



AQD Matters

Internal newsletter of the SEAFDEC Aquaculture Department

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National Aquaculture Congress: JDV awards P10 Million to AQD



President Arroyo proudly shows off to the press a copy of the Comprehensive National Fisheries Development Plan

- **Milkfish:** Alvin Gimelo, President of the Bangus Association of the Philippines, Inc. (BAPI)
- **Seaweeds:** Oscar Monzales, Executive Director of the Seaweed Industry Association of the Philippines (SIAP)
- **Tilapia:** Basilio Rodriguez, President of the Philippine Tilapia Inc. (PTI)
- **Shrimps and Prawns:** Roberto Gatuslao, President of PHILSHRIMP
- **High-Value Species:** Ramon Macaraeg of ALSONS Aquaculture Corporation

Current and emerging technologies in aquaculture were discussed briefly by Rafael Guerrero III, Executive Director of DOST-PCAMRD. Marketing and export promotion was explained by Amado Emaguin, Division Chief of Marine Products, Board of Investments.

President Arroyo lauded the completion of the CNFDP and pushed for its implementation. Congressman Villafuerte enjoined everyone to translate the Plan into specific programs and projects. The projects must in turn be defined and identified according to specific areas where they can be implemented within a specific time frame. Technical assistance for the implementation must be given by the national government through the Bureau of Fisheries and Aquatic Resources and other agencies involved in fisheries and aquaculture.

Speaker Jose de Venecia in his speech took note of the contributions of SEAFDEC/AQD under Dr. Platon's leadership and announced the release of the 10 million pesos he promised when he visited AQD in July for the ground-breaking of the shrimp broodstock facility.

MLC Aralar

Congressman Luis Villafuerte congratulates AQD Chief Rolando Platon for the JDV windfall — 'parang panalong lotto'



The National Aquaculture Congress was held at the Bureau of Soils and Water Management Auditorium last 27 October 2005. This Aquaculture Congress was organized by Congressman Luis Villafuerte, Chairman of the Committee on Aquaculture and Fisheries Resources at the House of Representatives. Guests at the Aquaculture Congress included President Gloria Macapagal-Arroyo, House Speaker Jose de Venecia, Department of Agriculture Secretary Domingo Panganiban, and other Members of the House. SEAFDEC/AQD was represented by the Chief Dr Rolando Platon, Research Head Wilfredo Yap, Technology Verification Head Dan Baliao, Binangonan Station Head Malou Aralar, and Hatchery Manager Denny Chavez.

The Comprehensive National Fisheries Development Plan (CNFDP) was presented by Geronimo Silvestre. The Aquaculture Component of the CNFDP was summarized by Philip Cruz. The strategic plans for five key aquaculture commodities were presented by key industry leaders.



President Gloria Macapagal-Arroyo is joined on stage by BSWM Director Rogelio Concepcion, Cong. Salacnib Baterina, Cong. Eduardo Zialcita, Speaker Jose de Venecia, Cong. Luis Villafuerte, DA Secretary Domingo Panganiban, BFAR Director Malcolm Sarmiento, and PCAMRD Director Rafael Guerrero III

Think IPR

After three decades, SEAFDEC/AQD's researchers and trainers have generated aquaculture technologies and have disseminated the same through scientific and technical publications and training programs. Except one instance when some AQD researchers filed a patent application for the milkfish growth hormone gene and other related biotechnological products, serious thought has not been given to the recognition and protection of intellectual property rights (IPR) due to persons and institutions that generate original or innovative technologies and designs (breeding methods, feed formulations, hatchery and nursery methods and designs etc.).

In fact, I myself have at one time been a victim of IPR infringement when the tilapia manual I co-wrote years ago was illegally reproduced and sold by a renowned consulting firm. I think it is high time that AQD makes an effort to at least see to it that the technologies and publications produced from each funded research project be eventually registered and protected as intellectual properties.

The opportunity to learn about IPR came soon enough. The Philippine Rice Research Institute (Philrice) and the Department of Agriculture conducted a training on IPR for their research staff on 5-6 October 2005 at the Biotech-IPR Training Center, Muñoz, Nueva Ecija. Dr Leobert de la Peña and I attended for SEAFDEC/AQD.

The training aimed to educate researchers about the different forms of intellectual property and the importance of IPR; inform them about the requirements (documents) for IPR application; and teach the methods for registering/applying for IPR protection. The training included lectures, practicals, and open forum.

