



AQD Matters

In-house newsletter of the SEAFDEC Aquaculture Department, Tigbauan, Iloilo

Capiz signs on a P2.66M project

November 16, a Thursday, was a good day for AQD when Chief Dr. Joebert Toledo signed two separate MOAs with Capiz that will bring in P2,660,730 in project funds in the next two years.

Signed with Governor Vicente Bermejo was the first MOA detailing an institutional capacity-building project on sustainable aquaculture and fishery resources management. This may sound familiar because this is the same concept as the Antique project being implemented with a P500,000 fund from Congressman E. Javier.

The Capiz project, however, has three phases: brackishwater aquaculture (November 2006 to October 2007), freshwater aqua and marine fish hatchery (Feb 07-Jan 08), and coastal resource management (Feb 07-Jan 08).

AQD will provide technical support systems and services; develop capacities of the province's target beneficiaries such as LGU technicians, fishpond operators and fisherfolk; undertake research on carrying capacity of Capiz resources and on breeding-hatchery of diwal; and assess project impact.

The Capiz provincial government, on the other hand, will adopt the technologies introduced by AQD, legislate the corresponding guidelines and standards on resource sustainability (they had sought approval from the provincial board about this SEAFDEC project), and appropriate a P2.66 M fund which will include payment of AQD's management-administrative overhead cost (15% of project cost).

The second MOA is tripartite, with Governor Bermejo and Capiz State University. CAPSU is represented by its President, Dr. Rochellir Dadvivas. This MOA implements phase I of the Capiz project.

CAPSU will be the site of the training and demo farm on seabass, grouper, mudcrab and siganid culture.

Phase II will be implemented in a man-made lake in Tapaz, and in the satellite milkfish hatchery ran by a cooperative near Roxas City.

Like Antique, the Capiz project is jointly handled by three divisions of AQD: Research, Technology Verification-Commercialization, and Training-Information.

The two MOAs on technology transfer and assistance with Capiz Governor Vicente Bermejo (in yellow) and CapSU Vice President for Administration Dr. Editha Magallanes (seated, leftmost) are signed November 16 at the Roxas City Capitol Building. Witnessing the event are Capiz mayors, Sanguniang Panlalawigan members, municipal action officers; AQD, BFAR and PCAMRD staff, and members of the media



Governor Bermejo (inset) relates that the Capiz project started with his letter of congratulations to the newly installed AQD Chief Dr. JD Toledo, and, with it, his request for technical assistance. He called the signing a "great development" because of the short time period between conceptualization and agreement.

After the signing ceremony, the AQD project team meets with the Provincial Agriculturist Sylvia de la Cruz (rightmost) and CapSU



representatives to discuss starting dates for pond preparation, stocking, and training



Dream team in action: Antique and Capiz

The what? Yup, there's a team from RD, TVCD, and TID that's making the rounds in Panay and Negros to link up with LGUs and extend AQD technologies.

At first, the team was jokingly referred to as AQD's "dream team" or by the AQD Chief's initials JDT (Joebert's Dream Team)

because of its multi-disciplinary composition and self-imposed mission of directly reaching out to stakeholders.

The dream team is now an e-group with the address dream_team@aqd.seafdec.org.ph to facilitate communication.

The members are the Heads of RD (Dr. EG Ayson), TVCD (Dr. NS Chavoso), and TID (RF Agbayani); the



Progress in the Antique project includes a second hands-on training on seabass (above photos) and seaweed culture, this time at Mag-aba Beach House in Pandan from 20 to 22 Sept. A total of 18 participants (two are women) represented the three municipalities of Pandan, Sebaste and Libertad. Of the 18, 12 were coop members, 2 municipal FARMC chairs, 2 agri technicians, a municipal agri officer, and a fish warden.

Mayor Plaridel Sanchez opened the activities. The resource persons were Mr. Albert Gaitan and Mr. Salvador Tan who lectured on biology + culture, and conducted the seabass cage-making sessions, respectively; Dr. Anne Hurtado on seaweeds; Ms. Kaylin Corre who shared her recent Indonesian experiences; and Mr. Sonny Pagador who discussed the seabass module in Hamtic.

On the last day of the onsite training, the floating net cages the trainees made were put into the Bugang River after which 1,600 pieces of seabass from AQD's Tigbauan hatcheries were stocked.

- PHOTOS AND REPORT BY R PAGADOR

commodity leaders (for marine fish, Dr. FG Ayson; for abalone, AC Fermin) and key research (for stock enhancement, JL Ramos; for stock assessment, Dr. E Amar; for socioeconomic, Dr. ND Salayo and D Baticados; for cage culture, A Gaitan), training (K Corre) and information (M Castanos) staff.

Team leader RF Agbayani plans to tap as many AQD experts as the stakeholders would need. For instance, a freshwater

aquaculture specialist would be needed for the freshwater hatchery project in Tibiao with the Polytechnic State College of Antique, and for the man-made dam at Tapaz, Capiz.

Here's a glimpse of the dream team's activities leading up to the MOA signing with Governor Vicente Bermejo on the project *Institutional capacity building on sustainable aquaculture and fishery resources management*.

JULY 13: FIRST GRIN & GRIP MEETING OF KEY INFORMANTS AT ROXAS CITY



The team assessed the needs of Capiz by discussing with key informants, including Governor Bermejo, the province's fisheries resources and industry, including the angelwing clam or diwal. A proposal was sent afterwards to the Governor, and, after a month, Capiz requested a second meeting to finalize the project timetable and financial details

AUGUST 24-25: SECOND VISIT TO TAPAZ AND ROXAS



The team went to see the man-made dam at Tapaz first (above) before proceeding to Roxas City to work on the project details with Provincial Agriculturist Sylvia de la Cruz and her staff. The team also listened to Mayor Raymundo Locsin (inset) of

the municipality of President Roxas. The mayor showed underwater video of the bays in Capiz. Siltation is a major continuing threat, and has devastated small-scale fisheries. Capiz may need an integrated upland-lowland approach if it is to keep what's left of its coastal resources. The eastern mountain ranges in Panay drain to the Capiz bays

What's up for AQD in 2007?

AQD has ironed out next year's program in a workshop held at the TID conference room October 30-31 and attended by senior staff.

At the opening of the workshop, AQD Chief Dr. JD Toledo first made a report of the *Department Chiefs' Meeting* that he attended in Bangkok in mid-October.

He noted that:

- (1) there is a shift in funding source from GOJ, from its Ministry of Foreign Affairs to its Fisheries Agency (FA). The GOJ contributes US \$250,000 to 280,000 to SEAFDEC
- (2) with the Secretariat needing a yearly allocation of US\$0.4 million, which includes the operation of MV/SEAFDEC, the member-countries were requested to allocate a minimum amount for the Secretariat's operations. The Philippine government will contribute US\$15,000 starting next year. Member-countries hosting the four departments will also continue to be responsible for its operating expenses. AQD has requested a budgetary allocation of P120 M for 2007

Dr. Toledo presented next the directions he wanted the four divisions to go.

For RD: The approach will be program or commodity-based, and the addition of a new one, that of aquatic ecosystems for studying

and helping mitigate the impacts of aquaculture on the environment.

