

SEAFDEC AQD Matters

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



Heads up!

AQD Chief Dr. Joebert Toledo (leftmost) oriented on 1 August the AQD senior researchers and supervisors regarding the series of commodity and thematic area meetings that will lead up to its change in research-and-development priorities. Dr. Toledo also announced the appointment of AQD's new thematic program leaders, as follows: **Dr. Ma. Rowena Eguia** for *Supply of good quality seeds* program; **Dr. Relicardo Coloso** for *Healthy & wholesome aquaculture* program; **Dr. Junemie Lebata-Ramos** for *Maintaining environmental integrity in aquaculture* program; **Dr. Felix Ayson** for *Climate change* program; and **Dr. Nerissa Salayo** for *Meeting social & economic challenges in aquaculture* program

Brainstorming the new thematic approach

Changing R&D direction is not an easy task. "I thought that with the June 2011 conference behind us, the task would be simpler," noted AQD research head Dr. Evelyn Grace Ayson, referring to the *ASEAN-SEAFDEC Conference on sustainable fisheries for food security towards 2020* in Thailand which set the new aquaculture priorities in Southeast Asia beginning 2012. "But, there is more brainstorming to come!"

August is the month when AQD held two sets of week-long, small-group idea conferences at its Tigbauan Main Station (TMS) in Iloilo to make good the change in its R&D priorities.

Goodbye to the 'old' ...

AQD consolidated the results of its commodity-based programs (abalone production, mudcrab & shrimp domestication, marine fish production, small-holder freshwater aquaculture, seaweed strain improvement, and aquatic ecology) from 15 to 19 August with researchers, including those in technology verification & demonstration, in attendance. These programs ran from 2006 through 2011, and the studies that are in progress or that still need to be done are assigned to new themes.

... and hello, new themes!

The thematic meetings (photos at right) came next, from 22 to 26 August, with training&information officers now joining the teams. The output was a tentative list of studies, proponents and activities for 2012 as well as a broad plan for 2013-2016 (including extension) that will address the goals of its five thematic R&D programs.

Up ahead

The output from the theme meetings will be discussed next in the *In-house strategic planning workshop*, to be held 6-9 September, also at TMS. The brainstorming groups will now be joined by senior



administration & finance officers. Here, AQD's five year workplan will be prioritized based on the allocation of human and financial resources.

AQD is expected to present its workplan to PTAC or the Philippine Technical Advisory Committee, representing both government and industry, in October 2011 where the Philippines, the host country of AQD, is expected to input its own priorities in departmental, thematic programs funded by the government.

After this, AQD will join the *SEAFDEC Program Committee (PCM) and ASEAN-SEAFDEC Fisheries Consultative Group Mechanism Meeting* in November 2011 where ASEAN-SEAFDEC can request AQD to work on priorities common to member countries. Finally, following the recommendations of PCM, the SEAFDEC Council, the policy-making body of SEAFDEC, will meet and officially approve in April 2012 the AQD workplan for 2012-2016.

The goal of the yearly national and regional consultations is to ensure that R&D efforts are not duplicated.

"As we go through these changes, let us not lose sight of the fact that, by 2016 and again in 2020, AQD will be rated based on how best it has improved the production capacity, capability and well-being of the smallholder fish farming community in ASEAN-SEAFDEC," AQD Chief Dr. JD Toledo emphasized. "It will be then that we can say 'AQD has made an even greater impact' than it has today."

Mid-year review of programs funded by GOJ-TF

AQD reviewed from 3 to 5 August its regional programs funded by the Government of Japan Trust Fund (GOJ-TF). These programs, which have around 25 studies / activities, are on (1) resource enhancement of internationally threatened and over-exploited species in Southeast Asia (SEA); (2) promotion of sustainable & SEA-oriented aquaculture practices; (3) food safety of aquaculture products in SEA; and (4) accelerating awareness & capacity-building in fish health management in SEA.

Among others, researchers reported that a stress test (use of 30 ppm formalin) for mudcrab can cull out stock unfit to be breeders, a training course on stock enhancement for communities has been held for the first time, and withdrawal periods (22-27 days) for oxytetracycline and oxalonic acid in milkfish have been determined.

