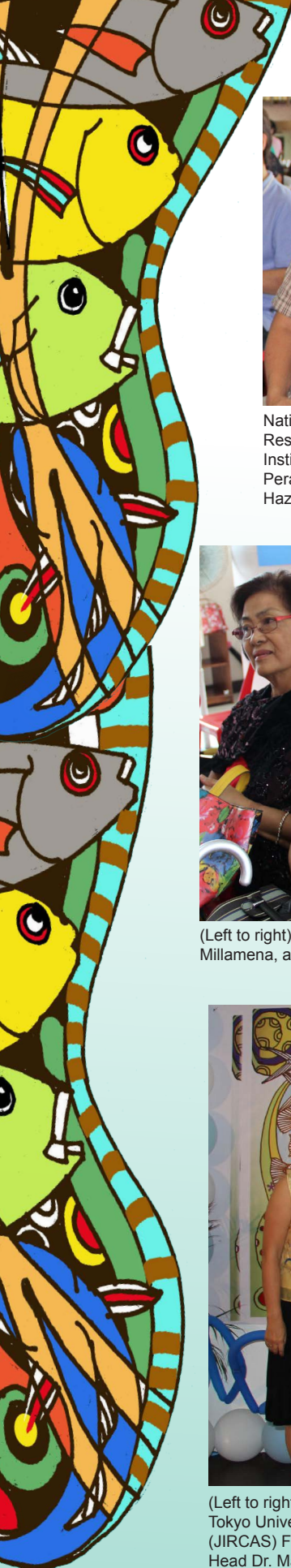
(Left to right) Provincial Agriculturist Dr. Ildefonso Toledo, BFAR Region 6 Head Aquaculture Section Mr. Erwin Pador and BFAR Region 6 Officer-in-charge Fisheries Production Division Mr. Roed Shane Hablo



From Office of the Provincial Agriculturist, Capiz Aquaculturist Mr. Joey dela Cruz (left) and Provincial Agriculturist Ms. Sylvia dela Cruz



Guests from Philippine National Bank



National Fisheries Research & Development Institute Office-in-charge Resource and Ecological Division Dr. Mudjekeewis Santos (left), UPV Institute of Fisheries Policy Development Studies Director Dr. Jose Peralta and AQD Training and Information Head Dr. Ma. Junemie Hazel Leбата-Ramos

(Left to right) Former AQD Chief Dr. Joebert Toledo, former Administration and Finance Head Atty. Jerry Opinion and UPV Vice Chancellor for Administration Prof. Nestor Yunque



(Left to right) Former AQD Scientists Dr. Anicia Hurtado and Dr. Oseni Millamena, and former AQD researcher Ms. Ofelia Reyes



(Left to right) Former AQD Scientist Dr. Rory de los Reyes, former Researcher Ms. Didi Baticados, and former Technology Verification and Demonstration Head Dr. Clarissa Marte



(Left to right) AQD Scientist Dr. Ma. Lourdes Aralar, Administration and Finance Head Ms. Kaylin Corre, Deputy Chief Dr. Takuro Shibuno, Tokyo University of Marine Science and Technology Professor Dr. Ikuo Hirono, Japan International Research Center for Agricultural Sciences (JIRCAS) Fisheries Division Director Dr. Tetsuo Fujii, SEAFDEC Deputy Secretary General Mr. Hajime Kawamura, Training and Information Head Dr. Ma. Junemie Leбата-Ramos, Technology Verification and Demonstration Head Dr. Fe Dolores Estepa and AQD Chief Dr. Felix Ayson



(Back row left to right) AQA Associate Scientist Ms. Jocelyn Ladja, Scientist Dr. Myrna Teruel, Associate Scientist Dr. Nerissa Salayo and Scientist Dr. Emilia Quintio. (Front row left to right) AQA Scientist Dr. Mae Catacutan and Aklan State University - New Washington Campus Director Dr. Yasmin Primavera-Tirol



(Left to right) AQA Senior Technical Assistant Ms. Milagros Paner, Senior Technician Ms. Ma. Maila Peniero and Financial Assistant Gayee Pearl Patrona receive plaques of appreciation for their service to AQA



(Left to right) AQA Scientist Dr. Eleonor Tendencia, Senior Technical Assistant Ms. Fely Torreta, Researcher Ms. Gregoria Pagador and Scientist Dr. Edgar Amar receive plaques and certificates of recognition for their special awards



