



AQD Matters

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

Petron Foundation gives P3 million for AQD's project in Guimaras

Almost a year after the disaster that was the *Petron Solar 1* oil spill off Guimaras, assistance is still pouring in.

In the presence of no less than President Gloria Macapagal-Arroyo, Petron Foundation Inc and SEAFDEC/AQD signed an agreement to collaborate on a *Pilot project on milkfish cage culture* as livelihood option for affected Guimaras fisherfolk.

The signing took place June 13 in conjunction with the inauguration and turnover of the Petron Library Hub in San Miguel, Jordan, Guimaras.

Signatories to the agreement were AQD chief Joebert Toledo; and Petron Foundation Inc's chairman and CEO Nicasio Alcantara and its president Khalid Al-Faddagh.

Under the terms of the agreement, Petron Foundation will provide funds for the construction and operation of three fish cages for milkfish culture and one boat, which will cost around P3.059 million. Aside from this, a total of P168,000 has been earmarked for the allowance of a technician and feeders selected from the community. Moreover, around P300,000 was allotted as logistical

support to AQD for the training of feeders, technology transfer to beneficiaries, and for the management and supervision of the project.

AQD on its part will, among other things, provide an area in its Igang Marine Substation for the project; help source out beneficiaries and provide on-site training on the culture of milkfish in floating cages; and administer the technical, administrative and financial aspects of the project. AQD is expected to complete this endeavor within a twelve-month cycle from the agreement signing.

This venture is a good match for both institutions: on one hand, Petron Foundation is committed to provide assistance to rehabilitate the coastal resources of Guimaras and provide livelihood opportunities in aquaculture to the stakeholders affected by the oil spill. On the other, AQD has the science-based technologies, manpower resources and experience in organizing and implementing aquaculture and coastal resource management projects.

The collaboration is just one of the many assistance given to the island province after the August 11, 2006 oil spill.



Clockwise from top: the President, who has allocated P50M for Guimaras' ongoing rehabilitation, addresses the crowd; the parties prepare for the signing; and the signatories present GMA with the MOA

AQD and Chinese Academy strengthen partnership

Upon the invitation of the Freshwater Fisheries Research Center (FFRC) of the Chinese Academy of Fishery Sciences (CAFS), AQD Chief Dr. Joebert Toledo visited Wuxi City, China in April of this year.

The FFRC is the Regional Lead Centre in China of the Network of Aquaculture



Centres in Asia-Pacific (NACA). AQD on the other hand is the NACA Collaborating Centre in the Philippines.

Dr. Toledo and his counterpart Dr. Xu Pao, the FFRC Director, ironed out the areas of common interests with which to strengthen existing collaboration.

Identified are (1) feed development and disease

control, particularly on the use of herbal extracts as feed additives or as immunostimulants, (2) breeding of freshwater prawn and tilapia, (3) manipulation of the water environment through the use of probiotics, (4) socioeconomic impact of aquaculture in the lakes of both countries, (5) training of one or two nominees by AQD in China, and (6) visit exchanges of staff involved in the above research and training areas.

Dr. Toledo and Dr. Xu signed the memorandum of understanding on April 26 in Wuxi.

Moreover, Dr. Toledo was invited to give a lecture on research highlights in aquaculture at AQD for the *FFRC international training on integrated fish farming*.



Strategic planning workshop

In today's fast-paced way of life, with a rapidly changing environment and constantly emerging needs in the society, it is a must for an institution such as AQD to always be equipped with strategies and alternatives to face and respond to such changes.

Thus, the conduct of the *Strategic planning workshop* last June 21 at the TID Conference Room. Attended by AQD's senior officials, including division and section heads, the activity aimed to assist top management in making effective decisions about the future directions of the institution.

Also discussed was the need for AQD to revisit its mandate (mission, vision, goals), and to formally define its priorities (program & activities).

The workshop saw each division presenting their strategic action plan based on the current vision, mission and goals. The resource person — Dr. Mae Hernando of UP Visayas — will then collate the results and make the final report/evaluation and recommendations for the department.

Prior to this, separate workshop sessions for each division were held last April 2-4, wherein each division submitted their SWOT analysis and strategic action plans.