Collaborative efforts with other institutions will continue to be pursued (i.e. University of Eastern Philippines, MSU-IIT, UP Visayas) and will be sought for others (e.g. UP Institute of Biology). AQD researchers are encouraged to seek external funding.

Dr. Toledo further said that the emphasis will be generating science-based information, so researchers still need to publish in ISI-covered journals so AQD's research results will be available to a wider international audience. In this connection, the Department will review and implement hiring or promotion guidelines based on scientific merit points (or the number and importance of published work). Incentive allowance may be granted for each published paper though this will likely be a one-time grant.

For TVCD: Like RD, the approach will be program or commodity-based, and will include verification studies from seed production to grow-out culture systems. Refinement studies will also be under TVCD.

Dr. Toledo reiterated that TVCD will continue demonstrating and packaging viable technologies, and will update farmer-friendly manuals with RD and TID. The division will also be an income-generating arm, and for its staff, a point

system for manual authors will be studied.

For TID: Dr. Toledo noted that the website is the simplest way of disseminating information, and next year, there should be regular updates, including postings of research results. The regular conduct of training courses will continue, with some courses tailored to the needs of LGUs. For instance, the Mayor of Dumangas has requested an aqua course for his town's out-of-school youths.

TID will continue to collaborate with academe, LGUs, NGOs, others for information and technology dissemination. The institutional capacity-building project might be picked up by Negros' Congressman Maranon and Ilocos Norte's Cong. Bongbong Marcos.

Information materials will be updated, especially the flyers and those manuals still advocating the use of trashfish. AQD has also tested its formulated diets to general satisfaction.

Library services will benefit from continued networking; the AQD Bookstore will concentrate on selling AQD information products; and AQD must improve its visibility through tri-media (radio, TV, broadsheets) and through FishWorld activities (to include exhibits).

For AFD: The Chief said that the KPMG study is

Lee and Sarah

Two students from the University of Wales Bangor, Lee Hother-Parkes and Sarah Meakin, conducted their MSc thesis on mud crabs at AQD from June to September 2006. In the past years, MSc and PhD students from the same university have conducted their research studies at AQD as part of the Culture and Management of *Scylla* spp. (CAMS) Project under the European Union-INCO Development Program



under the supervision of Dr. JH Primavera, Dr. ET Quintio and Dr. VR Alava. Sarah worked on "Interspecific aggression in *Scylla* spp.", while Lee conducted a study on "Differences between hatchery-reared and wild *Scylla serrata*". Dr. Quintio was the co-adviser. Their research results provide useful information for culture activities and stock enhancement strategies on mud crab. -ET QUINTIO

Indonesians train on feed prep

With the full support and assistance of the Indonesian Ministry of Marine Affairs and Fisheries and the aquaculture sector of the provincial Fisheries Service of West Kalimantan, the 4-day workshop on *Farm-based feed preparation for freshwater aquaculture* was successfully conducted on 12-15 September 2006 at the West Kalimantan Central Freshwater Hatchery

Center in Pontianak, West Kalimantan, Indonesia.

Ten participants comprising 5 technicians, 4 fish farmers and 1 fishery teacher attended the workshop. All participants were male with ages ranging from 28 to 50 years old.

This training is the 5th activity under the ASEAN *Human Resources Development Project on Sustainable Fisheries* in the Brunei Indonesia Malaysia Philippines East Asia Growth Area (BIMP-

EAGA). Like the preceding four training activities, it was implemented by SEAFDEC Aquaculture Department with full support and cooperation from the officers and staff of the participating member-country.

The workshop was designed to equip participants with scientific knowledge and skills on feed preparation so that they would be able to formulate their own feeds and produce fish feeds

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Participants prepare the feeds they formulated (right), and, with resource persons, they visited the freshwater cages in Kapuas River, east Pontianak district



Participants at the close of the BIMP-EAGA workshop in Pontianak City; note Dr. Mae Catacutan and Ms. Kaylin Corre on the front row



The future is biotech

I support biotechnology and I support all the work that you have been doing,” this was the message of the (outgoing) Secretary of the Department of Agriculture Domingo Panganiban to a mid-year gathering of biotech scientists, firmly putting on record his thoughts on the new and future technology.

“We all know there is a painful crisis in many parts of Philippine agriculture. Three troubling issues confront us: political corruption, rural poverty, and public indifference.

These issues have had serious social and economic consequences:

- While many in our more affluent communities enjoy food in abundance, 25 million people in the country live below the poverty line. It is estimated that around 16 million of them make less than P50 a day.

- Close to 3 million Filipinos do not have jobs. Most of the unemployed are rural folk, and most of our hungry people are farmers and fishermen.
- Rural poverty, in turn, becomes urban squalor as the poor migrate to the cities, where often they end in shanty colonies, in prisons, or in hospital wards.

“The situation is getting worse more rapidly than it is getting better. We are therefore compelled to act immediately and with complete resolve.

“Science has always been our greatest hope.

And biotechnology is the new front line of science. The Department of Agriculture has accordingly designed its aquatic biotechnology program to increase rural employment and strengthen rural enterprise. Our program aims to:

- Prevent and control disease in domestic aquaculture and fishery stocks;
- Safely maximize the productivity of our algal resources for both industry and medicine;
- Determine molecular markers and enhance the reproductive potentials of selected aquaculture species;
- And develop affordable, environment-friendly alternatives to conventional feed products to lessen the cost of the aquaculture farmer’s production.

“We have thus far made encouraging progress. And this gives us reason to be proud. In a few short years we have:

- Established a strong fish health team;
- Built a highly capable biotech research network;
- Developed diets for milkfish, sea bass, grouper, snapper, rabbitfish, catfish, crustaceans, and mollusks;
- Cloned the growth hormones of a variety of commercially viable fish species;
- And produced the highly successful GET EXCEL hybrid tilapia.

“I confidently anticipate even greater strides in the years ahead.

- To ensure that rural folk have more opportunities to increase their income, we will strengthen the national seaweed program and establish a seed bank for seaweeds.
- To ensure our aquaculture farmers a thriving business, we will aggressively pursue research on fish growth and feed nutrient enhancement.
- We will also continue work on high-density mass production techniques for microalgae used as feeds for our fish stocks, and build on the work of our scientists to lead the process of rural reform and progress.

“For the very near future, the Department of Agriculture and SEAFDEC/AQD will address the need for government and the academe to collaborate more closely as we jointly seek funding for both research and the hiring of more scientists.

“The Philippines has the opportunity to lead Southeast Asia in pioneering this new technology and setting the standards by which it is governed. My vision, in fact, establishes our country as the hub of agricultural and aquatic biotechnology in the region.

“To do this, however, we must win the public’s confidence. We must involve the Filipino people in our program.

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Glimpses of biotech at work

HISTAMINE TRAINING

BFAR personnel from its central office and the regional offices trained on histamine analysis from 25 to 30 Sept. They were joined by participants from the private sector and AQD.

The training was a joint activity of SEAFDEC Marine Fisheries Research Department (AQD's sister department in Singapore), Fish Inspection and Quality Control-Thailand, and BFAR. The venue was the Feed Technology Laboratory I of the biotech facilities at Tigbauan.