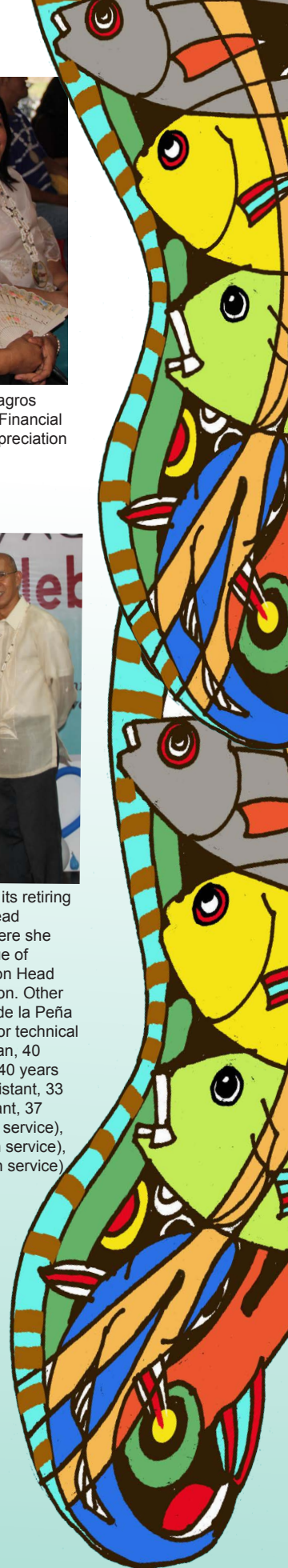
Part of AQA's anniversary celebration is the recognition of its retiring employees. Technology Verification and Demonstration Head Dr. Fe Dolores Estepa speaks on behalf of the retirees where she thanked the AQA management. She also receives a Plaque of Appreciation from (L-R) Administration and Finance Division Head Ms. Kaylin Corre, Dr. Shibuno, Mr. Kawamura and Dr. Ayson. Other retirees given recognition this year included: Ms. Milagros de la Peña (researcher, 38 years in service), Ms. Lucia Jimenez (senior technical assistant, 29 years in service), Mr. Arnel Abaricio (technician, 40 years in service), Mr. Diosdado Taleon (senior technician, 40 years in service), Mr. Deogracias Reyes Jr. (senior technical assistant, 33 years in service), Ms. Fely Torreta (senior technical assistant, 37 years in service), Dr. Veronica Alava (scientist, 33 years in service), Ms. Milagros Paner (senior technical assistant, 38 years in service), and Ms. Bernardita Eullaran (senior technician, 27 years in service)



AQA staff provide a dance and song number during the program




AQA Associate Scientist Dr. Jon Altamirano and Scientist Dr. Ma. Lourdes Aralar are the emcees of the program



Farmers' forum and aquaculture clinic

More than 100 guests from the private sector, academe, and Philippine government agencies were present during the *Farmers' Forum* on 9 July 2015. There were three lectures by SEAFDEC/AQD experts, namely; *Important Findings and Recommendations on Chemical Use in Aquaculture*

in Southeast Asia by Dr. Relicardo Coloso; *Individual oysters, the oysterrific choice* by Dr. Ma. Junemie Hazel Lebata-Ramos; and *Standard Operating procedures for Responsible Movement of Live Aquatic Animals for ASEAN* by Dr. Rolando Pakingking Jr. Ms. Jessica Juanicho, Assistant Vice President Iloilo Branch

Development Bank of the Philippines (DBP), also gave a talk on the *Financing Program for Aquaculture*. The Farmers' Forum was followed by an Aquaculture Clinic where fish farmers and other stakeholders had free consultation with SEAFDEC/AQD experts about their aquaculture concerns.  - RH LEDESMA



Participants pose questions and share insights about the topics presented during the Farmers' Forum



Photo by GK Faigani

DBP Iloilo Branch Asst. Vice President Ms. Jessica Juanicho receives a Certificate of Appreciation from SEAFDEC/AQD Chief Dr. Felix Ayson (rightmost), Deputy Chief Dr. Takuro Shibuno and Technology Demonstration and Verification Division Head Dr. Fe Dolores Estepa for giving a talk on aquaculture financing programs. The same certificates were also given to SEAFDEC/AQD resource speakers.



Photos by RH Ledesma

Several aquaculture stakeholders consult SEAFDEC/AQD experts during the Aquaculture Clinic

AQD resource speakers Scientist Dr. Relicardo Coloso, Training and Information Head Dr. Ma. Junemie Hazel Lebata-Ramos and Scientist Dr. Rolando Pakingking Jr during the Farmers' Forum



Photo by GK Faigani

The participants of the 2015 Farmers' Forum

Photos by IT Tendencia

Photos by IT Tendencia

AQD launches five new publications



Photo by GK Faigani

Twenty book launching attendees receive complimentary copies of the newly released SEAFDEC/AQD publications

Three aquaculture extension manuals were launched this year with topics on rotifer culture, milkfish broodstock management, and soft-shell crab production. In addition, monographs on health management of milkfish and chemical use in aquaculture were also introduced to the

event's guests on 10 July at Tigbauan Main Station. Members of the academe, fish farmers and private & government sectors attended the event. These new publications are now available at the AQD bookstore. For inquiries please contact, bookstore@seafdec.org.ph.
- RH LEDESMA



Dr. Hirono speaks on shrimp disease

The speaker for the 2015 *Dean Domiciano K. Villaluz (DKV) Memorial Lecture* was Dr. Ikuo Hirono, a professor from the Laboratory of Genome Science of the Graduate School of Marine Science and Technology at Tokyo University of Marine Science and Technology, Japan. He spoke on the *Recent advances in AHPND caused by Vibrio species* on 10 July.

Dr. Hirono explains that the Early Mortality Syndrome (EMS) in shrimp or the Acute Hepatopancreatic Necrosis Disease (AHPND) is caused by unique strains of *Vibrio parahaemolyticus* that have transferrable virulent plasmid carrying toxin genes. He mentioned that his group developed the conventional PCR and LAMP methods using a primer set that targets PirA-like toxin genes of *V. parahaemolyticus*. At present, the accuracy of their developed diagnostic methods for AHPND is 100%. He also added that they characterized the toxin

genes of AHPND *V. parahaemolyticus*. He noted that they constructed recombinant plasmid carrying both genes for toxin A and B. Then they fed the whiteleg shrimp, *Litopenaeus vannamei* with commercial feed containing formalin killed AHPND strain of *V. parahaemolyticus*. In a couple of days of feeding all the shrimp died. He explained that the results of their experiment indicated that the toxins A and B are the virulent factors of AHPND *V. parahaemolyticus*.