- KD CAUMBAN



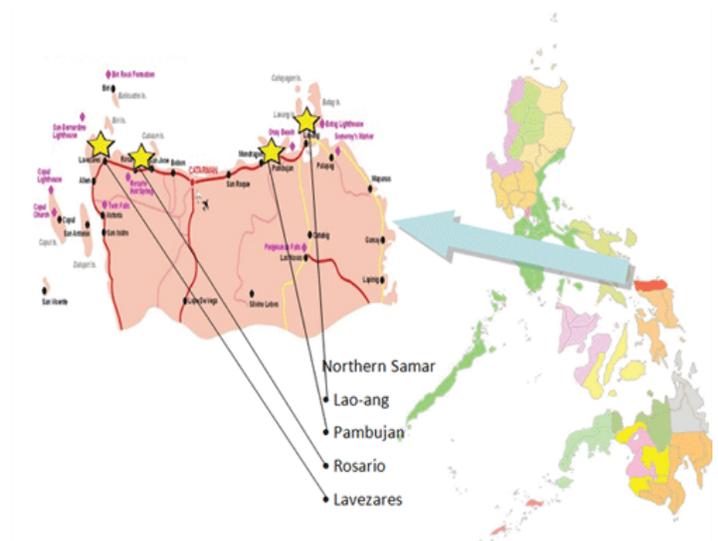
SEAFDEC/ AQD, ACIAR collaborate on Northern Samar project

Mudcrab's profile as a prized aquaculture commodity just got another boost.

SEAFDEC/AQD together with the Australian Centre for International Agriculture Research (ACIAR) joined forces to implement CATP or the Community Agricultural Technologies Project's *Enhancing adoption of mudcrab production technologies in Northern Samar*. The communities tapped are current beneficiaries of the Philippine Australia Community Assistance Program (PACAP). CATP will support and enhance the PACAP investment by introducing improved technologies.

What makes Northern Samar the ideal place for this project? The province's coastal mangroves are an abundant natural habitat for *Scylla serrata*. Despite this, Northern Samar remains a minor producer of marketable crabs although it is one of the biggest suppliers of wild harvested crabs to other parts of the country.

The project will establish four demonstration sites (one each in the municipalities of Lao-ang, Lavezares, Rosario and Pambujan) and undertake on-farm demonstration of nursery and grow-out management, fattening and nutrition. Stock assessment will also be done to provide better guidance



for the strengthening of local ordinances regarding crablet collection.

SEAFDEC/AQD will handle the research component of the project, with funding of around P1.4M of the total P3.313M allotted for the project. This includes the refining or improving of culture practices, wherein AQD will provide technical assistance for one full cycle of crab culture. In addition, stock assessment and policy — which involves monitoring seasonal trends in relative abundance to mud crab size, sex, volume, stage of maturity and habitat condition — will also be done. To this end, Mr. Renato Agbayani, Dr. Emilia Qunitio and Mr. Eduard Rodriguez conducted a field assessment together with CATP Program Manager Ms. Sheilah Vergara from February 27 to March 1.

SEAFDEC/AQD will assist the partner NGO, Action for Community

Empowerment (ACE), in planning and conducting the training courses on the different phases of mudcrab culture, starting from nursery to grow-out to fattening in mangrove areas (also known as aquasilviculture).

It is hoped that at the end of the 30-month project (May 2007-November 2009), adoption of improved technologies is sustained; availability of seed stock for beneficiary communities is improved; advocacy for improved ordinances to manage the collection of wild crablets is sustained; total harvests and production of mudcrabs are improved by 15-30% compared with standard practices; and that the income of farmer beneficiaries sees a 10-20% increase.

The Northern Samar sites are under AQD's *Institutional capacity development for sustainable aquaculture* project which seeks to transfer appropriate aquaculture and fishery resources management strategies to target beneficiaries.

The project extends the outcome of ACIAR-supported research (FIS/1992/017 project) on mudcrab culture done by SEAFDEC/AQD from 1996-2000.



ET QUNITIO



BFAR and AQD: beginning a beautiful friendship, again

May 16 should be a date to remember being the first time that 21 SEAFDEC/AQD senior staff met 34 BFAR regional directors and training center directors as a group.

The goal: avoid duplication of work, collaborate & share resources, and aim for the same target.

The result: a memorandum of understanding between AQD and BFAR signed the day following the meeting, paving the way for a new beginning (see separate story on the MOU).

The one-day discussion was put in context by the AQD Chief Dr. Joebert Toledo who recalled AQD's regional mandate, the science-based technologies developed through 34 years of R&D, and the role of aquaculture in poverty alleviation. It is to

be noted that the AQD community has expressed the need for better interaction with its focal agency (DA, BFAR) which is more intimately involved in its mandates compared to its funding agency (Department of Foreign Affairs).

