



AQD Matters

Newsletter of the SEAFDEC Aquaculture Department (AQD), Tigbauan, Iloilo, Philippines



Photos by JM dela Cruz and GK Faigani

AQD held three sets of meetings on commodities, thematic areas and project reviews in August and September to map out its strategic plans for 2014. At left is fish health section head Dr. Edgar Amar; in the middle is Dr. Adelaida Calpe sharing DOST-PCAARRD's priority list for funding; rightmost is research division head Dr. Ma. Junemie Hazel Ramos with the AQD Chief Dr. FG Ayson

AQD reviews projects and strategizes for 2014

To ensure relevance of its R&D program, AQD held its annual *In-house review and planning meeting* from 19 to 20 September at its main station in Iloilo. In attendance were AQD's senior staff and AQD's partners (BFAR-National Fisheries Research & Development Institute and DOST-PCAARRD). This meeting was preceded by two meetings, on commodities and on thematic programs that were held in August, for updates on the industry and R&D status of important commodities and the progress

of individual research projects. The meetings also ensure that R&D activities address the needs of the industry.

"AQD is in the position to help national governments in addressing food security," noted AQD Chief Dr. Felix Ayson. "We have carefully generated science-based technologies in aquaculture. There is always a stamp of AQD in the region." He summarized the topmost strategies as follows: (1) Technology extension in situ, where AQD provides the inputs like feeds and in

return gets the needed data on feed performance and environmental parameters during the culture period while the private sector partner provides the operational funds, fingerlings, staff and gets the proceeds. (2) Closer cooperation and information sharing among staff to enable AQD to raise the public's awareness of science-based technologies. And, (3) Securing more R&D grants to work with institutions having similar vision of sustainable aquaculture and avoid duplication of efforts.

AQD and LGU-Tagum sign accord

On 23 September, AQD and the local government unit (LGU) of Tagum City, Davao del Norte in southern Philippines signed an agreement for AQD to provide technical assistance to Tagum's mud crab hatchery and nursery operations. AQD's

assistance is part of the project on "Promotion of mud crab hatchery & nursery technologies in selected sites" funded by DOST (Department of Science & Technology). The AQD-DOST project is meant to accelerate the adoption of science-based technology by stakeholders.



(L-R) Tagum municipal agriculturist Engr. Harold Dawa, Tagum councilor Francisco Remitar, SEAFDEC/AQD Chief Dr. Felix Ayson, and AQD's technology verification & demonstration head / program & project leader for mud crab Dr. Emilia Quintio

AQD and BFAR team up for Winrock project



Photos by CV Genzola

(L-R) AQD Chief Dr. Felix Ayson presents AQD's research programs, the Winrock project and technical assistance to BFAR Region 13. Dr. Ayson visits BFAR milkfish hatchery in Cortez, Surigao del Norte

AQD had a consultation with officers of BFAR (Bureau of Fisheries and Aquatic Resources) Region 13 as well as with the Provincial Fisheries Officers of CARAGA held 10 September in Surigao City. The consultation is a preliminary activity in preparation for the implementation of the USDA-funded Philippine Cold Chain Project by Winrock International (an international non-government organization that implements developmental projects worldwide).

The project approach includes improvements in agriculture & fisheries productivity and trade. AQD partners with Winrock for

the fisheries and aquaculture component of the project. AQD's activity will focus on capacity building in aquaculture and management/enhancement of fisheries resources.

During the consultation, important aquaculture commodities in the region were identified. It was agreed that tilapia, catfish and milkfish have the best potential, while mud crab was identified as the most promising species that is still abundant in the natural waters. The potential for increased productivity, prospects for marketing and improved trade for each commodity were discussed. Moreover, the status of important fisheries resources

in the region was tackled.

Prior to this meeting, AQD has been in consultation with BFAR CARAGA regarding the operation of its new community-based multi-species hatchery facilities in Cortez, Surigao del Norte. On the same trip, the AQD team also visited the hatchery facilities to observe its operations and had a consultation with the technical staff.