He likewise discussed that his group found another *Vibrio* species carrying the same plasmid of the AHPND *V. parahaemolyticus*. He said that this *vibrio* species that kills white-leg shrimp is similar to AHPND *V. parahaemolyticus*. He concluded that the transferrable virulent plasmid is spreading at least in *Vibrio* species in shrimp ponds. Presently, his group are trying to develop prevention method against AHPND. - JME ALMENDRAS



Dr. Hirono entertains a question from University of Santo Tomas Professor Dr. Mary Beth Maningas

Fun activities for AQD @ 42

AQD is a playground of fun-filled and exciting activities to celebrate its 42nd anniversary from 6 to 8 July 2015 at its Tigbauan Main Station. The activities include a kick-off program where the entire AQD community came together for the flag-raising ceremony then a short program, and an exclusive Zumba class.



Photos by JM dela Cruz

AQD community, headed by the management group, during the flag ceremony (top) and AQD staff enjoying the Zumba class

The next day was all about giving-back. The AQD community organized a medical mission that benefited a total of 114 (61 adults & 53 children) residents of the neighboring barangays. Free medicines and supplements were also provided to them. There's a bloodletting activity with the Philippine Red Cross-Iloilo where 30 staff were bloodlet. Free eye examinations were offered to the AQD staff, as well.



Photos by JM dela Cruz

One of the 30 AQD volunteers donating blood



AQD beneficiaries and staff avail the free medical and eye examination



Photos by JM dela Cruz

AQD also organized an open house for those who want to explore what we have to offer. Students from 11 schools learned more about aquaculture as they visited AQD's laboratories and facilities. Simultaneously, AQD staff organized a food fair where they showcased food and refreshments inspired by delicacies of different countries. Aside from that, there have been other engaging activities including parlor games and bingo.

No doubt that it is more fun in SEAFDEC/AQD! 🐙 - JM DELA CRUZ



Photo by CE Villanoche

Students from various schools learning about abalone during the open house



Photo by GK Faigani

Students and guests flocking the food fair booth



Photo by GK Faigani

AQD staff during the parlor games and bingo social



Photo by JM dela Cruz

BFS 39th anniversary features farmers' forum

AQD's Binangonan Freshwater Station (BFS) marks its 39th foundation anniversary with the theme *39 Years of Bringing Feasible Technologies for Smallholder Communities*. The theme is very fitting as BFS has contributed to the research and development of four important freshwater commodities, the giant freshwater prawn (Ulang), tilapia, bighead carp and native catfish. Through training programs, it contributed to the establishment of commercial-scale hatchery technology package.

The anniversary celebration kicked off with a tree-planting activity on 24 July in BFS grounds. On 29 July, a simple but fruitful anniversary program was held after a thanksgiving mass which was attended by Ms Lydia Lam of the Municipal Agriculturist Office, representing Hon. Mayor Cecilio "Boyot" Ynares of Binangonan, Rizal, officials of the local government units and partners, fisherfolks, and AQD staff led by Technology Verification and Demonstration Division Head Dr. Fe Dolores Estepa. MAO Officer-in-Charge and former AQD's Training of Trainor's participant Ms. Lam assured BFS of Hon. Mayor Ynares' support as its office never failed to send a representative to grace the annual celebration. TVDD Head Dr. Estepa for her part congratulated the BFS for their great milestone and wished BFS to be a stronger institution in the coming years.

The anniversary celebration featured the Farmers' Forum with project cooperators and other fisherfolk in attendance. AQD Scientist Dr. Maria Lourdes Cuvin-Aralar delivered a presentation titled *Emerging species: Giant Freshwater Prawn* which was followed by an open forum. There were discussions on the problems on seed production of giant freshwater prawn such as mass mortalities of larvae. BFS has been implementing a technology verification and demonstration project with some fish farmer-cooperators of Barangay Pipindan, Binangonan, Rizal to forge closer partnership in uplifting the livelihood of fish farming communities around Laguna de Bay. The proposal to establish a Barangay "ulang" hatchery also surfaced during the discussion and was echoed to the MAO representative to gain support from the local government of Binangonan in this initiative.

BFS Former Station Head, Engr. Emiliano V. Aralar, on his closing remarks, thanked all who attended the anniversary celebration and shared with conviction that "SEAFDEC/AQD's Binangonan Freshwater Station is not for sale", as there are rumors going around allegedly created by scammers trying to sell parcels of land of the 39-year institution.

The raffle, giving of souvenir items, and photo-op capped the anniversary program. The celebration is a prelude to a bigger celebration next year leading to Ruby Jubilee of the station. 🐾 - FA AYA / MN SAMORANOS



Senior Technical Assistant Engr. Emiliano Aralar (top) and Technician Mr. Federico Reyes during the tree-planting activity

Photos on this page by MH Stinson



(Left to right) Scientist Dr. Ma. Rowena Eguia, Senior Technical Assistant Engr, Emiliano Aralar, Fr. Allan Oresa, Technology Verification and Demonstration Head Dr. Fe Dolores Estepa, Scientist Dr. Ma. Lourdes Aralar and Officer-in-Charge Binangonan Freshwater Station Dr. Frolan Aya



The BFS staff, guests and participants attending the thanksgiving mass



Dr. Aralar answers questions from a representative of Binangonan Municipal Office during the open forum



Dr. Ma. Rowena Eguia with two visitors from DLSU Graduate School (white-shirted beside Dr. Eguia) and two students from UP Diliman (right)



Engr. Emiliano Aralar with the representatives from Municipal Agriculturist Office of Binangonan; wearing blue is Ms. Lydia Lam.