BFAR Director Malcolm Sarmiento, on the other hand, first thanked AQD for the meeting initiative. He then reiterated DA Secretary Yap's blessing for the group to come up with strategies to maintain aquaculture's high growth

(at 8.7% the highest among the agriculture subsectors). Aquaculture is even expected to pull up DA's target growth for the food-producing sector. Director Sarmiento also noted previous collaborations of the two institutions, including the technology caravans, environment-friendly shrimp farming, and mariculture park.

Next, AQD presented its programs with an eye towards explaining the technology gaps, present activities, and areas for possible collaboration. The mollusc program was presented by Mr. Armando Fermin; mudcrab & shrimp, Dr. Emilia Qunitio; marine fish, Dr. Felix Ayson; seaweeds, Dr. Anicia Hurtado; smallholder freshwater aqua, Dr. Ma. Lourdes Aralar; aquatic ecology, Dr. Neila Chavoso; training & information dissemination, Mr. Renato Agbayani.

There were a lot of clarifications requested from the BFAR side on AQD technologies, including AQD's formulated feeds. A tricky question was raised on patent, whereby Director Sarmiento expressed his view that although "franchising" is an institution's privilege, he didn't want the research community to forget the term "service."

Director Sarmiento also presented the concept of a "seaweed village ecozone" where all the requirements of planters will be within reach, from processing to marketing, even housing for workers and their families. The ecozone

could be a model that BFAR can put up with AQD's help in Batangas or Quezon, for instance.

This opened up the discussion on "mariculture highways" that the government has put up or intends to in 25 sites all over the country. AQD participants in particular were concerned about baseline data that must be collected prior to setting up the parks so that environmental capacities would be determined. These data might just be in BFAR offices and not been collated to support a science-based legislation that would be needed to run the parks sustainably.

After the AQD portion, Dir. Sarmiento presented the BFAR programs. Seaweed, being the top export product, is still the number one priority. After BFAR staff was trained by AQD in seaweed tissue culture and sporulation early this year, Dir. Sarmiento said, a P3 million allocation was immediately given to BFAR's seaweeds development program.

He went on to discuss other projects not overlapping with AQD's, including massive reseeded of major inland bodies of water (4 million fingerlings per seeding is the target), tuna enhancement, establishment of tilapia fillet processing plant, mobile ice plants, and regulatory activities to name a few.

To conclude the day, BFAR Assistant Director Gil Adora expressed his satisfaction of the proceedings, noting that BFAR can pick up some of AQD's technologies immediately while others would be dealt with long-term. He thanked everyone for their participation. - MTC



J. TENDENCIA

BFAR, AQD sign MOU

July 17, the day after the aforementioned meeting, BFAR and AQD bigwigs gathered to sign a memorandum of understanding.

Among the MOU's objectives are to facilitate technology transfer by demonstrating sustainable technologies and hands-on training; to foster technical and scientific cooperation between the two institutions; and delivery of research and development services to ensure and increase stakeholder profitability.

To meet this objective, BFAR will select areas within its regional offices available

for the conduct of a joint pilot techno-demo project.

AQD, on its part, will provide the needed expertise and technical assistance, including training of BFAR technical staff, in disseminating technologies it has developed.

Annual consultations will be conducted to review and set directions for this undertaking. Moreover, a Joint Program Committee will be created to oversee the overall implementation of the project. The MOU will be in force for at least five years, and may be extended by mutual consent of the parties involved.

Identified priority areas for collaboration, among others, include the establishment of milkfish satellite hatcheries; techno-demo hatcheries of siganid and grouper; establishment of additional seabass techno-demo farms; demo-hatchery of mudcrab; monitoring and assessment of abalone; development of seaweed tissue culture techniques and culture in mariculture zones; campaign for biosecure *Litopenaeus vannamei* farms; and techno-demo for the breeding and hatchery of seahorses.

The signing is but inevitable given AQD's and BFAR's shared mandates to promote sustainable aquaculture technologies that are economically viable, environment-friendly and socially equitable. The two institutions have in the past undertaken numerous joint and collaborative projects in pursuit of these mandates.



AQD urges biosecurity for shrimp farms

To remain a good neighbor, AQD invited 27 shrimp farm operators and other sectoral representatives to a shrimp biosecurity forum on May 31 to address what can be done if a disease outbreak occurs. The forum was held at AQD's Dumangas Brackish-water Station in Iloilo.