AQD Deputy Chief and GOJ-TF Co-Manager Dr. Teruo Azuma (upper leftmost) announced that GOJ-TF will hold a training on zoonotic parasitic diseases in Lao PDR 11-14 October '11 and an international fish disease workshop 1-2 March 2012 in Iloilo City, Philippines. He also thanked the study leaders, technical assistants and other project personnel for keeping the programs on track and for helping critique each other's work.



Fish kill forum

No matter how good all the science-based technologies are, these cannot stop fish kills if fish farmers do not follow the recommended good aquaculture practices,” said AQD Dr. Joebert Toledo.

“All the studies on carrying capacity of lakes and other bodies of water will be useless if local governments cannot enforce the agreed-upon limits for cage and pen operations. Fish kills are results of the complete disregard of the environment,” he added. “Greed? Yes.”

AQD together with the University of the Philippines (UP)

Center for Integrative & Development Studies and the UP Marine Science Institute organized the “Fish kill forum” on 5 August at the UP Diliman campus in Quezon City, Philippines. PCAMRD and BFAR gave financial support.

The forum was held to (1) address the problem of mass fish kills that have occurred in Philippines lakes & coastal waters and (2) establish a system of accountability for the

management and utilization of aquatic resources.

Representatives from the academe, government agencies, LGUs and private sector from the aquaculture industry listened to reports regarding fish kills in Lake Taal & other freshwater lakes, and in Bolinao, Pangasinan; the economic impact of fish kills; and the governing national aquaculture policy and regulation.

PHOTOS BY THE UNIVERSITY OF THE PHILIPPINES



Consultations in mariculture parks

AQD and Taytay sa Kauswagan Inc. (TSKI) are working together as the technical assistance team for the Development Bank of the Philippines’ program on sustainable mariculture investment. The team conducted consultation-interviews with 30-40 mariculture stakeholders (operators, local government unit or LGU officials, fisherfolk, and investors) from 8 to 13 August in Digos City and the municipality of Sta. Cruz, Davao del Sur, southern Philippines.

During the consultation in Sta. Cruz, a briefing on the ecological status of Tagabuli Bay was done to warn the community of the possibility of a “fish kill.” LGU-Sta. Cruz was appreciative of the scientific information shared by the team since it will help them in enforcing ordinances and make necessary amendments in order to improve the management of their resources.

Prior to this, the team also conducted consultation-interviews with about 40 mariculture stakeholders in Panabo City (Davao del Norte) from 27 June to 2 July.



PHOTOS BY DHTORMON



(FROM TOP, L-R) AQD researcher Ms. Didi Baticados interviews a stakeholder; AQD and BFAR-RFTC staff with mariculture park stakeholders; AQD Chief Dr. JD Toledo with BFAR-RFTC director Mr. Andrew Ventura, and the mariculture park in Digos City



AQD teams up with fishing villages

AQD teams up with the village resource management council of Molocaboc in Sagay, Negros Island, Philippines for a new project on the culture of



COURTESY OF T. AZUMA

abalone (*Haliotis asinina*) and seaweed (*Gracilaria*). AQD Deputy Chief Dr. Teruo Azuma together with AQD technical assistants Mr. Rafael Barrido and Mr. Kenneth Tibubos visited the area 11-12 August to discuss the flow of technology transfer and assess the site for abalone-seaweed culture (photo at left). The project aims to encourage the management council to establish sustainable resource utilization to secure the people's livelihood. It is also one of AQD's regional projects funded by the Government of Japan Trust Fund (GOJ-TF).

Meanwhile, happy with three successful marine sanctuaries under its belt, the local government unit (LGU) of San Joaquin, Iloilo, Philippines inaugurated twelve more on 16 August. They invited AQD Deputy Chief Dr. Teruo Azuma and Associate Scientist Dr. Jon Altamirano to grace the sanctuaries' launching and blessing. It may be recalled that AQD has been working closely with the LGU on the research projects "Stock enhancement of giant clams *Tridacna* sp." and "Coral study on the effects of global warming on their growth and survival". These two projects are funded by AQD, the LGU, and GOJ-TF.

AQD gives training on freshwater species

A five-day course on *Freshwater prawn hatchery and grow-out* was held 22-26 August at AQD's Binangonan Freshwater Station (BFS) in Rizal. Four participants from the provincial & municipal governments in Iloilo and the private sector in Quezon City & Bataan learned various farming techniques for giant freshwater prawn, an economically important commodity with high export potential.