The trainers came from Singapore (Ms. Saw Huigi and Ms Ong Wei Ying on the HPLC method) and Thailand (Ms. Jariya Pucharoen on the fluorometric method).

The AQD Chief Dr. Joebert Toledo welcomed the 13 participants and the trainers, noting that histamine analysis is

important to the fish trade of Southeast Asia. Though naturally-occurring, histamine levels are strictly regulated in fish and fishery

products (pastes and sauces) entering the USA, Canada, Australia, New Zealand, and the European Union.

The Chief thanked the Government of Japan Trust Fund for supporting the week-long course under the program *SEAFDEC Fish and Fish Product Safety Information Network*.

CLOCKWISE: The Thai trainer discusses procedure first before the trainees are set to prepare samples for analysis. The AQD Chief hands out completion certificates at the close of the training



VIRUS IDENTIFICATION At the molecular microbiology laboratory, one of the four labs at the biotech facility, research associate Chris Sombito loads DNA samples from shrimp for amplification using Real-Time PCR (Polymerase Chain Reaction) machine to detect white spot syndrome virus



ON THE TRAIL OF BACTERIA

The high-powered scanning electron microscope (SEM) at the biotech labs can theoretically magnify up to 300,000 times. But so far, the SEM was tested up to 30,000 times. It is used for morphological examination or surface details of cells.

Using SEM, researcher Ms. Rovilla Luhan has recently isolated "ice-ice"-associated bacteria from infected seaweed. Further tests would show if these bacteria are pathogenic or not

THE FUTURE IS BIOTECH ... FROM PAGE 5

"We can only make biotechnology work for the people of this country if they feel they have a stake in what we do. We must therefore take strong steps to make the fruits of our labors known and felt by all.

"Science cannot rest so long as there are those among us who are poor, without hope of even the slightest opportunity in the future.

"Science must not end in the laboratory. It must bring hope into the lives we live. It must bring prosperity into our communities, our farms, and our cities.

"And so we must never forget that the ultimate goal of science is not merely learning and discovery. Its truest and most noble cause is the advancement of human society.

"And that is the single most urgent objective to which we all must be fully committed."



The Chief and AQD researchers with NFRDI's Ms. Babes Ferrer (middle) during the opening cocktails

AQD researchers with Dr. Guiseppe Torzillo of Italy, one of the plenary speakers, and Dr. Susan Baldia, a former BFS scientist (second from right)

Algal biotech conference

The Asia-Pacific Society for Applied Phycology held its triennial *Asia Pacific Conference on Algal Biotechnology* at the Dusit Hotel Nikko in Makati from October 12 to 15. The theme of the 6th APCAB was "Harnessing indigenous algal biotechnology for economic development."

The Conference was opened by UPLB Chancellor Luis Rey Velasco and APSAP President Dr. Song Qin.

Dr. Milagros Martinez-Goss of UPLB and Dr. Song Qin were the co-chairs of the international organizing committee. AQD Chief Dr. Joebert Toledo served as a senior advisor of the local organizing committee while Dr. Anicia Hurtado and Ms. Milagros dela Pena served as members.

Dr. Hurtado presented two papers: *The seaweed program of IFC-PEP Philippines* and *Plantlet regeneration of Kappaphycus alvarezii var.*

adik-adik (Rhodophyta) by tissue culture.

Ms. dela Pena presented one: *Cell growth and nutritive value of the tropical benthic diatom Amphora sp. at varying nutrients, light intensity and location of culture.*"

Dr. Susana Baldia, former AQD researcher, presented the results of her studies conducted and co-authored with BFS researchers: *Studies on the growth physiology of Microcystis aeruginosa (Cyanobacteria) isolated from Laguna de Bay.*

Ms. Ronelie Salvador presented a poster paper.

AQD provided grants to ten deserving students from ASEAN in the form of free registration fees of US\$150 each.

The students were from UP-Diliman, UP-MSI, UPLB, Ateneo de Manila University, Bureau of Postharvest Research and Extension, University of Malaya, Universiti Putra Malaysia, and Chiang Mai University.

The students' research topics range from isolating a carrageenase enzyme and identifying molecular sex markers for *Gracilaria changii* to phytoplankton succession in ponds and bioremediation.

Visitor from Japan

The Ishigaki Tropical Station of the Fisheries Agency in Japan is seeking to collaborate with AQD on programs of mutual interest (such as on mudcrab, grouper and sea cucumber).

AQD was honored with a visit by its Associate Director for Research, Dr. Katsuhiro Kiso, on October 26 for exploratory talks.

Dr. Kiso toured AQD and also gave a seminar titled *Habitat utilization of*



Dr. Kiso gives a seminar at RD (inset) after meeting the Chief and Deputy Chief

11 species of emperor fishes for feeding in the coral reefs around Yaeyama Islands in southern Japan.

Dr. Kiso's visit ended with a less formal dinner-

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AgriLink: genetics in agribiz

The recent devastation brought by typhoon Milenyo did not put a damper on the triple event held October 5-7 at the World Trade Center in Manila.

The event focused on the *13th International Agribusiness Exhibition and Seminar (AGRILINK)*, the *7th International Food Processing, Packaging and Products Exhibition (FOODLINK)* and the *2nd National Fisheries Exhibition and Seminars (AQUALINK)*.

The theme of this year's event was "Genetics: Vital to Agribusiness Competitiveness."

DA Sec. Domingo Panganiban, Sen. Edgardo Angara, the Dutch and French Ambassadors led the opening of the exhibit and fair.

The AQD booth was one of the most popular. On-the-spot consultations with aquaculture enthusiasts were held there.

AQD researchers Dr. Aisa Salayo, Dr. Weng Eguia, Mr. Ruel Eguia, Mr. Manny Laron, Ms. Tonette Evangelista and Dr. Malou Aralar took turns in manning the booth.

AQD Chief Dr. Joebert Toledo was also on hand on the opening day to respond to queries on the culture of marine fish.

AQD publications sold briskly. The aquaria displaying samples of giant freshwater prawn, Nile and Red tilapia drew the attention of even non-aquaculture enthusiasts.

Powerpoint presentations on various AQD technologies was played continuously and served as visual aids for the various impromptu consultations.

The recently launched ABOT AquaNegosyo scheme drew a lot of potential entrepreneurs. So expect more aquaculture entrepreneurs flocking to the office of Dr. Salayo at MO eager to take part in the ABOT AquaNegosyo Business Package.



Senator Edgardo Angara and DA Secretary Domingo Panganiban lead the ribbon cutting on the opening day. They are assisted by the Dutch and French Ambassadors



Dr. Malou Aralar briefs DA Sec. Panganiban on the ABOT AquaNegosyo Business Package of AQD



Mr. Philip Dafon, host of the NBN TV show "Mag-Agri Tayo" interviews Dr. Malou Aralar on the new activities and programs of AQD



AQD Chief Dr. Joebert Toledo responds to queries from aquaculture enthusiasts as Atty. Opinion and Dr. Salayo listen



AQD staff are kept on their toes throughout the 3-day exhibit with non-stop flow of people visiting the booth to buy publications, for consultations, or simply to look at the displays

INDONESIANS ... FROM PAGE 4

using locally available feed materials. It was considered timely and important for the participants particularly those belonging to the fish farmers' cooperative that were provided by the Indonesian government with new feed mill equipment (now 5-months old).