The primary consideration is for any viral infection not to

spread and for shrimp farms not to automatically drain the infected water to common waterways. Instead, farms are advised to hold the water for a week (viruses live within 4 days after its host dies) and the unmarketable stock and other crustaceans burned or disposed of properly.

AQD also wants to extend free disease diagnostic services for farms suspecting or experiencing a disease outbreak. Fears of viral outbreaks have been prompted by the lifting of a Philippine government ban on the importation of Pacific white shrimp (*Litopenaeus vannamei*). White shrimp culture in other countries has been hit by taura syndrome virus, yellowhead virus, among others. Now, after 6 years, the Philippines is allowing entry of specific-pathogen free broodstock.

AQD has white shrimp stocks but has also instituted good management practices and proper biosecurity procedures. The former includes the use of a settling and treatment pond, a reservoir stocked with fish, and a filtration system.

Biosecurity measures include a disinfecting tire bath for vehicles entering the farm, and a footbath and hands disinfection for farm personnel. Bird scaring devices and crab fences are also installed because these animals are possible carriers of viruses. Each pond has its own designated equipment.

Biosecurity is the practice of excluding specific pathogens from cultured aquatic stocks in the broodstock facilities, hatcheries, and farms, or from entire regions or countries for the purpose of disease prevention.



Exploring the Dumarao site

There is trouble in Dumarao, Iloilo that maybe only aquaculture can solve.

An impoundment has been built in Brgy Codingle by the National Irrigation Administration (NIA) and its backwater has submerged rice plots of 36 families. But with water comes aquaculture, and to assist affected families, the NIA requested the assistance of the Capiz provincial government who in turn appealed to SEAFDEC/AQD.

AQD quickly made an exploratory survey on June 14 after which researchers



Mr. Armando Fermin and Mr. Ruel Eguia recommended cage or pond culture of tilapia, freshwater prawn+tilapia, hybrid catfish, bighead carp, and/or rice+fish.

These options were presented to the now-forming JACOTA (Janguslob-Codingle-Tamulalod) cooperative on June 27. Thirty-four coop members, LGU reps, and AQD staff were in the meeting at Codingle, Dumarao.

Mr. Sandy Gonzaga, the Dumarao Mayor's representative, welcomed the new livelihood option that the

farmers will learn from AQD and from the Office of the Capiz Provincial Agriculturist (PAO). As PAO staff Mr. Joey de la Cruz explained, the collaboration will make up the freshwater phase of the *Institutional capacity development for sustainable aquaculture* project. The Tapaz dam site was earlier considered for this phase but Dumarao's more urgent need was certified by the new Capiz Governor. Would-be aqua entrepreneurs from Tapaz are encouraged instead to join the on-site training for Dumarao.

NIA's Engr. Efren Bigkas and Ms. Elena Villanueva, on the other hand, talked about the river system in Dumarao and the affected families (NIA are compensating them for the damage).

AQD's Training&Info Head Mr. Renato Agbayani oriented the attendees about ICD-SA, emphasizing the on-site, season-long training that will go hand-in-hand with technology demonstration. Lessons from Pandan and other sites of ICD-SA will be applied here, to refine techno-transfer methods and ensure the success of the cooperative.

Meanwhile Mr. Fermin did the technical aquaculture presentation. "*Hindi ba ma-anod ang mga cages?*" was one of the questions, to which the reply was "*Thigot!*" A few farmers offered their farms to be made into demo sites.

At the end of the meeting, the parties was agreed that the ICD-SA project will provide the nets, feeds and seeds; the coop will contribute labor and bamboo poles for the cage construction; and that the net profit will be the coop's. - MTC



MT CASTAÑOS



AQD provides updates in Palawan

To get updates on tiger shrimp and crab farming, a pond operator and government fishery technologists got hold of three AQD researchers to help them. Thus, Dr. Emilia Quintio, Dr. Fe Estepa, and Mr. Marcial Eduard Rodriguez found themselves at the Regional Fisheries Training Center (RFTC) in Puerto Princesa City, Palawan from June 28 to 29.

The RFTC belongs to the Bureau of Fisheries and Aquatic Resources (BFAR), who arranged the lectures and



the visits to farms in Palawan. BFAR was requested by a pond operator for technology updates, who in turn got in touch with AQD.