Lectures:

Philrice's IP policy and implementing guidelines
Intellectual Property – the what, how and why
The seven forms of intellectual property
About copyright
Learning more about patents
Utility model and industrial design
Update on Philrice's IP activities
Patent information
Classification of patents
Patent search tools and strategies

Practicals:

Filling up the copyright form
Filling up the IPR forms
Patent search

The resource persons in the training course were quite young but very knowledgeable. They were ably led by patent lawyer Atty. Ronilo Beronio, who sits as the Director of the Philrice Intellectual Property Management Office.

The training was very appropriate for researchers. It provided basic and vital information on how and why publications and technologies developed by researchers should be recognized and registered as intellectual properties through patents and copyrights. It taught us the process and practicalities of patent application, which actually required some skill. It also taught us how to do patent search to determine what is owned by whom.



LD de la Peña and MRR Eguia join the Philrice staff for the IPR training

Philrice researchers are very similar to AQD researchers in that they too are able to generate a lot of technologies (agricultural equipment/ farm implements, publications, breeding technologies and improved research products e.g. rice varieties). They have realized how important it is to protect these technologies from which they could also generate income. Philrice has to look for alternative funding sources just like AQD. Hence, they saw the need to register or establish the ownership of Philrice technologies which later on they could sell to interested private companies. Philrice has devised a scheme by which income from royalties and benefits will be shared between the researchers and Philrice. Part of the income can be used to fund future research.

AQD should consider creating a committee to take charge of managing IPRs for the institution and its personnel. Some AQD researchers have become victims of IPR infringement, but we have not taken action against the violators nor serious measures to protect our IPR. The present AQD staff should think about revising the extension manuals especially those whose authors are no longer with AQD. According to the IPR Training resource persons, royalties are given to authors even 50 years beyond their lifespan. It would help if AQD could invite resource persons to give a seminar about IPR.

MRR Eguia

Intellectual property

Creations of the mind: inventions, literary and artistic works, symbols, names, images, designs used in commerce, and including traditional or indigenous knowledge

Intellectual property rights

Legal ownership of, and protection for, know-how, creative works such as writing and music (copyright), inventions (patents), processes (trade secrets), identifiers (trade marks, domain names), and including licenses and distribution contracts

Patent

Exclusive right of an inventor to make, use, or sell his invention for a period up to 20 years. Patents do not protect ideas, only structures and methods that apply technological concepts, or a defined scope of technology or industrial design.

INGA and genetics in Shanghai

I had the good fortune to visit Shanghai, China to participate in the World Fish Center Workshop on the Dissemination of Improved Fish Strains: Country-Specific Action Plans held at the Jinsha Hotel on 21-22 September and the 8th Steering Committee Meeting of the International Network on Genetics in Aquaculture (INGA) on 23 September. My travel was funded by the ASEAN-SEAFDEC Special 5-Year Program (Integrated Rural Aquaculture).

The Workshop and the Meeting aimed (1) to strengthen ongoing programs in genetic improvement and technology dissemination among INGA member countries; (2) to identify country-specific constraints for the development, maintenance, and dissemination of improved fish; and (2) to define the needs of each country and formulate country-specific action plans for the development, maintenance, and dissemination of improved fish.

The workshop was organized into four sessions as follows:

- Assessment of genetic improvement programs and the state of improved stocks (6 papers covered ideal genetic improvement program design, new genetic technologies, status of national breeding programs, and lessons learned from established carp and salmon breeding programs)
- Constraint analyses on development, maintenance and dissemination of improved strains (3 papers covered specific needs for development, maintenance and release of improved strains; the participants divided into three working groups and discussed country-specific needs, limitations)
- Formulation of member country action plans (the working groups developed country-specific action plans for specific commodities)
- Development of collaborative genetic improvement program for *M. rosenbergii* (the working groups discussed design, constraints in non-technical and technical aspects of *Macrobrachium* breeding and culture, integration of existing programs, and possible funding sources for a regional genetic improvement program)

On 23 September, the Steering Committee discussed a variety of issues including capacity building, establishment of core group for specific genetic concerns, germplasm exchanges, national networks, funding sources for INGA activities, new memberships, creation of genetic advisory unit, dissemination of improved strains, and GIFT breed association.

On 24 September, the group visited the Songjiang State Aquaculture and Breeding Farm where GIFT tilapia and Asiatic carps are produced. In the afternoon, the participants visited a traditional cultural site in Shanghai.