Meanwhile, from 15 to 19 August, three participants from the private sector in Malaysia and the Philippines and a sit-in intern from Korea gained knowledge and skills on *Tilapia hatchery and grow-out*, also at BFS.



A LAZARTIGUE

An intern...

Mr. Le Van Bao Duy, a MSc Aquaculture student from Ghent University, Belgium, enrolled in AQD's internship program from 11 July to 21 August. His internship activities included hatchery rearing of various commodities, feed development, natural food culture, and fish disease diagnosis. Mr. Duy is one of the 22 interns at AQD from January to August 2011.

... and a fair

To reach its stakeholders directly, AQD was in Davao City in southern Philippines to join the *1st Vis-Min Davao Agri-Aqua Expo* that was held 11-13 August. The event was organized by the CMB Events Management in cooperation with the Department of Agriculture, Bureau of Fisheries and Aquatic Resources, Philippine Veterinary Medical Association, Livestock Development Council, and Fertilizers & Pesticides Authority.



DA Region XI Technical Director Mr. Romulo Palcon and AQD senior information assistant Ms. Janelli Garibay at the AQD booth

A meeting, three courses, and two scholarships



(TOP-BOTTOM)
Dr. F Aya, Dr. MM Peñaranda
and Ms. Dumarán in Japan;
and Ms. DH Tormon in Laguna

AQD scientist Dr. Relicardo Coloso attended the 2011 *Aquaculture stakeholders' strategic planning meeting* organized by United Soybean Board (USB) and US Export Council held 24-26 August '11 in Kona, Hawaii, USA. His trip was supported by USB which has a collaborative project with AQD on the use of soybean meal and soy protein concentrate in aquafeeds.

AQD associate scientists Dr. Frolan Aya and Dr. Ma. Michelle Peñaranda, on the other hand, are participating in the *Advanced program to foster young and female researchers from Southeast Asia in sustainable fisheries sciences* from 31 August '11 to 5 October '11 at the Faculty of Fisheries Sciences, Hokkaido University, Japan. Their support also came from the university. Dr. Aya and Dr. Peñaranda are conducting their research on silver tharapon and bacteria-derived enzymes, respectively.

AQD technical assistant Ms. Haydee Rose Dumarán, meanwhile, is back after participating in the *Fish/shrimp histopathology course* at Mie University, Japan from 20 July '11 to 10 August '11. She was funded by Marino-Forum 21, a Tokyo-based organization supported by the Fisheries Agency.

Sponsored by ACIAR, AQD senior technical assistant Ms. Dianne Hope Tormon attended a course on *Social sciences concept & tools for technology assessment, and research evaluation & impact assessment* in Los Baños, Laguna from 25 July '11 to 5 August '11.

Two of AQD's associate researchers Mr. Joseph Leopoldo Laranja and Ms. Gladys Ludevese are leaving at the end of September '11 to pursue doctorate degrees in Ghent University, Belgium. Their scholarship grants are from BOF (funded by Ghent University) and VLIR-UOS, and are "sandwich-type" programs where their studies will be conducted first in Belgium then in AQD and back to Belgium.

VISITORS @AQD

Japanese students

AQD was visited on 25 August by 13 students from Hiroshima University and on 31 August by four faculty & students from Tokai University & the University of Tokyo.

Mostly in BS Agriculture and BS Biology programs, the first group made the trip as part of their study tour funded by JICA. They spent time discovering AQD's hatcheries on marine fish, sandfish, abalone, seahorse and mud crab; phycology, analytical and biotechnology laboratories; and feed mill plant. They were also briefed by (1) AQD Deputy Chief Dr. Teruo Azuma on the ASEAN-SEAFDEC Fisheries Consultative Group programs, (2) AQD research head Dr. Evelyn Grace de Jesus-Ayson on recent mariculture technologies developed by AQD, and (3) AQD training & information head Mr. Renato Agbayani on AQD's initiatives in coastal resource management.

The second group also explored AQD's hatcheries and laboratories. The group was composed of Dr. Satoshi Ishikawa of Tokai University and his two undergraduate fisheries students, and Prof. Akira Takagi of the University of Tokyo. The two students will go on a two-week internship at AQD from 2-17 September.