BFAR-RFTC is currently implementing techno-demo projects for shrimp and crab culture in support of the

government's thrust on food production, poverty alleviation and job employment for marginalized fisherfolk. Palawan is rich in marine resources and there is little aquaculture activity.

Ms. Sandy Madarcos of radio station DYPR interviewed Dr. Quintio and Dr. Estepa about the visit, which also provided them an opportunity to inform the listeners about the aquaculture research, development and extension activities of SEAFDEC/AQD.

- ET QUINITIO, FDP ESTEPA

Total harvest in Pandan for seabass

It was probably the next best thing to fishing in the proverbial barrel. After about two hours of work, 399 pieces of seabass were taken out of 3 cage modules, iced, packed, hauled and delivered. And with that, AQD's trial run of



the seabass culture project with Mag-aba Multi-Purpose Cooperative ended in the early morning of June 8th in Pandan, Antique.

AQD employees are to be congratulated for their marketing assistance. They bought all the harvest! The 52 personnel were limited to a maximum of 2 kilos each. There were 4 fish to a kilo.

Mr. Rommel de Juan, chair of the cooperative, said that they may need to improve the

site, like digging trenches to prevent the cages settling down during low tide and enclosing the modules to prevent the poaching of stock. He also mentioned that other institutions have approached their coop to collaborate on expanding the seabass operation.

On the other hand, Ms. Kaylin Corre, head of AQD's Training Section who facilitated the on-site training of the coop members, noted that the coop may turn more profit if members can utilize locally available feed ingredients. AQD can handily run a course on farm-made feeds to reduce costs.

Pandan is one of the sites of AQD's *Institutional capacity development for sustainable aquaculture* project with the Congressional District of Antique.

International mudcrab course

Four participants got a preview of what it's like to operate a mudcrab hatchery the practical way: they trained for it.

From May 17-June 6, AQD's Training Section offered a specialized training course on *Crab seed production*.

The course saw the trainees learning the ropes in crab seed production through lectures and practical sessions on nursery and grow-out, cul-

ture of natural food, ablation and tagging of crab, hatchery design and construction, larval rearing, health management and disease diagnosis, and economic evaluation of mudcrab hatchery operation.

The participants, all of them from the private sector, were Mr. Alex Lien of Canada, Mr. S. Arul Raj of India, Mr. Govindasamy Prabhagar of Singapore, and Mr. Salcedo Fabular of Zamboanga, Philippines.

During the closing program, the participants enthused their eagerness to apply the knowledge and skills that they have learned into profitable ventures of their own.

Due to the limited budget, the trainees from SEAFDEC member countries shouldered the training cost at their own expense.



RT BALTISTA



3-day specialized training on pond mgt

Two foreigners participated in the 3-day *Specialized training on pond management* with emphasis on soil and water quality which

was held last May 1-4. The two trainees were: Mr. Komang Joni Utama, Fish Technician of Pt. Suri Tani Pemuka, Jakarta, Indonesia and Mr. Alejandro T. Alvarez, CEO of

Genomar Supreme Philippines, Pampanga. The 3-day training consisted of practical sessions on water and soil analysis and trips to the ponds at AQD's Dumangas Brackishwater Station. The trainees also visited the tilapia ponds at the UP Brackishwater Aquaculture Center. - CV GENZOLA



Summer OJT and internships at AQD

CV GENZOLA



Ninety-Four (94) students from 15 schools from Visayas and Mindanao participated in the *Summer OJT Program* of SEAFDEC/AQD. There were 12 schools in the collegiate level while two schools participated in the *SEAFDEC Summer internship program* for high school students.



The four schools from Mindanao were the Mindanao State University – Naawan Campus; MSU – Marawi Campus; Northern Mindanao School of Fisheries (Agusan del Norte); and Zamboanga State College of Marine Sciences and Technology (Zamboanga City).

From the Visayas, the following schools were Central Visayas State College of Agriculture, Forestry & Technology (Candijay, Bohol); Aklan State University (Banga, Aklan); Central Philippine University (Iloilo City); Carlos A. Hilado Memorial State College (Binalbagan, Negros Occidental); University of the Philippines in the Visayas (Miag-ao, Iloilo); Western Institute of Technology (Iloilo City); Iloilo State College of

Fisheries (Barotac Nuevo, Iloilo); Southern Iloilo Polytechnic College (Miag-ao, Iloilo); and University of Eastern Philippines (Northern Samar).