The workshop commenced with an introduction on Aquaculture Development Policy in Indonesia delivered by Mr. Iman Barizi, Head of Cooperative Program Sub-Division, Ministry of Marine Affairs and Fisheries, Indonesia. The lectures and workshops followed.

One lecturer was from AQD, Dr. Mae Catacutan, who talked about nutrient requirements and feed formulation. Two lecturers were invited from Balai Besar Pengembangan Budidaya Air Tawar Sukabumi, namely: Mr. Ahmad Hadadi (role of feeds and feeding on freshwater aquaculture;

and introduction to feed preparation, equipment and maintenance) and Mr. Herry (feed materials/ ingredients and quality selection).

The three lecturers complemented each other and have very good rapport in translating the

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AQD joins business expo

AQD was invited to join the *TechnoNegosyo Expo* held at the World Trade Center on 14-15 September 2006 by Mr. Jose Ma. Concepcion III, President of the Philippine Center for Entrepreneurship.

The invitation was the result of the participation of Dr. Aisa Salayo, Dr. Weng Eguia and Dr. Malou Aralar in a series of *Business Concept Fora* sponsored by the Department of Science and

Technology (DOST) and the Philippine Emerging Startups Open (PESO).

These fora consisted of lectures and presentations on how to conceptualize and develop a business package, particularly for new emerging technologies.

The participants were expected to present their own institution's business concept. Thus, the ABOT-AquaNegosyo Business Package was born. ABOT stands for agree-build-operate-transfer.

ABOT is AQD's version of a business plan submitted as part of the requirement in the fora. It has been critiqued and commented upon by fora participants. Improvements in the concept was later made.

DOST Undersecretary Dr. Lourdes Orijola who was at the fora encouraged AQD's participation at the TechnoNegosyo Fair and negotiated for DOST to host the AQD booth at the fair.

Senator Mar Roxas, DOST Sec. Estrella Alabastro, and President of Philippine Center for Entrepreneurship Mr. Jose Concepcion III cut the ribbon to open the TechnoNegosyo Forum at the World Trade Center



DOST Secretary Estrella Alabastro visits the AQD booth at the TechnoNegosyo Forum



Jaime Augusto Zobel de Ayala was among the awardees of the most Inspiring Entrepreneur Award held during the opening of the TechnoNegosyo Fair



Dr. Aisa Salayo entertaining queries on the ABOT-AquaNegosyo Business Package



INDONESIANS ... FROM PAGE 8

scientific technology on feed preparation and other related feed and feeding practices in freshwater aquaculture.

In the hands-on practicals, one group formulated and prepared a feed containing 35% protein which was intended for carnivore species, and the other

group containing 25% protein for omnivore species. Feed preparation was done using the government-donated feed mill.

The participants also identified some locally available feedstuffs. They visited freshwater fish cages in Paritmayor, East Pontianak District along

the Kapuas River, known as the longest river in Indonesia and about 4 kilometers from Pontianak City.

The Closing Ceremony was held in Pontianak City and was attended by the Head of Aquaculture Sector of the Provincial Fisheries Service in West Kalimantan, and the Head

of the Central Freshwater Hatchery Center in Anjungan, Pontianak.

Ms. Lilly Pregiwati, representative from the Ministry of Marine Affairs and Fisheries - Jakarta and AQD's Training Officer Ms. Kaylin Gonzales-Corre facilitated the workshop.

- Reported by KG CORRE

ICEMAN 2006

AQD exhibited its research programs and publications at the *International Conference-Exhibition on Mangroves of Indian and Western-Pacific Oceans* from 21 to 24 August 2006. The AQD booth was set up inside the Legend Hotel in Kuala Lumpur, Malaysia, where Pew Fellow and AQD senior aquaculture specialist Dr. Jurgenne Primavera also delivered a review paper on mangrove rehabilitation in the



PHOTO COURTESY OF DR. JHP

Philippines and chaired two sessions. Some 250 participants attended the conference, among them are

the top mangrove experts from Malaysia, India, Bangladesh, and Australia.

E-learners on AquaHealth

E-learners as far away as England (Mr. Neil Wendover), Mexico (Dr. Jorge Galindo-Villegas) and Panama (Dr. Jorge Cuellar-Anjel) are paying their way in the fifth session of the internet-based *Principles of health management in aquaculture*. The online training course started September 4, and will end in January next year.

There are 16 participants (9 males and 7 females) in all, 10 from SEAFDEC member countries who have Government of Japan (GOJ) fellowships and 6 from the private sector including the three mentioned above.

The GOJ fellows come from Brunei (Ms. Hajjah Mohd. Said), Cambodia (Mr. Em Samy), Indonesia (Ms. Anik Wijayati), Malaysia (Noraishah Bt. Hashim), Myanmar (Ms. Shoon Lai Ko Ko), Philippines (Ms. Ma. Josephine Dano and Mr. Rogelio Noble, Jr.), Singapore (Mr. Neo Chin

Heng), Thailand (Ms. Namabhorn Songsakul), and Vietnam (Mr. Nguyen Viet Dung).

The rest of the paying private sector group is from the Philippines (Ms. Jennette de Pedro-Tillo, Mr. Manny Orongan, and Mr. Jose Urbano, Jr.).

There are 12 modules in AquaHealth Online and these are taught by the following:

- Impact of disease development in Aquaculture (Dr. Celia Torres)
- Viral diseases of fish and crustaceans (Dr. Gilda Lio-Po)
- Bacterial diseases of fish and crustaceans (Eleanor Tendencia)
- Fungal diseases of fish and crustaceans (Dr. Elena Catap)
- Parasitic diseases of fish and crustaceans (Dr. Melba Reantaso)
- Nutritional diseases of fish and crustaceans (Dr. Edgar Amar)



- Environmental and other non-infectious diseases of fish and crustaceans (E Tendencia)

- Harmful and toxic algae (Dr. Romeo Caturao)
- Histology as a tool in disease diagnosis (Dr. C Torres)
- Serological and molecular techniques in disease diagnosis (Dr. Leobert dela Pena)
- Immunity and biological methods of diseases prevention and control (Dr. E Amar)
- Physical, environmental and chemical methods of disease prevention and control (E Tendencia)

The participants will be graded for each module as follows: learning activities, 20%; discussion board participation, 20%; and examination, 60%.

Course officer of AquaHealth-Online is Gigi Tendencia.

- BY C GENZOLA

Milkfish congress: seeking new cooperativism

Plagued by low prices when there is seasonal oversupply in the market, milkfish farmers are turning to the possibility of exporting their surplus production to the European and North American markets.

This would mean hurdling 182 food safety and other regulations for fish imports into the European market alone, and then competing with existing fish brands in these new markets, as milkfish farmers attending the *1st western Visayas milkfish congress* found out.