Sci-Art AquaWeek 2015 Winners

Bring, Show, and Tell (by Teachers): “Ocean literacy for Grades 5-6”

(5 teams from 5 elementary schools participated)

Prize	Names	Age	Gr	Elementary School
1st	Teacher Jovi Rose Braza Jherico Amida Mary Rose Ang	11 12	5 6	Baluarte Elementary
2nd	Teacher Brando P. Banga Regine Caeli Fadriga Maybelle Anne Rodriguez	10 12	5 6	Jaro I ES
3rd	Teacher Rogelio Cautivar Keisha Loren Dongcoy Jesse Paolo Pagardo	11 11	6 6	Hibao-an ES

Nutrition and Aquaculture Quiz

(40 pupils from 20 schools participated)

Prize	Names	Age	Gr	Elementary School
1st	Leobert Jul dela Pena Coaches: Tessie C. Po Lachelle Taclahan	11	6	Kinaadman ES
2nd	Sean Yroll Larupay Coaches: Myrna G. Gautier Daisylyn R. Tantiado	11	5	Tigbauan Central ES
2nd	Jose Ely Azarraga III Coach: Valerie May Belleza	11	6	SPED - ISEC
2nd	Mary Rose Tormon Coach: Lovenia T. Ortega	11	6	Buyuan E
3rd	Marc Vincent P. Hachuela Coach: Jean O. Diomon	12	6	Leganes ES
3rd	Marc Christopher Espino Coach: Jean O. Diomon	12	6	Leganes ES
3rd	Kynna Mae Mandaresio Coach: Erne Anne Ordoy	11	6	San Juan ES

Talentong Dagat: “Awit, sayaw, palabas tungkol sa (buhay) dagat”

(10 teams from 10 elementary schools participated)

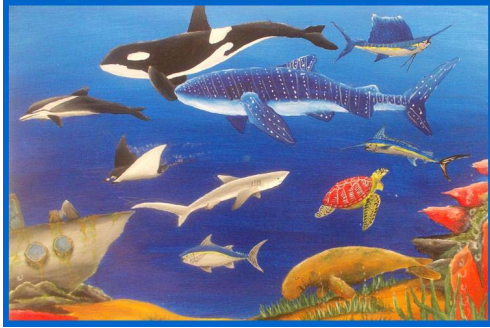
Prize	Names	Age	Gr	Elementary School
1st	Vincent Anthony Maningo Eiana Lyka Eucariza Camille Leysa Shayne Rizzabel Provideo Coaches: Fatima Esmalla Symon Panes	12 12 10 10	6 6 5 5	Colegio de San Jose
2nd	Dannet D. Alcalde Gianne Reign L. Donesca Karl Louis C. Limjoco Ingrid Denise P. Parangan Coaches: Mae Joy G. Palomo Laden Jane P. Caalem	11 12 9 11	6 6 4 6	West Visayas State University Integrated Lab School
3rd	Kate Julianne Larroder Gellour Vinz Delfin Kate Margarette Hautea Kirstene Ubay Coaches: Fely A. Batiloy Valerie May B. Belleza	11 11 12 12	6 6 6 6	SPED - Integrated School for Exceptional Children

Aquarium Quiz; “Lantawa kami!”

(40 pupils from 20 schools participated)

Prize	Names	Age	Gr	Elementary School
1st	Kristia Faith S. Pagayon Coach: Mae Joy G. Palomo	13	6	WVSU - ILS
2nd	Janus Nathaniel Casbadillo Coach: Diana Ross Custodio	10	5	Santo Domingo ES
2nd	Leobert Jul de la Pena Coaches: Joan T. Po Romeo T. Toleno Jr.	11	6	Kinaadman ES
2nd	Thomas Nathan Hautea Coach: Edcharles John Baylon	9	4	Hua Siong College of Iloilo
2nd	Jeraldine Miranda Coach: Valerie May Belleza	11	6	SPED – ISEC
3rd	Vinz Perrie A. Barlas Coach: Mae Joy G. Palomo	11	6	WVSU - ILS
3rd	Maybelle Anne Rodriguez Coach: Liberty P. Sulit	12	6	Jaro I ES
3rd	Martha Sophia B. Tilde Coach: Jessica S. Sequito	10	5	Santa Barbara Central ES





Painting: “Our magnificent megafauna”

(9 teams from 9 high schools participated)

Prize	Names	Age	Gr	High School
1st	Vanya Therese Zamora Coach: Carmi Joy Alecto	14	9	Colegio del Sagrado Corazon de Jesus Guimbal National High School
2nd	Zynwhyne Psalm Gedaya Coach: Papnocio Daguman Jr.			Iloilo City NHS
3rd	Lyra E. Atienza Coach: Joemarie Selibio	16	10	

Conchology Lab and Quiz: “The Philippines is the center of mollusk diversity”

(12 students in 6 teams from 6 high schools participated)