SEAFDEC/AQD is an Associate Member of INGA. The workshop participants were representatives from Member Countries (mostly researchers from government fishery agencies) and other Associate Member institutions such as the South Pacific Commission, Queensland University of Technology, Asian Institute of Technology, etc. From the meeting, I obtained new information on the status of genetic improvement programs for species of commercial importance, particularly the genetically improved Indian major carp *Labeo rohita* and the GIFT tilapia developed in the Philippines and now propagated in many other INGA member countries.



MRR Eguia (second row, third from right) joins the geneticists of the world at the World Fish Center Workshop and INGA Meeting in Shanghai, 23 September 2005

I also learned about the adoption of the GIFT breeding technology in some African countries (Malawi, Ghana, and Cote d'Ivoire) that chose to develop their own improved tilapia stock following the breeding protocol of the GIFT project. Also presented were the fish breeding programs in Hungary (carp) and in Norway (salmon), which started much earlier than the tilapia programs in Asia. The presentations included lessons learned from the successful breeding programs. Dr. Ponzoni's presentations on the requirements for an effective selection procedure in fish were very informative. Stock dissemination strategies were reviewed and more effective options for stock use and transfer among member countries were discussed.

The workshop discussions have provided me very useful insights on methods that can be adopted to ensure the success of genetic improvement programs in farmed aquatic organisms and the methods by which these improved stocks can be managed and maintained under various farming conditions. The outputs of the workshop provide vital baseline information on protocols and designs for ideal selective breeding and strain dissemination programs that we can use at SEAFDEC in our own work on tilapias, the giant freshwater prawn *Macrobrachium* sp., shrimps, and other aquaculture species.

During the workshop, INGA proposed a collaborative genetics research program on *Macrobrachium* sp., in which the government fishery agencies in member countries are the key players and have to seek individual funding for their own freshwater prawn breeding programs. For the Philippines, the Bureau of Fisheries and Aquatic Resources (c/o Director Melchor Tayamen) should coordinate with INGA if it plans to do a *Macrobrachium* project under the proposed INGA program. Given that SEAFDEC already has a genetic improvement project on *Macrobrachium*, it is just important to coordinate with the INGA projects to minimize unnecessary duplication of effort.

SEAFDEC/AQD should continue and strengthen its *Macrobrachium* genetic improvement program, and seek additional research funds for its collaborating institutions. It may also consider expanding its research collaboration to include Vietnamese researchers who are currently working on the development of monosex *Macrobrachium* (neofemales and neomales) with funds from DANIDA. Apart from *Macrobrachium*, AQD should also look at developing genetic improvement programs for other aquaculture commodities, especially marine species.

Genetics and extension at FFRC in Wuxi

From the INGA meeting in Shanghai, I proceeded to the Freshwater Fisheries Research Center (FFRC) in Wuxi, supposedly for a one-month staff exchange assignment. My counterpart, Mr. Gong Yong Sheng, Associate Professor at the Freshwater Fisheries Research Center in Wuxi was at AQD to attend the CrabSeed training course last September. I stayed at the FFRC only from 25 September to 2 October because China went into a National Holiday Week and the staff all left for vacation. My travel was funded by the ASEAN-SEAFDEC Special 5-Year Program for Integrated Rural Aquaculture.

The objectives of my visit were: (1) to explore possible areas for collaborative research between FFRC and SEAFDEC/AQD Binangonan; (b) to observe farming practices for freshwater prawn and ornamental fishes; and (c) to learn efficient methods for transfer of aquaculture technologies to small-scale fish farmers.

Seminars were scheduled in the morning of 26 September. The papers presented were:

- Genetics research at the Central Laboratory for Aquaculture Research, Abbassa, Egypt (Hussein Elgobashy, CLAR)
- Freshwater aquaculture research and training programs at SEAFDEC/AQD (Maria Rowena Romana-Eguia, AQD)
- Cloning, structure analysis, and expression of P450 aromatase gene of ricefield eel (Ju Hua Yu, FFRC)
- Interspecific hybridization between commercially important *Macrobrachium* species (Fu Hong Tuo, FFRC)
- Cytogenetic analysis of sex determination in the Nile tilapia (Dong Zaijie Dong, FFRC)