The congress was held October 24 to 26 at Amigo Terrace Hotel in Iloilo City, and was hosted by the Iloilo Fish Producers Association led by Anthony Buyco.

AQD was one of the co-organizers along with GTZ, UPV, DTI, DA, BFAR, PFDA, DOST, and the pond cooperatives and associations in Panay.

So, the milkfish farmers asked, can export be viable?

“Could be” is the result of the limited GTZ market research in Germany on milkfish acceptability among non-Asians. A lot rides on how milkfish will be packaged and promoted. Fresh chilled ready-to-cook fish, cut clean without head and tail, is the standard.

However, the 8 million OFWs and millions more permanent residents in North America and other parts of the world is an untapped niche market. Best of all, most belong to a Pinoy association of

some sort, an opportunity for distribution.

The GTZ study noted that 13 of the 120 companies surveyed in 7 EU countries by the Philippine Trade Service Corps already sell milkfish products. Price ranges 5-7 euros a kg. And, though milkfish is not specified, import to EU of fresh chilled fish was valued at 2.13 million euros in 2005, and of prepared or preserved fish was 1.41 million euros.

For the US market, 925 metric tons of milkfish (less than 1% of total Philippine production in 2005) is exported.

That milkfish is already thought of as organically grown or farmed the natural way is its main advantage, provided no one has been unscrupulous enough to use the banned Brestan and Aquatin. But this could be checked with the organic certification process which includes tests for residues. There are already service providers (testing labs, etc.) that the milkfish industry can tap, including AQD.

It must be noted that fishfarmers are still waiting for a cheap alternative to deal with snail infestation in their ponds. They find the metaldehyde alternative (the studies have been done by AQD) too expensive, and derris root and tobacco dust are not really readily available. Metaldehyde and niclosamide are the only government-approved molluscicides for milkfish ponds.

That milkfish has those pesky mid-flesh bones is a negative feature that is easily solved. Deboning has proved itself as a backyard industry, the technology being easy and cheap, as has happened in the General Santos area.

It appears that the next step for the western Visayas farmers is to band together, pre-process and market their produce themselves. The farm gate price is about P56, but the retail price can be as high as P90. Brokers add 8.9% to the price, buyer-resellers another 40% and viajeros 3.6%.

For milkfish farmers to be their own “middlemen,” they need the government’s help to create what experts call the “value chain” cluster.

This cluster is a formal grouping, a strategic collaboration or cooperation of firms that will support the export push. It will include the farmers, exporters, suppliers, and the service providers of human resources, technology, infrastructure/transportation, capital, and regulations.

At the end of the 3-day congress, the milkfish producers have made resolutions to start the clustering process which BFAR accepted on behalf of the government.

The milkfish industry is valued at around P15 billion, producing close to 270,000 metric tons of fish and directly employing nearly 30,000 people.

Milkfish production surplus this year is estimated at 60,000 tons, which is projected to increase to 137,000 tons by 2010.

AQD launches seabass project in Guimbal

Seabass seems to be the “it” commodity this year, being highly requested from Pandan to Hamtic in Antique, Capiz LGU, and now by Guimbal in Iloilo.

A TVCD project on *Net cage culture of seabass in ponds* was launched Nov 15 in AQD’s nearest town neighborhood of Guimbal.

The project aims to build the skills and capacity of Guimbal LGU staff and other aquaculturists in undertaking sustainable aquaculture.

For the launching, a ceremonial stocking of 1,000 seabass hatchery-reared fry for each of the four cages was led by Hon. Oscar Garin, GMA’s Presidential Assistant for Agriculture-Visayas and Philippine Coconut Authority chair.

“This project will prove that seabass can be cultured in freshwater,” Hon. Garin says, “contrary to the common notion that it can only be for brackishwater.

“This is a big break for freshwater fish growers, and I thank AQD for choosing the Garin Farm as a demo farm. Now, many visitors can see for



FROM LEFT *Totong Gaitan (co-proponent of the seabass verification project), Hon. Garin, RF Agbayani (Vice-Mayor of Guimbal), Benito Geolamin (Committee on Agriculture of the Sanguniang Bayan), Lorenzo Genodepa (Municipal Agriculturist), and Samson Gilo Jr. (Agricultural Technologist - Fisheries and OIC of the Municipal Environment and Natural Resources Office)*

themselves the positive results of studies conducted by AQD.

“SEAFDEC is not only for experiments but for R&D that will benefit the people,” he further says. “Usually, people who don’t understand or are not aware of SEAFDEC’s importance will have the impression that the institution benefits only the big companies and other countries.

“As GMA’s Presidential Assistant for the Visayas, I can say with confidence that the SEAFDEC benefits are for the common *tao* or the masses, too.

“It is my hope that this demo will convince a lot of fish farmers to produce *bulgan* in freshwater. Seabass culture is a

significant solution to the problem of economic (underdevelopment in some areas). Farmers can produce corn in their land, and seabass in their (water areas).”

The project proper will start with an on-site, hands-on training to be scheduled as soon as the Guimbal LGU can gather its participants together. Expected attendees are farm caretakers, laborers and other interested residents.

The training site ~ two ponds to be equipped with 4 nursery cages and 8 grow-out cages ~ will then become a demonstration farm for AQD’s seabass culture technology.

The project will be for one year, and will cover 2 runs of the 4-month seabass culture period.

AQD to conduct mudcrab training

Mudcrab is the commodity of interest of the Polytechnic State College of Antique - Tibiao campus.

Under the recently signed MOU with AQD, an on-site course on crab culture will be conducted

Nov 21-24 in Tibiao, Antique.

Invited lecturers or instructors include Dr. ET Quinition on biology of *Scylla* spp.; Avelino Trino, a former AQD researcher, on the culture aspects; and Butch Juanga for the installation of peripheral

net enclosures (with Trino). TID Head RF Agbayani will also lecture on responsible aquaculture and its role in coastal resource management.

On the last day, trainees will stock hatchery-reared mudcrab juveniles in Brgy. Jinalinan, Barbaza, Antique.

AQD welcomes abalone trainees

There are 14 new trainees from different Asian countries who are in this year's second batch of the 3-week *Abalone hatchery seed production and culture* course.

Deputy Chief Dr. Koichi Okuzawa welcomed them on Nov 9 at TMS, saying that abalone is a promising commodity.



Trainee from Thailand (left) introduces himself

Further, he sympathized with the trainees who have difficulty communicating in English, but told them not to worry because, as he himself experienced, Filipinos are very hospitable.

Nine of the trainees have GOJ fellowships, two are sponsored by their government (Sabah), and the other three are from the private sector.

AQD to host 7th ISEP

ISEP is the yearly *Information Staff Exchange Program* of the SEAFDEC Secretariat which, for 2007, AQD will host this coming December 20-22 at TMS.

The 7th ISEP will:

- (1) Review and monitor progress of implementation of SEAFDEC's information

strategy for enhancing visibility and communication of the center

- (2) Introduce the initiatives in information dissemination undertaken by AQD (as host department) and exchange views among information officers
- (3) Develop information program packages to seek funding support from donors

The Sec-Gen, Deputy Sec-Gen, coordinators and officials working on information-related matters of the Secretariat are expected to attend, as are department staff from TD, MFRD, MFRDMD, and AQD who are responsible for preparing the inputs of information-related activities.