Prize	Names	Age	Gr	High School
1st	Welna Marie M. San Luis Sharmeilou M. Gelladuga Coach: April Rose A. Magallanes	15 14	10 9	Iloilo City NHS
2nd	Kathleen Ann Sison RJ Villarias Coach: Michael G. Garlan	14 15	8 10	Hua Siong College of Iloilo
3rd	Quennie Mandal Danica Rose Zapanza Coach: Angela Balista	15 15	10 10	Colegio de San Jose

Powerpoint Lecture: “Ocean literacy for Grades 11-12”

(1 teacher from 1 high school participated)

Edna S. Casalmir Ramon Avancena NHS

Documentation Seminar: “Convenience bangus”

(5 teams from 5 high schools participated)

Prize	Names	Age	Gr	High School
1st	Bea Marie Cajandig Coach: Angela Balista	15	10	Colegio de San Jose
2nd	Blessi Marie Danay Coach: Diospyros Fuentes	16	10	Hua Siong College of Iloilo
3rd	Eunisse Alwyn Yap Coach: Ma. Fe V. Montealto	14	9	R. Avancena NHS

Seafood Skills Olympics: “Preparing and serving smoked bangus and bottled bangus”

(5 teams from 5 high schools participated)

Prize	Names	Age	Gr	High School
1st	Nina Ivy Camille Pasadilla Ma. Donnabelle G. Gallego Janissa Mae M. Sobremisana Mary Eurika P. Cordero Coaches: Angela F. Balista Ernancita Colomer	15 15 15 15	10 10 10 10	Colegio de San Jose
2nd	Kenneth Auyong Kristine Joy Gimenez Jessica Ledesma Goldie May Silva Coaches: Michael Garlan Diospyros Fuentes	15 15 15 15	9 9 10 10	Hua Siong College of Iloilo
3rd	Lucile Pelicano Melchie Barnezo Jesslyn Magbanua Jeanette Vazquez Coaches: Marlyn de la Cruz Mary Jane C. Tipolo	16 16 16 16	10 10 10 10	Iloilo City NHS

AquaNumeracy Quiz: “Alam namin iyan!”

(10 students from 5 high schools participated)

Prize	Names	Age	Gr	High School
1st	Kathleen Ann Sison Coach: Marvi Anne Tabobo	14	8	Hua Siong College of Iloilo
2nd	RJ Villarias Coach: Marvi Anne Tabobo	15	10	Hua Siong College of Iloilo
3rd	Ryan Jay Soriano Coach: Ceree Y. Amado	15	10	Iloilo City NHS
3rd	Coleen J. Lecobo-an Coach: Ceree Y. Amado	14	9	Iloilo City NHS



AQD organizes resource enhancement symposium

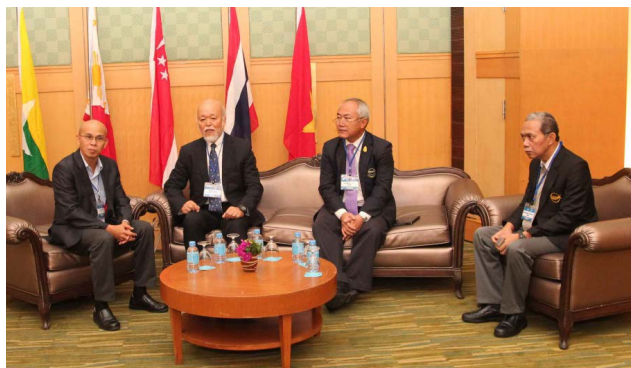
SEAFDEC Training Department (TD) and Aquaculture Department (AQD) jointly organized the *Symposium on Strategy for Fisheries Resource Enhancement in the Southeast Asian Region* held last 27-30 July in Pattaya, Thailand.

The Symposium was convened to provide a forum for SEAFDEC Member Countries in sharing their experiences of good practices for enhancement of fisheries resources and formulating recommendations for implementation in the Southeast Asian region. Through the financial support of the Government of Japan (Japanese Trust Fund), the Symposium brought together the experts on resource enhancement, representatives from SEAFDEC member countries and regional/international organizations.

The fishery resource enhancement activities discussed in the Symposium focused on two Themes: 1) Habitat Improvement and Management that includes establishment of fisheries refugia, habitat rehabilitation and deployment of artificial reefs; and 2) Artificial Propagation and Stock Release. AQD coordinated the organization and conduct of Theme 2 of the symposium. This theme, which comprised the sessions on (i) *Stock enhancement and restocking*; (ii) *Release strategies and ecological interaction with natural stocks*; and (iii) *Aquaculture-based enhancement and restoration*, was facilitated by AQD Chief Dr. Felix Ayson, Deputy Chief Dr. Takuro Shibuno, and Research Head Dr. Evelyn Grace de Jesus- Ayson. Training and Information Head Dr. Ma. Junemie Leбата-Ramos, and Associate Scientists Dr. Nerissa Salayo and Dr. Jon Altamirano shared their knowledge, experiences and talked about AQD's on-going researches on resource enhancement. Plenary discussion of the issues under Theme 2 was chaired by AQD Chief, Dr. Ayson.

The symposium has identified and adopted the policy recommendations and strategic plans of action for implementation of fisheries resources enhancement activities in the Southeast Asian region.