In the afternoon, I made a courtesy call on Prof Dr Xu Pao, FFRC Director and later visited the FFRC research laboratories. On 28 September, my hosts took me to Gao You District where I called on Mr Sun Gui Yao of the District Fisheries Bureau. We visited a *Macrobrachium rosenbergii* grow-out farm. We then went to Yangzhou Municipality, where I interviewed Mr Yejiang Ming, Director of the Fisheries Exchange Office of the Yangzhou Fisheries Bureau, and the extension service personnel. On 29 September, I visited the Honshun Gold Fish Farm in Yangzhou, and had lunch with the Wuxi fisheries extension service staff. The next day, I visited an FFRC demonstration farm, and later took a City tour. National Holiday Week in China started on 1 October, and I left the next day for Manila with Prof Dr Xu Pao and Prof Min Kuanhong, FFRC External Affairs Officer, who were visiting the Philippines upon the invitation of Nelson Lopez of the Bureau of Fisheries and Aquatic Resources.

FFRC has laboratories and resources for molecular genetics work—gene cloning, molecular marker analysis, etc. (the AQD Biotech Labs have more complete and advanced equipment). The visit enabled me to obtain first-hand information on aquaculture genetics research at FFRC. Of particular interest are the population genetics and hybridization work on *Macrobrachium rosenbergii* and other species, and the sex determining mechanisms in the tilapia.

AQD should continue its collaboration with FFRC especially in terms of staff visits and information exchange. AQD Binangonan can collaborate with FFRC researchers especially with regard to *Macrobrachium* breeding and lake ecology and management. FFRC researchers who do genetic manipulation may be invited to visit and work with AQD Tigbauan researchers on gene cloning (e.g., development of gene constructs for growth, disease resistance, etc.) at the Biotech Labs. Research proposals can be made by AQD researchers in BFS and TMS to include collaboration with FFRC staff. Continuous communication between FFRC and AQD researchers by email will help identify specific areas of research collaboration and facilitate proposal preparation. In the meantime, BFS has a pending request for some bighead carp fingerlings that hopefully FFRC will serve in May next year. These fingerlings will be grown into broodstock at the BFS lake-based cages.

The farm visits near Wuxi showed me the technologies that are adopted in the commercial production of the freshwater prawn in ponds as well as the farm methods used in the selective breeding and propagation of different varieties of an ornamental fishes (especially goldfish).

From the interview I had with the relatively young fishery extension workers, I learned about the mechanisms to provide the necessary technical support and training to the local fish farmers. Much of their success in extension is due to (a) the financial assistance and logistic support from the Chinese government; (b) the qualified and well-trained fishery extension workers, mostly with BSc and MSc degrees in fisheries or aquaculture; (c) the support provided by the private sector in the dissemination of the technologies, and (d) the active participation and cooperation of farmer cooperatives.

I also learned about the genetics programs at CLAR in Egypt through Dr Elgobashy's seminar. Collaboration between CLAR and AQD should be explored. Should AQD be interested in later procuring some "pure" lines of tilapia, e.g. blue tilapia, Dr Elgobashy is willing to provide some stocks *gratis*.

MRR Eguia



MRR Eguia with FFRC researchers and Dr Hussein Elgobashy of Egypt



MRR Eguia with officers of the Yangzhou fishery extension bureau

A book on transgenic fish started in Penang

I had the good fortune to be identified as one of the co-writers and to attend the Book Writing Workshop on the Environmental Risk Assessment of Transgenic Fish at the World Fish Center in Penang, Malaysia from 17 to 21 October. Dr Jurgenne Primavera informed me about the book-writing project and the workshop and gave my name to Dr Anne Kapuscinski, one of the organizers. The workshop convened an international team of scientists to write a book on scientific methodologies for assessing the environmental biosafety of transgenic fish that may be produced in developing countries. It was sponsored by the United Nations Environment Program Global Environment Facility—Scientific and Technical Advisory Panel (GEF-STAP).

Biologists and social scientists from World Fish Center, CSIRO, and GEF-STAP served as resource persons in the workshop. The workshop was well organized and ably conducted by experienced facilitator Brian Stenquist. The resource persons, particularly Dr Loh of the GEF and Dr Kapuscinski effectively motivated the participants to cooperate fully and provide inputs for the final expanded chapter drafts. The initial book-writing process used at the workshop was instructive, and is outlined below:

Day 1

Briefing: Conceptual framework for Workshop & Book
 Relevance of book to aquaculture and the environment
 The Workshop agenda, process, and products
 Chapter Teams convened, members introduced
 Reviewed the initial outlines created by Chapter Chair
 Team members identified additional elements for the chapter
 Began arranging and folding new ideas into Outline 1
 Created Outline 2 of the Chapter by end of session