New book

The *Proceedings of the regional technical consultation on stock enhancement for threatened species of international concern* is now available.

Edited by Dr. JH Primavera, Dr. ET Qunitio, and Dr. MRR Eguia, the 149-page book contains 9 review papers and 7 country papers.

The review papers cover the ASEAN-SEAFDEC directives; DNA-based markers in stock enhancement



programs; and efforts in enhancing giant clam, corals, topshell, echinoderms, seahorse and giant catfish stocks.

The country papers cover Japan, Lao PDR, Malaysia, Myanmar, Philippines, Thailand and Vietnam.

VISIT FROM JAPAN

FROM PAGE 6

meeting hosted by Deputy Chief Dr. Koichi Okuzawa at Breakthrough. In attendance were Dr. JD Toledo, Mr. RF Agbayani, Atty. J Opinion, Dr. EG Ayson, Ms. B Acosta, Dr. E Qunitio, Dr. FG Ayson, Dr. JH Primavera, Ms. J Lebata, and Mr. A Fermin.

Join the Asian Fisheries Society! www.asianfisheriessociety.org
or contact the AFS secretary Dr. CL Marte <clmarte@gmail.com>

8th Asian Fisheries Forum
20-23 November 2007 Le Meridion, Kochi, India

Singaporean sojourn

part 3 (and last)
of CvSU-Naic study tour

Last stop of the CvSU-AQD group was the Agri-food and Veterinary Authority of Singapore (AVA) which also hosts SEAFDEC's Marine Fisheries Research Department (MFRD).

The study tour group was accommodated by Dr. Susan Kueh Ling Fung, Head of the Aquatic Animal Health Laboratories and Dr. Diana Marie Chee Lijun, an Aquatic Animal Veterinarian (and incidentally, a participant of the *Hands-on training course on important viral diseases of shrimps and fishes* in November 2005).

AVA is effectively Singapore's national authority to regulate the safety of all food from production to import and wholesale, right up to just

before retail. They cover both locally-produced and imported foods, regulating imports, local farms, slaughterhouses, processing plants and food factories through the provision of accreditation, licensing, inspection, monitoring and surveillance, and laboratory testing services and program.

AVA also facilitates agri-trade for Singapore, and encourages the food industry to adopt good agricultural and manufacturing practices, and food safety assurance systems. They have a public education program on food safety.

The Animal and Plant Health Center (APHC) is the cornerstone of AVA's health programme. Staffed by well trained-

professionals, the APHC provides vital laboratory support for AVA's monitoring and surveillance.

APHC has a biosafety level 3 disease containment facility to handle highly infectious and exotic animal and plant (and soil) pathogens. The Center also maintains a flock of Specific-Pathogen-Free (SPF) chickens for laboratory diagnostic use.

After visiting AVA, the group proceeded to MFRD, a 5-minute walk. Ms. Ira Hariono, Senior Program Executive of the Post Harvest Division Food Supply and Technology Department welcomed the group.

MFRD was established in 1969 for research and development in fish and fish product processing, handling, preservation and quality assessment.

MFRD introduced surimi technology from Japan and promoted its use in the fishball/fishcake industry to reduce dependence on fresh fish supply. Surimi is frozen minced fish meat that has

CLOCKWISE: The AVA entrance, and inside, the group with Dr. Diana Chee Lijun. [AVA does not allow picture-taking of its facilities.] At MFRD to see modern and well-maintained fish processing equipment. Inside the 52-ha Singapore Botanic Gardens's temperature-controlled house to grow plants



PAGE 19 PLEASE

PHOTOS BY R BOMBEO

Milenyo wrecks havoc at BFS

East Cove of Tapao a day after the typhoon



- BFS sustained severe damage to both its land-based and lake-based facilities in the wake of Typhoon Milenyo which hit the country on Sept 28.
- BFS staff Manny Laron and Mat Yap were at the station when the typhoon hit. They supervised the BFS emergency/typhoon brigade to secure both land and lake-based facilities a few hours before maximum winds of the typhoon hit the area.
- Despite their best efforts, the force of the typhoon left BFS severely damaged. Powerlines, including transformers went down, leaving the station with no power for 4 days. The generators cannot be operated since the roof of the genset house was completely blown off and the power lines where the generated power will run were also down.
- To date, Meralco has not restored electricity to the station and the neighboring barangays.



The floating cages before and a day after typhoon Milenyo. BFS staff had to pass through an obstacle course of felled trees and branches before they can get to their offices and laboratories the day after the typhoon



Downed transformers and electric post amidst the blown-off roof of the Generator House

The big old giant tamarind tree was uprooted

Big old trees were uprooted by the typhoon, roofs were either blown off or punctured by flying tree branches. Several offices were flooded. Manny Laron had bighead carp hatching jars with 2 million newly hatched fry, which were eventually lost due to lack of aeration.



Lake-based facilities were all washed out. Floating cages were swept to the other side of the East Cove while fixed cages were completely destroyed and either swept away or sunk to the bottom

Roof of duplex C got blown off

The library was flooded due to damaged roof

PAGE 19 PLEASE

AQD: a community sharing experiences

CONTINUED FROM BACKPAGE

THE NEGROS OCCIDENTAL EXPERIENCE

On the last weekend of October (the 28-29th) the Journal Club organized a field trip to Mambucal Resort in Murcia, Negros Occidental for a rest and relaxation and threw in a historical trip to the towns of Silay and Talisay.

The trip booking was arranged through phone calls from the vehicle hire, from resort accommodation to the tour guide so the group economized and the 2-day trip costs less than P1,000 per person excluding meals.

In less than 2 hours the group of 20 ~ mostly journal club members and their family (3 kids) ~ arrived in Bacolod City via Sea jet.

First stop was University of St. La Salle (USLS) where the group was toured in Balay Negrense, the only

religious museum located in a school in the country with no entrance fee. The in-house tour guide very knowledgeably showed us their permanent collections that include the very grand dress by

Aureo Alonzo for Our Lady of Manaoag, the altars used in the houses before, the different religious statues, some of which were inlaid with gold, and a painting by Amorsolo that costs more than a million pesos.

USLS was also hosting the annual university games where different university schools across the country participated. The height of their athletes dwarf us.

After lunch, we were off to Mambucal, the mountain resort at the foot of Kanlaon volcano. The resort is being managed by the local government unit where it taps the hot springs and the falls that is teeming in the vicinity of the place.

Balay Negrense



Our Lady of Manaoag at the Museo Negrense de la Salle



The cottage where members stayed



Dipping pool



Gaston ancestral house



Replica of Noli Me Tangere (Balay Negrense)

The group tried all the attractions of the place, from trekking to the fall (alas until the 3rd falls only), slide for life, boating and dipping in the hot spring pool. The “slide for life” believe it or not can take away all your worries while conquering the fear of heights. It’s a nice feeling to fly high!

From flying, there is the challenge and fun in kayaking and boating. Unfortunately the canopy was closed for repair



Marker for the Gaston house

when we were there, we could have experience walking on top of trees using the hanging bridge.