The students were exposed to the different hatchery areas and laboratories. Some of them were also able to attend lectures, on-site samplings and field trips conducted by the different researchers and scientists.

High school internship students were assigned at FishWorld and the different hatcheries and laboratories in order for them to have hands-on exposure and broaden their understanding of research and aquaculture. They were also given a series of lectures and trips to enable them to gain more knowledge and skills in preparation for pursuing higher education.

The summer OJT Program is a part of the students' requirement for completion of their courses and SEAFDEC/AQD's commitment in promoting aquaculture awareness among the students.

- CV GENZOLA



Special hands-on training course on microalgae production and culture

Two participants from the Microbiology & Genetics Division, Industrial Technology Development Institute of the Department of Science and Technology

(DOST), had their hands-on training on microalga production and culture last June 13-25.

The trainees were Dr. Myra Tansengco, with a PhD

in Biotechnology from Osaka University, Japan and Ms. Judith Tejano, a Chemical Engineer. Both are Science Research Specialist II.

The two-week training consisted of lectures and laboratory work (eg. media preparation, scale-up, tube and flask culture, outdoor culture) wherein the trainees learned how to culture and produce *Chaetoceros calcitrans* and *Nannochlorum* spp.

- CV GENZOLA



SEAFDEC/AQD joins FishLink 2007

In an industry that is constantly changing, savvy aquaculture practitioners and other stakeholders know that being out of the loop on recent information is out of the question.

Thus, update 198 of them did, as they attended the FishLink 2007 conference last May 17-19.

The activity, organized by the U.P. Aquaculture Society Inc., was held at the Iloilo Grand Hotel in Iloilo City. SEAFDEC/AQD was one of the sponsors along with UPV, PCAMRD, BFAR, B-Meg, and CruzAqua.



ITENDENCIA

The commodity garnering the most attention during the event was the Pacific white shrimp, a.k.a. *Litopenaeus vannamei*: the ban on its importation was lifted last January 8. Among the relevant presentations that tackled this were: regional perspectives on shrimp farming; status and challenges in white shrimp culture; SWOT analysis of the Philippine shrimp industry; updates on the management of WSSV disease in Negros Island; and use of probiotics and vaccines in shrimp culture. Certain players in the industry also took time to share their experiences in this field.

This isn't to say that other relevant and timely topics were ignored: AQD's



Dr. Gilda Lio-Po, Dr. Felix Ayson, and Dr. Neila Chavoso discussed advances in the use of probiotics, applications of biotechnology in aquaculture, and transferable technologies from SEAFDEC and AQD's dream project, respectively. Updates on established (milkfish, tilapia, mudcrab) and up-and-coming (abalone, redclaw) aquaculture commodities were also discussed, as well as topics on coastal resource management, post-harvest technologies, organic aquaculture, and transferable technologies from UP-MSI, UPV nad PCAMRD.

AQD put up a booth where publications were sold (a total of P17,000) and posters highlighting AQD researches and activities were displayed.

Knowing that there exists many different groups and organizations within the industry, the organizers also urged the participants to sign a resolution for the creation of a unified aquaculture organization to further the industry's interests. If you wish to sign too, please email up_aquasoc@yahoo.com.

Lakbay-aral at AQD

After two months of summer vacation, the month of June once again beckons learners of all ages to visit AQD.

From June 5-10, nine personnel from the Bureau of Fisheries and Aquatic Resources-Cordillera Administrative Region held their *Lakbay-aral*, which saw the delegates headed by their regional director, Dr. Rebecca Dang-awan.

Among the objectives of their trip was to be updated on new technologies in aquaculture.



JE SALAMIDA

Aside from touring the TMS, the group also toured the Dumangas Brackishwater Station, the RETCEM hatchery in Dumangas, and Kalibo, Aklan.

Another batch of Lakbay-Aral enthusiasts visited AQD last June 9. A total of 25

persons from San Vicente, Palawan joined the trip, composed of local government personnel headed by Vice Mayor Solomon Maagad, and the *Bagong Siglo ng mga Mangingisda* cooperative.

The delegates were able to visit AQD's hatchery facilities and feed mill, had an orientation on fish cage culture, and visited the Igang Marine Substation.

The group plans to enhance fish cage culture in their locality, which will be funded by the local government.