AQD was represented by AQD Chief Dr. Felix Ayson, Training and information head Dr. Evelyn Grace Ayson and Information assistant Mr. Caryl Vincent Genzola.

A book for "Filemon"

AQD scientist Dr. Nerissa Salayo is one of the authors of the book *Coastal resources management: perspective from the social sciences* that was launched on 14 August 2013 in Iloilo City.

Coastal resource management (CRM) is considered a multidisciplinary concern and the book was written to address current issues. Dr. Salayo, who wrote the chapter about market and fisheries development, said: "This chapter aims to change the: (1) consumption behavior of consumers towards environment-friendly options, (2) market behavior of traders towards selling the appropriate quantities and qualities of fish needed by consumers, and (3) fishing behavior of fishers to catch the right size and kinds of fish without compromising the state of the fishery resources."



Photos by JM dela Cruz

The authors Prof. Pepito Fernandez, Prof. Rodelio Subade, Dr. Nerissa Salayo, Prof. Alice Prieto-Carolino, Prof. Ida Siason, Prof. Elmer Ferrer and Prof. Lenore Polotan-de la Cruz

With 41% of the fishing population assumed to be poor, the book aims to change the lives of every Filemon ("Filemon" is the fisher in a Filipino folksong).

According to Chancellor Prof. Rommel Espinosa of the University of the Philippines Visayas (UPV), it is about time for the people and government leaders to "read the insights of the academe (and help) solve issues in CRM". In response,

Iloilo Governor Hon. Arthur Defensor, who is also present during the launching, declared his commitment and support for the book and for the academe.

The authors also include UPV professors Prof. Elmer Ferrer, and Prof. Lenore Polotan-de la Cruz from UP Diliman; Dr. Ida Siason, Dr. Rodelio Subade, Dr. Pepito Fernandez and Prof. Alice Prieto-Carolino from UP Visayas. The book was edited by Dr. Siason.



Dr. Nerissa Salayo during her brief remarks about the book (inset)

Infinite possibilities for AQD library: Singapore and Florida

In the search for new updates on library and data banking services, AQD librarian Mr. Stephen Alayon attended two international library conferences.

First stop is Singapore for the *IFLA (International Federation of Library Associations and Institutions) world library and information congress* from 17 to 23 August. The congress focused on the merging of libraries and modern technologies to make acquisition of information easy.

The second stop is in Florida, USA for the *IAMSLIC annual conference and SAIL meeting* from 20 to 24 October. IAMSLIC and SAIL are International Association of Aquatic and Marine Science Libraries & Information Centers and Southeastern Association of IAMSLIC Libraries. Information professionals were updated with the changes happening in libraries such as new technologies, growing user expectations, mergers in the publishing world, and re-purposing of library space.

Mr. Alayon and 20 other volunteers joined the first-ever work-party for *Aquatic Commons*, a digital repository covering natural marine/estuarine/brackish/freshwater environments ran by the Gulf and Caribbean Fisheries Institute in Texas. The repository provides visibility, usage and impact through global access to digital publications for organizations that do not have institutional repositories of their own.



AQD's Mr. Stephen Alayon at the IFLA WLIC 2013 with Philippine Librarians Association Inc (PLAI) president Ms. Elizabeth Peralejo and treasurer Ms. Susan Pador



Mr. Alayon during the IAMSLIC-SAIL meeting

AQD meets ASFA board members in Peru

A total of 156 bibliographies were contributed by AQD to ASFA (Aquatic Sciences and Fisheries Abstract). This was reported during the 42nd ASFA Advisory board meeting held in Callao, Peru from 23 to 27 September. The meeting organized by the Food and Agriculture Organization (FAO) was attended by 30 ASFA board members and partners from 23 countries to discuss ASFA's partnership and the development of their database.

ASFA is an international cooperative information system



The participants of ASFA Advisory board meeting

that includes an abstracting and indexing services of the world's literature related to science and fisheries. SEAFDEC is one of the ASFA partner institutions

while AQD is one of the collaborating centers.