Museo Negrense



Mambukal



Gwen's slide-for-life



Mambukal falls

Before and after dinner, the group relaxed and dipped in tempting steamy water of the hot pool. It was a fantastic feeling that could make you close your eyes and feel the warmth (40°C) dilating your vessels. It was probably where most of the group spent their time aside from the bed.

The next day was the grand tour of Bacolod City with a running commentary by a tourism officer from Silay. The vehicle passed by the Panaad Stadium, the largest stadium in the Philippines, the 100-year old San Sebastian Cathedral whose main materials were taken from corals in Guimaras, and the Capitol Provincial Office with its famous capitol lagoon.

The immersion into old houses was

experienced in Silay City and the vehicle had to make several stops and reverses so the group could glimpse the old houses all with the insignia signifying it is a National Historical Site. The grand tour of the 100-year old Gaston Mansion, that was revived to its former grandeur introduces you to the ambiance of 18th century lifestyle and culture.

Of course the trip to Bacolod won't be complete without shopping! All that Negros has to offer is displayed in the Negros Showroom, and the group had a last stop for malling at Robinson's Place.

It was indeed a trip that can make us remember every bit of happiness we shared together, a memorable trip that no regrets was ever thought.

We were all so happy it make us think again. . . shall we have another trip?

- By AUBREY and JOSETTE

Hospital, University of Iloilo, Capiz Emmanuel Hospital, PEPSI, St. Paul's Hospital, ILECO-I, Central Philippine University, Iloilo Mission Hospital, John B. Lacson Colleges Foundation, SEAFDEC/AQD.

A parade opened the tournament. Each team composed its own cheer. The tournament's theme was "Unity, cooperation and camaraderie through sports." It aimed to promote physical fitness, develop and enhance sportsmanship, teamwork and cooperation among member-companies.

Members of AQD team were Atty. Opinion, Demet Estenor, Boy Garin, Manny Garcesto, Guillermo delos Santos, Leonardo Cerezo Lota Alpasan, Charlemagne Recente, Chris Ganancial, Ma. Nira Grace Llona and Christine Joy Barrion.

AQD made its way to the top ten. ILECO-I was the champion, Iloilo Mission Hospital was first runner-up, St. Paul's Hospital was second, and Central Philippine University was third.

It was a fun experience for everyone. More power to AQD in future games. Go, go SEAFDEC!

- By CHRISTINE JOY TABALDO

BOWLING

Headed by the energetic AFD Head, Atty. Jerry Opinion, AQD joined the 8th Inter-company bowling tournament of the Panay Federation of Family Welfare Committees (PFFWC) on October 28 at St. Elizabeth's in Iloilo City.

Participants were member-companies of PFFWC such as Panay Electric, Panay Powers, Iloilo Doctor's

The AQD bowling team during the opening ceremony, and action at the alley



PARADE

Schoolkids of Kinaadman Foundation Elementary School treated AQD employees to a parade of nations at past 2 pm on October 20. They were celebrating United Nations month. The kids were preceded by a *banda*. Topmost photo would be the group of Miss Japan and *yaya*.

OILSPILL POSTS

Oil spill posts stacked at a lot in Brgy. Buyu-an still lie in readiness, a good thing indicating that Buyu-an's shore and TMS seawater supply are not threatened.

For those interested, there is another Petron Solar-1oil spill meeting to be hosted by UPV near the end of November.

WASTE EXHIBIT

A waste segregation system exhibit can still be viewed at the entrance of the TMS cafeteria. This was put up by the US Peace Corps on Sept 20.

This is a reminder of the **5S+1** Japanese method that you can practice at home, at the office, and everywhere else. And what does the "S" stand for?

Sort your stuff, *systematize* storage, *shine* or keep everything neat and clean, *standardize* to allow control and consistency in waste segregation, and *sustain* this upkeep day after day and year after year.

The +1 is *safety*, a result of clearing out things that you do not need!



To be less wasteful, Filonita Raterta of the TMS cafeteria enjoins her patrons to bring their own food containers if they want to take out lunch, dinner, or snacks. Let's cooperate! Think of the number of plastics we don't have to use and dispose of!

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Wherever you are, you can access your updated social service contributions, salary loan status or loan balance through text. No need to visit SSS, no need to fall in line. P2.50 per send for Smart and Talk&Text subscribers. You'll need your SSS number and date of birth in the mmddyyyy format (for example, 01051960). To

monitor your contribution, text sss<space>contri<space><10-digit SSS number><space><date of birth>. For loan status, just replace contri with slstat; and for loan balance, use loanbal.

- MB SURTIDA

SEMINARS

Missed any of these seminars at RD AudioVisual Room, by the Journal Club or by AQD's researchers and guests?

Shelah Mae Buen-Ursua, AQD research specialist I, *Biology and seed production of abalone, Haliotis asinina* [10 Aug] and *Behavioral patterns of hatchery-produced abalone juveniles for stock enhancement: Predators, avoidance and search for food and shelter* [17 Aug]

Dr. Tejinder Kochhar, Fulbright Senior Specialist and Distinguished Professor at Kentucky State U, *Aquaculture at Kentucky State* [4 Sept]

Fiona Pedroso, AQD research specialist I, *Changes in mRNA expression of*

grouper (Epinephelus coioides) growth hormone and insulin-like growth factor I in response to nutritional status [8 Sept]

Josette Gonzaga, AQD research specialist II, *IGF-I, IGF-II and IGF-IR expression as molecular markers for egg quality in mullet and grouper* [8 Sept]

Dr. Ralph Turingan, Associate Professor of Florida Institute of Technology, *Development of feeding mechanics in marine-fish larvae: Does prey size matter in the larviculture of marine fishes?* [11 Sept]

Dr. Carlos Baylon, UP in the Visayas, *Integrated mud crab culture system: A collaboration between the academe, private sector, and fishers of Visayan sea* [13 Sept]

Mila de la Peña, AQD research specialist II, *Cell growth and nutritive value of the tropical benthic diatom Amphora sp. at varying nutrients, light intensity and location of culture* [21 Sept]

Nathaniel Hepowit, AQD research assistant I, *Random DNA amplicons as genetic markers in differentiating mangrove thraustochytrids* [28 Sept]

N. Hepowit, *Life history of Schizochytrium sp.: a thraustochytrid protist from mangroves of Panay* [9 Nov]

Rover John Tavarro, UPV College of Arts and Sciences, *Effects of β -glucan on non-specific immune response in grouper, Epinephelus coioides* [Nov 15]

As culminating activity of the biological statistics class held weekly since July 10 by Dr. Ralph Turingan (foreground), presentation of case studies and the results using SPSS as the statistical program was done by his seminar students (one is shown inset, Josette Bangcaya) on Nov 7 at the RD Audiovisual Room



expected to work out (a) organizational structure and staffing; (b) job classification / description; (c) performance evaluation; and (d) promotion system. He also expects an operations manual for the stations, improved support services, and, should the budget allow, improved employee medical benefits.

Dr. Toledo also noted the AQD needs to review its staff development program in view of the retirement of most senior research staff in 10-15

years. The salary structure, which was based on the 1996 SGV study, may also be reviewed as a decade has passed since its implementation.