Hiroshima and Tokai University students



Palawan entrepreneurs

Exploring the possibility of intensifying their 10-ha mariculture park operations, six members of the St Augustine Foundation Multi-purpose Cooperative, a non-government organization based in Coron, Palawan, western Philippines, visited AQD's Iloilo and Igang stations on 30 August.

Mass media

Editor & writer Mr. Paul Icamina of the daily Malaya's *Business Insight* was at AQD's Iloilo, Dumangas and Igang stations 12-15 August for a series of interviews with 15 AQD

researchers including the AQD Chief (at right). The first of his interviews -- on seahorse R&D -- appeared on 26 August.



RESEARCH SEMINARS



AQD scientist Dr. Edgar Amar on 25 August presented the study on *Characterization of grouper (Epinephelus coioides) innate immune response to Vibrio harveyi for immunostimulant development.*

Dr. Amar and his co-workers Mr. JP Faisan and Dr. RV Pakingking Jr. intramuscularly injected groupers with *V. harveyi*. At scheduled intervals (3 to 240 hours) post-infection, fish plasma and head kidney (HK) macrophages were collected and respectively examined for lysozyme activity (LA) and respiratory burst activity (RBA). Total bacterial load (TBL) and total *Vibrio* count (TVC) in fish liver were also monitored.

The results showed that RBA of HK macrophages decreased at 24 h, returned to basal level (BL) at 48-72 h, increased again at 96-120 h, and returned to BL at 240 h post-infection. The reverse was true for TBL. TVC on the other hand peaked at 24 h before becoming undetectable, while LA increased at 24-48h and went back to nil at 120 h post-infection. Results suggested inverse correlation between RBA and TBL, and a positive correlation between LA and TBL.

In addition, Dr. Amar and his co-workers examined the epinecidin gene expression in skin, liver, spleen, gill and kidney tissues of infected grouper and noted that the expression could persist up to 10 days post-infection.



AQD associate scientist Dr. Jon Altamirano on 25 August

presented his project on *Promoting coastal rehabilitation through stock enhancement* in Batan Estuary in northeast Panay.

Dr. Altamirano noted that the estuary's average daily catch is down to 1.65 kg from 24 kg in the '70s and that the shrimp fisheries has been reduced to smaller-sized and lower-sized species, both caused by conversion of 95% of mangroves to ponds and almost 400% increase in fishing gears.

With the collaboration of communities and local governments surrounding the estuary, the project plans to restock hatchery-bred tiger shrimp, replant mangroves in abandoned ponds, and campaign for the reduction of the number of fishing gears allowed in the area.

Dr. Altamirano calls the stock enhancement activity "positive reinforcement" for the people.

Website is new!

AQD uploaded a new version of its website www.seafdec.org.ph on 16 August and, within two weeks, saw a surge of 1,000 more **unique visitors** (that is, a URL is counted only once each month regardless of the number of visits/visitors). This brought the total August visitors to about 6,000. Of the nearly 20,000 page views of the new website, the most viewed are free downloads, training schedule, new publication releases, list of experts, bookstore, contact AQD information, tilapia, commodities, and tiger shrimp. Visitors spend an average of 4:15 minutes onsite.



Condolences to the families of:

Mr. PLACIDO TUSALEM, 72 years old, who died on 22 July in Buyuan, Tigbauan, due to pneumonia. He was the father-in-law of AQD technician Mr. Silverio Tibudan

Col. JOSE AGPANGAN, 78 years old, who died on 26 July in Victorias City, Negros Occidental due to lung cancer. He was the father-in-law of AQD scientist Dr. Leobert de la Peña

Mr. DAVID BABOL, 79 years old, who died on 28 July in Iloilo City due to acute prostate cancer and enlarged heart. He was the father of AQD technical assistant Mr. Alessandro Babol

Mr. DELFIN CORBET SR, 66 years old, who died on 29 July in Nanga, Guimbal, due to cardiac arrest. He was a former AQD employee and father of AQD pump operator Mr. Eden Corbet

Ms. JULIANA NARANJA, 83 years old, who died on 31 July in Iloilo City due to cardiac arrest. She was the mother-in-law of AQD associate researcher Mr. Eliseo Coniza

Ms. GLORIA TRAI FALGAR TORRE, 86 years old, who died on 24 August in Iloilo City due to lung cancer. She was the mother of AQD biotech lab manager Ms. Margarita Arnaiz



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