AQD was represented in the meeting by senior information assistant Mr. Daryl Superio.

AQD attends training on patent drafting

The *Patent drafting 1* training is the third of the five-part series of training attended by AQD's Innovation & technology support office (ITSO) headed by associate scientist Dr. Roger Edward Mamaug. It was held from 24 to 27 September in Iloilo City.

Some of the topics discussed during the training were patentable subject matter, novelty, industrial applicability, sufficiency of disclosure, unity of invention, patent process, inventive step, and main points & objects of patent application. There were also workshops on patent application, claims drafting, amending patent application, and amending claims.

Research seminar

Taurine and agarases



Back-to-back seminars were held on 15 August. Dr. Tsuyoshi Sugita of Japan International Research Center for Agricultural Sciences and AQD's Dr. Ma. Michelle Peñaranda presented their studies, respectively, on *Effect of taurine supplementation in fish meal-based and soybean meal-based diets for yellowtail (Seriola quinqueradiata)*

fingerlings and Purification and characterization of agarases and carrageenases from polysaccharide-lysing bacterial isolates of seaweeds and herbivorous aquaculture species.

Dr. Sugita noted that supplementing the soybean meal-based diets with 2% taurine resulted to improved growth, oxygen transport, and

liver condition of yellowtail fingerlings. Dr. Peñaranda, on the other hand, isolated bacterial strains from degraded seaweeds and abalone digestive tract with strong agar and carrageenan-lysing abilities, respectively; further studies are needed for practical application of these bacterial enzymes.

Mud crab overview



Three scientists presented various studies on mud crab in the RD seminar series held on 22 August.

Technology verification and demonstration head Dr. Emilia Qunitio presented the overview of mud crab aquaculture industry in the Philippines. According to her, the overexploitation of mud crabs in the wild paved the way to the acceptability of hatchery-reared crabs. She emphasized that the basic technologies in all phases of culture (hatchery, nursery and grow-out) have already been

developed. She also mentioned AQD's contribution in the domestication of mud crabs and formulation of feed.

Meanwhile, AQD scientist Dr. Fe Estepa detailed the mud crab nursery rearing practices. She explained that cannibalism during the nursing stage can now be remedied through removal of chelipeds, trimming of claws, and the use of dietary tryptophan. She also noted that the key to increase survival at this stage requires having appropriate shelter that provides refuge for the newly-molted juveniles.

In addition, scientist Dr. Veronica Alava studied the significance of lipid class, fatty acids and protein contents during embryonic development in mud crab reproduction. She found out that polyunsaturated fatty acids are important in larval development and both crude protein and lipids were utilized. However, the decreased levels of protein and lipids at zoea 1 indicate that exogenous energy sources should be supplied at this stage.

Aquaculture sediment



Assistant professor Dr. Shiela Mae Santander-de Leon from the University of the Philippines Visayas shared the results of her study *Aquaculture sediment: a sink of waste fish feeds* on 25 September.

According to her, sediments underneath fish farms are sulfidic and toxic to benthic animals due to accumulation of fish feeds. She noted ways to mitigate the impacts of

marine farms through (1) monitoring of sediment quality, (2) bioremediation, (3) biostimulation, and (4) development of indicators and fish farmer-friendly monitoring techniques of sediment quality.

Mastering employee payroll and benefits

To get updated on proper administration of employee payroll and benefits, three AQD staff attended a special mastery course.

The two-day course *Mandatory payroll & benefits administration: mastery course on statutory monetary benefits for employees* was sponsored by Businessmaker Academy and held at the Philippine Stock Exchange Center, Ortigas City from 1 until 2 August 2013.

AQD financial assistant Ms. Marivic Decafe, administrative assistant Ms. Sunshine Salonga and information assistant Mr. Ronilo Subaldo attended the course. The course taught technical computation & procedures, policy guidelines, sample templates & forms, and solutions to common payroll & benefits issues.