 - BACOSTA



Dr. Hiroshi Fushimi from Fukuyama University, Japan (2nd to the left), the symposium's keynote speaker with SEAFDEC Secretary General Dr. Chumnam Pongsri (2nd to the right); AQD Chief Dr Felix Ayson (leftmost); and IFRDMD Chief Mr. Budi Iskandar Prisantoso (rightmost)



AQD team (Left to right) Dr. Ma. Junemie Leбата-Ramos, Dr. Evelyn Grace de Jesus-Ayson, Dr. Felix Ayson, Dr. Takuro Shibuno, Dr. Nerissa Salayo, Ms. Belen Acosta, and Dr. Jon Altamirano during the field trip of participants to blue-swimming crab farm in Pattaya



Photos in this page by SEAFDEC Secretariat

Awards and recognitions for AQD scientists

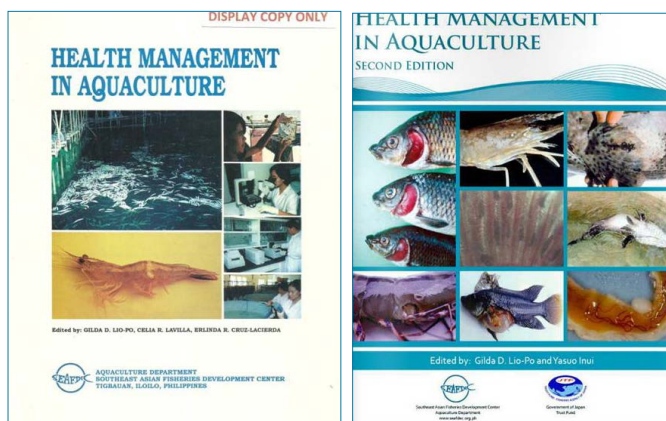
Congratulations and compliments to AQD scientist emerita Dr. Jurgenne Primavera for being recognized by the National Academy of Science and Technology, Philippines (NAST PHL) as one of its new academicians. The NAST recognizes Dr. Primavera's significant and pioneering research contributions to the aquaculture of marine shrimp and the science-based utilization and conservation of mangroves, and to studies on critically important beach forest ecosystem. Her earlier research focused on induced maturation and broodstock development of the tiger shrimp, *Penaeus monodon*, and other penaeid shrimp that contributed to the growth of the shrimp farming industry.

In a related news, more congratulations are in order for SEAFDEC/AQD scientists for bagging the 2015 Outstanding Books/Monographs Award also given by NAST Philippines for their monograph titled "Health Management in Aquaculture (2nd Ed) edited by G. D. Lio-po and Y. Inui, 2010" on 9 July 2015 at the Manila Hotel, Manila, Philippines. An earlier edition of the book, "Health Management in Aquaculture edited by G.D. Lio-Po, C.R. Lavilla and E.R. Cruz-Lacierda, 2001" also won the NAST Awards for Outstanding Books/Monographs in 2004. These textbooks describe the major diseases of cultured fishes and crustaceans, as well as their prevention and control, and the diagnostic techniques for these diseases. New chapters on histology, probiotics, and epidemiology were added in the second edition. 🐾 - JME ALMENDRAS



Photo by NAST

Dr. Jurgenne H. Primavera (3rd from left) during her investiture as one of the academicians of the National Academy of Science and Technology, Philippines



"Health Management in Aquaculture" 1st edition (left) and 2nd edition (right) won the NAST Most Outstanding Book Award in 2004 and in 2015, respectively

AQD scientist at the JAAP scientific forum



Photo by IT Tendencia

AQD Scientist Dr. Maria Rowena Eguia entertains visitors at the JSPS booth during the National Science and Technology Week held in the same venue

AQD Scientist Dr. Maria Rowena Eguia participated in the scientific symposium organized by the Japan Society for the Promotion of Science Alumni Association of the Philippines (JAAP) on 27 July held at the SMX Convention Center, Pasay City, Philippines.

Dr. Eguia, an alumna of the Japan Society for the Promotion of Science (JSPS) program and an officer of JAAP, served as a moderator during the technical session. The symposium had topics on *The TEAM (Tohoku Ecosystem-Associated Marine Science) Project: Restoring the Rich Ocean through Science and New Information Technology for Disaster Medicine using Geographic Information System in Japan* by Prof. Akihiro Kijima of Tohoku University and Prof. Masashi Takahashi of Niigata University, respectively.

In another event, Dr. Eguia provided assistance to Tohoku University research counterparts Prof. Kijima and Dr. Minuro Ikeda during their visit to Philippine academic and research institutions including AQD's Binangonan Freshwater Station (BFS). 🐾 - MRR EGUIA

AQD attends the NSTW 2015

AQD staff attended the *National Science and Technology Week 2015* held 24-28 July at SMX Convention Center in Pasay City.

Technonology Verification and Demonstration Head Dr. Fe Dolores Estepa, Training and Information Head Dr. Ma. Junemie Hazel Ramos, Scientists Dr. Emilia Qunitio, and Dr. Rolando Pakingking gave presentations on nursery rearing of mud crab, oyster industry in the Philippines, soft-shell crab production and sanitary quality of oyster, respectively.

Bearing the theme “Strategic Industry Program for Agricultural Growth (SIPAG) ni Juan,” the Department of Science and Technology- Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-

PCAARRD) exhibit highlighted how science and technology (S&T) is infused in agri-aqua-natural resource commodities to improve productivity, product quality, and profitability and thus raise the living standards of farmers, fishermen, and other stakeholders.