Day 2

Chapter Teams reviewed Outline 2 of the Chapter
 Discussed convergent/divergent interpretations and possibilities
 Team members agreed on the key content of the Chapter
 Created Outline 3 of the Chapter
 Teams made brief presentations about their Chapters
 Participants offered suggestions and insights

Day 3

Chapter Teams briefly discussed new Chapter outline
 Noted problems, observations, changes
 Teams adjourned and co-authors continued literature search
 Field trip to breeding facility for GIFT Tilapia

Day 4

Chapter Teams briefly discussed individual writing assignments
 Checked how the Chapters were interconnecting
 Co-authors prepared expanded outlines for sections of Chapter
 Organized the individual expanded outlines
 Reviewed the chapter drafts

Day 5

Discussed chapter format and allocation of pages per section
 Chapter Teams finalized draft
 Discussed refinements and next steps to Chapter writing
 Discussed linkages and connections among Chapters
 Identified and clarified points of difficulty and divergence
 Asked additional questions for reflection and direction
 Identified and clarified next steps in producing the book



MRR Eguia with chapter co-writers Prof Norman Maclean, Dr Fu (China), Dr Pandian (India), and Dr Nam (Korea)

Renowned scientists will be the senior authors— the likes of Prof Norman Maclean (responsible for the transgenic tilapia), Prof T Pandian (transgenic rohu), Dr Gong and Dr Nam (transgenic mud loach), Dr Fu (transgenic common carp), Dr Rebecca Martinez (transgenic tilapia in Cuba), Dr Bob Devlin (transgenic catfish), and Dr Kapuscinski (population geneticist and biodiversity specialist).

The workshop was a capacity-building exercise for developing-country junior researchers and would-be authors like myself and others from India, Thailand, Malaysia, Nigeria, and Kenya. We were trained to develop and write about methods for risk assessment and biosafety in the event that living modified organisms (LMO) like transgenic fish will be brought into and used in developing countries. It is hoped that developing country scientists from diverse biological disciplines will be stimulated to become leaders in research on the biosafety of transgenic fish.

I will be involved as a co-author of the chapter that deals with the scientific developments that have led to transgenic fish. AQD will thus be represented in this major undertaking funded by the UNEP and STAP. Other Filipino co-authors are Dr Zubaida Basiao, former BFS Station Head and now Associate Professor at the University of the Philippines, and Prof Ofelia Galman Omitogun, who is now based in Nigeria.

The final output of the workshop and the subsequent email exchanges and teleconferences) is an eight-chapter book, *Environmental Risk Assessment of Genetically Modified Organisms, Volume 3: Building Scientific Capacity for Transgenic Fish in Developing Countries*. The book will be published by CABI as a reference book for biotechnology developers and decision makers in business, academe, and government in developing countries.

AQD researchers should participate in similar book-writing efforts in the future, whenever relevant to the Department's programs, and more when attendance externally funded.

The workshop included a trip to the GIFT Facility in Penang. It was a good chance for me to actually see the site where Dr Ponzoni and Dr Ponniah of WFC are currently conducting their genetic improvement program on tilapia.

MRR Eguia

Mr. Gong and CrabSeed trainees visit BFS

Associate Professor Gong Yong Sheng from the Freshwater Fisheries Research Center in Wuxi, China, joined the sixth CrabSeed training course at AQD from 14 September to 13 October, under the AQD-FFRC staff exchange program. He arrived a little late because of some delay in visa issuance, but just in time for all the laboratory sessions and the practical work at the mud crab hatchery. He even celebrated his birthday on 23 September with his co-trainees!

The CrabSeed training course graduated 10 trainees from six countries. Prof Gong's hatchery partner was a very friendly Chinese Malaysian, Chee Weng Soh, from the private sector. Two trainees, Pg. Asamadi Pg. Mhd. Salleh of Brunei Darussalam and Lisa Ruliaty of Indonesia, were funded by AQD's Integrated Rural Aquaculture Program (IRAP) under the ASEAN-SEAFDEC Special Five-Year Program. These four foreigners, together with co-trainee Leah Lacson, went on a post-training tour of AQD's Binangonan Freshwater Station, the ABCDEFI's Jalajala farm, and Tagaytay to see the fish cages in Taal Lake.