AQD staff with resource speaker Ms. Rizza Weigand (second to the right) during the mastery course on payroll and benefits

What is new from Philhealth and Pag-ibig?



Mr. Vicel Bracamonte & Ms. Jonalyn Genizera of PhilHealth and Mr. Kenneth Gomez of Pag-ibig explain the new policies and programs of their company

AQD employees are now updated with the latest policies, regulation and program of PhilHealth (Philippine Health Insurance Corp) and Pag-ibig fund. A refresher seminar was conducted by PhilHealth and Pag-ibig for AQD staff on 6 September.

Mr. Vicel Bracamonte & Ms. Jonalyn Genizera of PhilHealth discussed the new rates and guidelines on how to avail hospitalization benefits. Meanwhile, Mr. Kenneth Gomez of Pag-ibig fund explained the requirements on housing loans and other financial assistance they offer to their members.

AQD joins fun run and sportsfest at Tigbauan

AQD's tennis club joined the 5K Fun Run from Brgy. Napnapan Sur in Tigbauan, Iloilo, Philippines to the Tigbauan Municipal Hall on 19 September. This was among the activities organized by the local government unit (LGU) of Tigbauan to celebrate the 113th Philippine Civil Service Anniversary.

LGU-Tigbauan also invited AQD's basketball team to take part in the Inter-Agency Sportsfest. The AQD team has a 1-1 win-loss record playing against Ileo 1 and PNP-606 on 19 and 25 September, respectively.



Photos by RH Ledesma

Healthlink on-site laboratory services



AQD laboratory manager Engr. Margarita Arnaiz avails the on-site services of Healthlink (inset). AQD staff line-up at Healthlink's mobile x-ray

Laboratory examination for AQD staff is now hassle free. Since regular employees do not have to go to Iloilo City for their annual medical examination. The medical team from Healthlink Inc offered an on-site laboratory services, X-ray and ECG test to AQD staff on 3 September.

AQD staff changes

Change of employment status



Ms. **Roselie Cabatia**, former monthly casual employee, has been hired on a fixed-term contract as Administrative assistant at Dumangas Brackishwater Station



Mr. **Virgilio Futralan Jr**, former monthly casual employee, has been hired on a fixed-term contract as Technician at Breeding and seed production section

New personnel



Ms. **Vicar Stella Nillasca**, is a Technical assistant assigned at Binangonan Freshwater Station. She earned her BS degree in Biology from the University of the Philippines Visayas, Miag-ao, Iloilo



Mr. **Mark Neil Samoranos**, is a Technical assistant assigned at Binangonan Freshwater Station. He earned his BS degree in Biology from the University of Rizal System, Morong Rizal

Harvesting milkfish @ low tide

Milkfish swim against the current, and fish farmers take advantage of this habit to harvest milkfish. Filipinos call this method “pasulang”. However, this cannot be done during low tide; instead, milkfish is harvested by totally draining ponds.

On 12 August, 173 kg of milkfish was harvested at AQD’s brackishwater station in Dumangas, Iloilo, Philippines. Thanks to technical assistant Mr. Jerry Babiera, technicians Mr. Ralen Depamaylo, Mr. Jorge Amihan, Mr. Federico Sotela, pond aides Mr. Felix Javero, Mr. Nestor Ardales and Mr. Alfredo Sotela.



Photos on this page by GK Faigani

“Fish cordon bleu” a sample recipe of milkfish. This is the entry of Danica Abacajin, Almart Jamindong and Norymai Ocumas from Ramon Avanceña National High School during the Sci-Art 2013 Seafood festival competition



To harvest milkfish at low tide: (1) Open the pond gate to release the water. (2) Tie the harvest net near the pond gate. (3) Seine the fish when 80% of the water is drained



(4) Transfer the collected fish to the harvest net. (5) Scoop the fish and place in a transport bag. (6) Place fish in a tub with crushed ice



(7) Handpick the remaining fish when the pond is totally drained. (8) Place the chilled fish on the sorting table and sort by size



(9) Weigh the harvested fish. (10) Pack and transport to target market



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