The exhibit featured the following commodities: banana, mud crabs, oysters, abaca, Halal goat, and the plant growth promoter processed from seaweed or crab/shrimp shells.

The 5-day event was open to all science & technology enthusiasts, students, academicians, researchers, inventors, innovators, professionals and the general public.

 - JME ALMENDRAS



AQD's Senior Technical Assistant Ms. Ellen Flor Solis demonstrating to curious young scientists how to culture oyster in individual pouches



AQD's Technical Assistant Ms. Xyza Libunao elaborating to attentive grade-schoolers the molting process of crabs and the production of soft-shell mud crab

Photos by IT Tendencia




(Left to right) AQD scientists Dr. Dolores Fe Estepa, Dr. Ma. Junemie Hazel Ramos, Dr. Rolando Pakingking, and Dr. Emilia Qunitio gave lectures on mud crab and oysters

AQD's FishWorld Museum joins ICOM 2015

AQD's FishWorld Museum joined the *ICOM 2015 Philippine Conference on Museums for a Sustainable Society* at the University of St La Salle, Bacolod, 18-21 August. ICOM is the International Council of Museums, a non-government organization of museums and museum professionals. Speakers presented case studies of traditional museums and living museums working with communities for sustainable development. On 3-7 December, the ICOM 2015 Asia-Pacific

Conference will be held at the brand new Iloilo City Convention Center.

AQD's FishWorld also joined the Zero In Workshop (#3) on Establishing Community Museums in Bacolod City, 25-29 August, together with about 60 other museum workers from around the country. The resource persons were from Bahay Tsinoy, Museo Pambata, Ayala Museum, Lopez Museum, and Ateneo Art Gallery and were highly knowledgeable and helpful. Wish we had this workshop 15 years ago.  - TU BAGARINAO



Dr. Teodora U. Bagarinao (L), curator AQD's FishWorld Museum during the ICOM 2015



Participants of ICOM 2015 Philippine Conference on Museums for a Sustainable Society

PCAARDS' economic valuation course

AQD's senior technical assistant Miss Raisa Castel attended PCAARRD's (Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development) course on Economic Valuation of Environment and Natural Resources from 3-7 August 2015 at Los Baños, Laguna.

The five-day workshop includes lectures and discussion on various resource valuation methods, problem set exercises, hands-on practical exercises using data analysis and statistical software and formulation of capsule proposal.

Overall, PCAARRD's main objective is to provide their staff and its R&D network, including AQD, basic knowledge on the methodologies and tools used for economic valuation on environment and natural resources for economic impact assessments and analysis. It also hopes to provide knowledge on the methodologies and analysis that can be used for cross-cutting sectors within PCAARRD's banner programs and give them basis in crafting and evaluating projects related to these sectors. 🐾 - JM DELA CRUZ



Photo courtesy of R. Castel

AQD's senior technical assistant Miss Castel with the resource person and trainees during the course

Over 1000 students visit AQD

It was such an exciting day at AQD! A total of 1,346 students who are members of the Philippine Society of Youth Science Clubs (PSYSC) toured AQD's Tigbauan Main Station as part of their *National Youth Science, Technology and Environment Summer Camp 2015* on 29 July.

Through a series of film showing where the students also viewed AQD's institutional video, they learned about the Department's research and extension activities and other mandates. The students were given tours of the facilities by AQD staff and introduced them to various

commodities and its stages of culture from seed production to grow-out. The students also learned about more species – from rescued turtles to a vast shell collection – in FishWorld museum. During their visit, AQD imparted the basic knowledge on aquaculture, fisheries and aquatic biodiversity to the students to pique their interest for science and research.

The PSYSC is a national federation of youth science clubs in the Philippines and is the first and largest science club umbrella organization in Asia with over 70,000 affiliates. 🐾 - JM DELA CRUZ

Photos by JM dela Cruz



PSYSC students examining an abalone and taking 'selfies' with seaweeds



Students exploring AQD's FishWorld museum



FishWorld Internship 2015

by T Bagarinao

Three BSc Fisheries students from Capiz State University did their on the job training at FishWorld in April-May this year. They were joined by five students from the Philippine Science High School in Argao, Cebu, and two students from Tigbauan National High School and Guimbal National High School. The PSci students started their internship by joining me at the SEA Camp in Siaton, Negros Oriental organized by Anna Oposa of Save Philippine Seas. At the SEA Camp, we interacted with educators, scientists, and other professionals making waves in marine conservation. We then poked around, and collected specimens from, the intertidal areas of Apo Island, Sipalay, near Danjugan Island, and Pulupandan. We hired a boat to look for Irrawaddy dolphins, but did not find any. The other two high

school students went with me to see the amazing wind farm and the rocky shore in Suclaran, Guimaras, as well as Kanlaon Volcano, the mangroves along Tanon Strait, and the seaweed-covered beach of Dumaguete.

Back at FishWorld, all ten students studied the fishes and invertebrates in the aquaria and tanks; worked on the sea turtles that were brought in; and learned how to identify mollusks. Then, the internship was over and lives were changed forever.

At the end of the course, the trainees expressed their gratitude and praises to AQD for the successful training. More so, that they decided to create partnerships with AQD and had promised to come back to attend more courses in the future. 🙌



AQD concludes marine fish course

AQD conducted a 37-day course on marine fish hatchery attended by 17 international trainees from the Philippines (6), Viet Nam (3), Malaysia (1), Indonesia (1) and India (1) at its Tigbauan Main Station from 17 June to 24 July. Four of the trainees were sponsored by the Government of Japan.