My fourth close encounter with a whale shark

By TU Bagarinao



Whale shark, Buyuan beach, 16 May 2007, caught and released by fisherman Rodolfo Barrion (top, inset)

Research Head Dr. Evelyn Grace de Jesus-Ayson texted me about 7 am on Wednesday, 16 May, to tell me that a whale shark had been caught in a beach seine in Nanga. I was at FishWorld already, having stayed overnight to work on the FSP book (sigh!). A few minutes later, Nestor Tayoba came by on his bike to tell me that there was a cut up but live whale shark on the beach near Angie Tillo's hatchery. I thanked him, grabbed camera and measuring tape and hurried through Angie's hatchery to the beach, a short distance to the right.

There it was – huge, black and beautiful, with white spots— *Rhincodon*

typus. But what a shock! It was bloody red, too, where the dorsal fin and upper caudal lobe had been cleanly sliced

off! I took photos and measured the shark to be 5 meters long. The whale shark was tied at the tail to the beach, its head at the deep end. Other than the sliced-off fins, it looked clean and shiny, without body injuries or bruises, unlike many other large marine animals I had seen caught in shallow-water fishing gear. It looked strong and was trying to swim away. Maybe there was a chance it would survive despite the missing fins. Maybe the fins would heal up.

I looked around for the fishers. The owner of the beach seine was right there by the shark. He explained that the shark already had the sliced-off fins when it got caught in his beach seine, and they did not realize there was a shark in the seine until they got it into too shallow water. Can we release it, I asked. OK, he said. Wow, I was surprised at his readiness. But a few other

people at the beach were not so sure. The shark will die, they said. Other sharks will come and attack it. Somebody said, wait for Ratsada. A woman said, wait for the say-so of the Barangay Captain. OK, where does the captain live, I'll go get permission. Oh, somebody already went to fetch Mor Miranda. Ah, so, the shark was still in Buyuan waters, not Nanga.

I looked at the shark. It was still strong, but it could not wait too long. The longer it was tied down, the weaker it would get, and the slimmer its chance of surviving when released. In any case, endangered marine animals are not within the jurisdiction of local government officials. I texted BFAR Regional Director Drusila Bayate for help. She was then at AQD for a BFAR Directors' meeting. I was getting anxious for the shark. I agreed with the others that the shark would likely die, but argued that it was better for the shark to die at sea than in the fishers' custody. It is illegal to keep a whale shark, dead or alive, and there was no way they could slaughter or sell the one on the beach that morning.

Thankfully, before it got too sticky for me, the beach seine owner released the whale shark without further ado. The shark swam away and quickly disappeared into the sea. I yelled in joy and wished the shark happy escape and good healing! Do not ever come back near shore! I thanked the seine owner and texted Dr. Ayson the happy news. My fisherman hero turned out to be Rodolfo Barrion, none other than Christine's father. His wife Rosemarie is a Barangay Health Worker and she urged me to write a report she could submit to Mor Miranda. So here it is.

Tangab at the FishWorld

What is that thing set up in front of FishWorld, you ask? That's the *tangab*, a fishing gear made up largely of nets, bamboo and rope.

A stationary gear that is set down during high tide, it usually catches shrimps, slipmouths and other assorted fishes.

The gear, a project of FishWorld curator Doris Bagarinao, is 25% completed. Target date of completion is around February of next year.

For more information, including the localities where the gears are found, common species caught and how the gear works, do check out the posters located along the footwalk.



Updates on cysteine metabolism

Apparently, large doses (greater than 0.50 mmol/100 g of body weight) of cysteine in fish is toxic.

This, and other nifty updates on the regulation of cysteine metabolism in mammals and fish was deftly discussed by Dr. Relicardo Coloso, head of AQD's marine finfish program.

The May 2 seminar, which was held at the RD AV Room, also informed those in the audience that the free cysteine pool found in the liver is

tightly regulated. A level too high would prove toxic to the organism, while too low a level may not support normal metabolism. Cysteine is a naturally occurring, sulfur-containing amino acid that is a building block to most proteins.

Also learned during the seminar is the possibility of a connection between the necessity of controlling cysteine and the regulation of hydrogen sulfide. H₂S, which smells like rotting eggs, is a smooth muscle relaxant and is produced in the brain in response to neuronal excitation.



JE SALAMIDA



28 and counting: UP fish alumni at AQD

Last June 20, AQD staff who are alumni of the UP Visayas College of Fisheries and Ocean Sciences gathered to get their picture

taken for the upcoming UPV CFOS alumni homecoming this July 26th. Here are selected outtakes from the photo shoot.