Dr. Toledo expressed hopes for fiscal discipline, a more frugal spending since a 2-3 month delay in government remittance would mean AQD not be able to afford to pay its employees.

There would also be close monitoring of projects.

Lastly, the AQD Chief expects a high degree of

professionalism among AQD staff.

After the Chief's presentation was an introduction to AQD's R&D framework by TID Head RF Agbayani. Then program leaders discussed their respective programs, covering research to technology verification to training and information. These more holistic presentations are welcome changes from previous years' which only covered the technical aspects of a commodity.

The marine fish program was presented by Dr. FG Ayson; crustaceans,

Dr. ET Qunitio; freshwater aqua, Dr. MLC Aralar; mollusks, AC Fermin; seaweeds, Dr. AQ Hurtado; stock enhancement and fish disease, Dr. K Okuzawa; aquatic ecology, Dr. NSS Chavoso; training and information, RF Agbayani; and the agree-build-operate-transfer concept of technology transfer, Dr. ND Salayo.

In his closing message, Deputy Chief Dr. Okuzawa urged the senior staff to submit proposals on areas that GOJ is willing to fund, and congratulated everyone for a job well-done.

SINGAPOREAN SOJOURN ... FROM PAGE 14

been washed with water and thoroughly mixed with a cryoprotectant (a substance that can protect tissue from damage due to ice formation) such as sugar and polyphosphate.

With surimi, processors were able to mechanize and automate their operations. There is now a wide variety of value-added surimi products such as imitation crab sticks, *chikuwa*

(pureed and steamed fish cake), fish balls and prawn balls. In all, Southeast Asia has 35 surimi factories, 16 of which are in Thailand. These factories export to Japan, Singapore, among others.

MFRD introduced the retort pouch technology for processing seafood. Examples of retort products are tuna-in-mayonnaise, tuna and vegetables-in-mayonnaise,

and seafood-in-*assam*-sauce.

MFRD developed fish products like tuna ham, tuna loaf, tuna chunk sausage, tuna *piko* ("sweets"), fish sausages, fish *bak kwa*, fish noodle and Weiner sausage.

MFRD introduced Hazard Analysis Critical Control Point (HACCP) to the Southeast Asian fish processing industry. This was done through the its

training courses (from 1980 to 2005, a total of 147 training courses was attended by 2,207 people, about 50% coming from the private sector) and by working hand-in-hand with the industry. In addition, MFRD assists key fish inspection laboratories in the region to implement good laboratory practices, and to guide them towards ISO 17025 accreditation. - Reported by RF BOMBEO

MILENYO ... FROM PAGE 15

of the cove. Ongoing experiments were prematurely terminated due to loss of stocks and cages.

TMS to the rescue. AQD Chief Dr. Joebert Toledo approved the request of BFS Head, Dr. Malou Aralar and released 150 thousand pesos for emergency repair and rehabilitation of the station. Engr. Rex Tillo responded to the request of a smaller capacity generator and loaned to BFS the 15 KVA back-up generator of TMS. Electrical

Engr. Raymundo Austria, electrician Antonio Talimay and driver Flavio Martinez, Jr. took the Ro-ro and delivered the generator to BFS, arriving sleepless at 4:30 AM on Sunday, October 8. Engr. Austria and his crew inspected the power lines and Jun Martinez also helped in clearing some of the felled trees.

Cost estimates for the insurance claim of BFS will later be provided by the Engineering Section.

Reduced operations at BFS. Since the repair of the electric lines will probably take months, it was decided to concentrate activities in one area and operate only the necessary equipment to limit power consumption to the capacity of the 15 KVA generator. This genset consumes only an average of 2 liters of diesel per hour compared to BFS' existing 100 KVA genset which consumes 20 liters.

Rehabilitation work. Engr. Emil Aralar was tasked to take charge of the rehabilitation and clearing work for land-based facilities while researchers Ruel Eguia and Manny Laron took charge of salvaging, clearing and rehabilitating lake-based facilities. Some of the floating cage modules have been towed back to their original position and nets which were not damaged by the typhoon restocked with the few surviving carp, tilapia and giant freshwater prawn.

AQD: a community sharing experiences

WHITE SHRIMP harvests from DBS were just ahead of the white spot on October 9 and 10. Still, 134 employees were unanimous in saying that, though smallish, the putian was delicious, fresh and sweet! They took home 3.1 kg on average at the price of P150/kg, salary-deductible (top photo).

As if putian was not enough, mudcrab was sold on October 20, at P150 per kg. Sixteen employees bought an average of 1.52 kg. In the middle photo are two of the crabs weighing 1.1 kg, and still crawling! -Figures from CJ BARRION

ROCK GARDEN

FishHealth Section (FHS) staff express their appreciation to the landscapers of the new rock garden (bottom photo) fronting their lab. Section Head Dr. Celia Torres says: "The artistic display of rocks and plants... is a labor of love and work of art of many people ~ Ofer, Manny, Agnes, Boy, Nards... Thank you very much. Whew! You achieved so much at absolutely no cost to FHS :-). It was already obvious that nothing would grow on that patch of land with constant exposure to sea spray, no sunlight, + what many consider as risky dose of chemical fumes and microbial toxins :-). (that's actually a myth since all FHS staff are still beaming live and lovely ... and the men oozing with poginess). Planting rocks, therefore, was the brilliant alternative." [MORE STORIES ON PAGE 16](#)



AQD unites
for a quest:
responsible &
sustainable
aquaculture
development

Contributions from
AQD employees
are always welcome!

Please send text separately from your jpeg photos (if any, and of 300 dpi quality if possible). Devcom also uses some of these materials to update the AQD website and as SEAFDEC Newsletter articles. Having the original text and photos would give us more flexibility

AQD Matters is published by the Development Communication Unit Training and Information Division Tigbauan Main Station in Iloilo

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Dr. Malou Aralar for the write-ups and photos on algal biotech, AquaNegosyo, and Milenyo; the dream team for the review; and Gwen, Chris, Marget, Ging for the biotech photo captions

WEBSITE FEEDBACK

"I have looked at the new website of AQD and I am very happy with the positive changes in the format as well as the content of the website. For so long a time the SEAFDEC website contained a lot of stale news and uninteresting format but the new website looks great! Congratulations to you and the rest of the contributing staff. Looking forward to more exciting changes."

- EMAIL OF DR. RELI COLOSO TO AQD CHIEF DR. TOLEDO



The old version of the website logged in an average 2,000 page views a month, the new one has more than double the monthly views, to 5,948 in October alone. This number is reported by AQD's third-party web monitor, mycomputer.com

WEB UPDATE #2

MAIN PAGE NEWS

[Petron Solar-1 oil spill may damage 416 million pesos worth of aquatic research investments](#)

[First scientific meeting on the Petron Solar-1 oil spill off Guimaras](#)

[Mariculture activities go on at Igang Marine Substation](#)

INSIDE PAGES / NEWSROOM

[ASEAN's HRD for BIMP-EAGA: Brunei officers train on shrimp health, and Indonesians on feed prep](#)

PEW FELLOWS PROGRAM

<this is a new mini-website>