The course aims to share the technologies and skills on broodstock management,

spawning and larval rearing of marine fishes, such as milkfish (*Chanos chanos*), sea bass (*Lates calcarifer*), groupers (*Epinephelus coioides*, *E. fuscoguttatus*), mangrove red snapper (*Lutjanus argentimaculatus*), rabbitfish (*Siganus guttatus*) and pompano (*Trachinotus blochii*). They gained these knowledge through a series of lectures and practical activities facilitated by AQD experts.

The trainees also visited AQD's Igang Marine Station and Dumangas Brackishwater Station.

At the end of the course, the trainees expressed their gratitude and praises to AQD for the successful training. More so, that they decided to create partnerships with AQD and had promised to come back to attend more courses in the future. 🐟 - JM DELA CRUZ



Photos by R Pagador

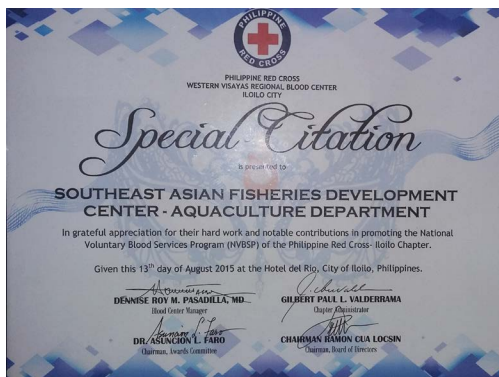
Trainees practical activities includes sampling of grouper broodstock at the hatchery and counting of *Artemia* at the laboratory

AQD receives special citation from PRC

The Philippine Red Cross-Iloilo Chapter Western Visayas Regional Blood Center awards special citation to AQD for its contributions in promoting the National Voluntary Blood Services Program. This citation was given to AQD during the 17th Blood Donors Recognition and Awarding Ceremony held in Iloilo City, Philippines on 13 August.

AQD also got the fifth place in the "mask design contest" represented by company nurse Ms. Dorfra Tupas. The mask was designed by AQD senior AV technician Mr. Isidro Tendencia.

Ms. Kaylin Corre, AQD Administration and Finance Division Head, was also present during the event. 🎭 - RH LEDESMA



The special citation from the Philippine Red Cross – Iloilo Chapter (left) and Ms. Tupas wearing the mask designed by Mr. Isidro Tendencia



Ms. Dorfra Tupas receiving the award

Photos courtesy of D Tupas

Research seminar



FISHDA Aquaventures Incorporated chairman and founder Mr. Joselito Ramos presented his experiences on *FISHDA and the Cage Culture of Palawan's Red Jewel* and the company's future partnership with SEAFDEC/AQD on 23 July at Tigbauan Main Station.

Mr. Ramos talked about his company FISHDA (Filipino's Initiative for Sustainable High-Value Diversified Aquaculture) and their research on producing export quality red grouper *Plectropomus leopardus*. He presented the various innovations of his company including the "Eco-Sea Cage" that they use to culture red grouper. Compared to the traditional cages, the Eco-Sea Cage has a wider area and can hold a bigger volume of water wherein they can stock more fingerlings. They also feed the grouper with trash fish combined with formulated diet. In a total of four month culture period, they harvested around 700 fish (average BW of 800-900g) compared to the traditional cages that harvested around 200 fish (average BW of 600-750g). Over-all the survival rate of FISHDA's production is 89.12% compared to the traditional that is 43.2% on average.

Despite the positive results of his research, Mr. Ramos wanted to continue the improvements of his culture. Thus, he requested AQD's assistance in refining the culture methods and practices of his company, especially in feeding and nutrition – to which AQD Chief Dr. Felix Ayson positively responded.

To seal this future partnership between AQD and FISHDA, Mr. Ramos planned on donating red grouper breeders to AQD. Mr. Ramos is also a trainee of the marine fish hatchery course of AQD from 17 June to 24 July 2015. 🐟 - JM DELA CRUZ



Network of Aquaculture Centres in Asia-Pacific expert Dr. Eduardo Leñaño gave a talk on *Aquaculture trends and issues in the Asia-Pacific* on 29 July 2015 at AQD's main station in Tigbauan, Iloilo.

According to Dr. Leñaño, the growing human population worldwide which is estimated to reach 9.2 billion by 2050 remains the main challenge in the sustainable production of animal protein. Dr. Leñaño explained that aquaculture has the potential to supply the increasing demand for animal protein for human consumption since it is a fast-growing production sector. Reliance in aquaculture is also increasing since there is a decrease in the traditional food fish supply. Dr. Leñaño noted that the bulk of the production comes from the Asia-Pacific where Asia's contribution accounts for about 90% of the global aquaculture production.

Although Asian aquaculture has the potential to meet the protein demand for human consumption, it faces some issues or challenges. Some of the challenges mentioned by Dr. Leñaño that Asian aquaculture faces are: the threat to biodiversity, pollution and habitat loss, unregulated use of chemicals and drugs, and aquatic animal diseases among others.

Given that aquaculture is the youngest food producing sector (started only three decades ago), these challenges and issues are being taken care of by organizations involved in aquaculture. As Dr. Leñaño cited, aquaculture is on a steep learning curve and good aquaculture practices are now being introduced to Asian countries. 🐟 - RH LEDESMA



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