ITENDENCIA



SEAFDEC/AQD's UPV-CFOS alumni: from dignified (top) to goofy (bottom) in two shots flat

Contributions from AQD employees are always welcome!

Please send text separately from your JPEG photos (300 dpi or better). Devcom also uses these materials to update the AQD website and as SEAFDEC Newsletter articles. Having the original text and photos would give us more flexibility

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RF Agbayani

New hires at AQD

A AQD is proud to have two additions to its list of experts. Welcome to AQD, Ms. Eusebio and Dr. Pakingking!



Perla Sotaridona-Eusebio is not new to AQD. She is a licensed chemist who started at AQD as an Associate Researcher way back in 1989 and got promoted to Associate Scientist before she left in 2004. She finished her BS Chemistry at the University of Iloilo and MS Animal Science at UP Los Baños in 1970 and 1978, respectively.

Her field of interest is on nutrition, chemistry and biochemistry. She collaboratively worked with ACIAR, USA-DPLC and

DA-BFAR-FSP and published several scientific papers which mainly focused on fish nutrition and biochemistry.

In recognition of her work, she received the 7th Elvira O. Tan Memorial Award for Fisheries Research in 1993 for her published paper in aquaculture entitled, *Effect of dehulling on the nutritive value of some leguminous seeds as protein sources for tiger prawn Penaeus monodon juveniles*.

She also received the DA Secretary's Award (R&D Paper Published in an Institute for Scientific Information – Current Content Journal) in 2003. She was UP Los Baños' Outstanding Junior Researcher for an excellent performance in the conduct of nutrition studies in 1984.

Perla joins the Nutrition and Feed Development Section. She is married to Mr. Alberto Eusebio, System Information Analyst at UP Los Baños.



Dr. Rolando Pakingking Jr was an Assistant Professor at the Colegio San Agustin-Bacolod prior to joining AQD. He is a licensed medical technologist (17th Place, PRC) and has worked at the Department of Health, Negros Occidental for three years and entered the teaching profession as a college instructor at West Negros College and University of Negros Occidental-Recoletos (UNO-R) from 1994 to 2000.

Roland holds a BS Medical Technology degree from UNO-R and MS degree in Biology (Aquatic Microbiology) from UPV which he obtained in 1990 and 1998, respectively. He was also a recipient of the MONBUKAGAKUSHO scholarship from the Government of Japan which earned him a PhD in Applied Biological Science (Fish Pathobiology) at the Graduate School of Biosphere Science, Hiroshima University in 2004.

His field of interest covers the interaction of viruses and bacteria in aquatic organisms. He has five (5) published scientific papers. In 2005, he received the Best Paper Research Award from the Philippine Society for Microbiology (PSM).

Roland joins the Fish Health Section, Research Division. - JE SALAMIDA

Wanna get shot?

With anti-pneumonia vaccine, that is.



Forty-ish AQD employees who want to avoid the dreaded malady may want to head over to the health services unit clinic to get their shots. This service started last May and will be ending this July, so what are you waiting for? Get your shots now!

Who says needle injections are nerve-wracking and painful? Not Ms. Paz Garibay, who gets a case of the giggles (with Ms. Pinky Tupas and Dr. Irene Escanlar)

SEAFDEC/AQD plays host to int'l marfish training

From May 21 to June 28, SEAFDEC/AQD played host to nine trainees as they embarked on the *International training course on marine fish hatchery*. Of the nine, five hailed from the Philippines, one

each from Cambodia and Singapore, and two came from Thailand. The regional training was funded by the Government of Japan Trust Fund and was conducted with a limited budget.

We could go on and describe the process they had gone through to finish the course. Or you could just see the pictures (and captions) for yourself. We vastly prefer the latter.

R BAUTISTA, S PAGADOR



Nope, no surgeries for them: suiting up for feed mill processing



Making no bones about learning bangus deboning



Exploring their inner van Leeuwenhoek by identifying phytoplankton



No, the trainees were not at all haughty exploring the Hautea hatchery



They don't want to miss a thing: documenting their UP Visayas visit



Playing fish matchmakers in rabbitfish broodstock pairing



Nobody's getting the blues doing hatchery work



Inducing artificial spawning on reproduction-weary grouper



Making the machines do most of the work for them in larval feed preparation



Ms. Neneng Eullaran shows them how a pro collects and transports milkfish eggs



Making *Artemia* and rotifer culture look so easy



The trainees triumphant