At Binangonan Station, Prof Gong met his counterpart, Dr Rowena Eguia, who recently visited the FFRC at Wuxi for a week. Together with Station Head Dr MLC Aralar, they exchanged knowledge about the genetic improvement and seed production of the giant freshwater prawn *Macrobrachium rosenbergii*.

The other CrabSeed trainees were Filipinos, including Class Chairman Momoy Regodon, who plans to resign from Saudi Aramco to set up a mud crab business in the Philippines.

RF Bombeo



CrabSeed graduates Chee Weng Soh, Leah Lacson, Lisa Ruliaty, Gong Yong Sheng, and Asamadi Salleh with the AQD Binangonan staff



MRR Eguia explains some hatchery procedures



Prof Gong explains some Macrobrachium breeding protocols to MLC Aralar



Prof Gong celebrates his birthday on 23 September with a lab party



Prof Gong works in the mud crab hatchery with co-trainees and AQD staff



Fish cages in Taal Lake, as seen from Tagaytay Ridge



Dr Hernando Robles, Weeny Tandang, Leah Lacson, Pg. Asamadi, Pg. Mhd. Salleh, Lisa Ruliaty, Prof Loreta Perea and Noraldo Hernandez at Cavite State University-Naic, 15 October 2005

Cavite State U hosts IRAP grantees at Naic

Just a short distance from Tagaytay is Naic, Cavite, home of Cavite State University's College of Fisheries and Instructor Ms Leah Lacson, who has been at AQD Tigbauan since July 2005 for a research internship with Dr Emilia Quintio and other AQD scientists working on mud crabs. Ms Lacson is the third faculty member to work at AQD under a Memorandum of Agreement between SEAFDEC/AQD and Cavite State University at Naic.

IRAP-funded CrabSeed graduates, Pg. Asamadi Pg. Mhd. Salleh of Brunei Darussalam and Lisa Ruliaty of Indonesia visited Ms Leah Lacson at her university on 15 October. They were warmly received by School Superintendent Dr Hernando Robles, Director for Research and Extension Professor Loreta Perea, and faculty members Professor Weeny Tandang and Professor Noraldo Hernandez, who had worked at AQD in 2004 under the MOA. Dr Robles is sending his faculty members to train at SEAFDEC/AQD so that they can later conduct research and training by themselves and with students.

Cavite State U's College of Fisheries is known as the campus by the bay. The campus at Barangay Bucana has school buildings over an area of 4.6 hectares. The campus at Barangay Mabolo consists of 9.5 hectares of mangroves and fish ponds, and will be the future site of the Marine Biological Research and Training Center. This future Center will be manned by faculty members who have trained at AQD.

Dr Robles had visited AQD twice and was impressed by the facilities here. He also visited FishWorld and saw its impressive museum collections. He realized how useful it would be for biology and fisheries students at the university to have access to museum collections. So he proceeded to start a museum, investing in cabinets and specimens. The collection is growing, but the specimens are not yet properly identified. Now he has to send a faculty member to train in taxonomy at FishWorld.

Dr Robles is rare among school administrators to really see an important gap in faculty expertise and then to invest in his people and send them where they could enhance their knowledge and skills, faster than usual.

RF Bombeo



The fish ponds at the Mabolo campus



Ma'am Leah Lacson with students at the laboratory-museum



Lisa and Adi at the museum

Prof Weeny shows off a sea pen



OFCA staff members Mr Kazushige Sasamoto and Ms Keiko Sakurai assist AQD's Wilfredo Yap man the SEAFDEC/AQD booth in Fukuoka

AQD in Aquaculture Techno Expo in Fukuoka

Upon the invitation of the Overseas Fisheries Consultants Association (OFCA), SEAFDEC/AQD participated in the 3rd Aquaculture Technology Exposition in Fukuoka, Japan, on 21-22 September 2005 by putting up a booth where AQD publications were exhibited and sold. The Aquaculture Technology Expo was one of three events during the Aquaculture Technology Convention held at the Fukuoka International Convention Center under the co-sponsorship of OFCA and the Asian Fisheries Society, Japan Chapter. The other two events were the International Symposium on the New Technology and Science for Aquaculture held on 21 September, and the Aquaculture Professional Workshop held on 22 September.

OFCA assistance to AQD's participation in the Expo started from the moment of my arrival at Fukuoka airport on 20 September and lasted until my departure on 23 September. Young staff members, Mr Kazushige Sasamoto and Ms Keiko Sakurai assisted me throughout. From the airport, we proceeded directly to the Expo site to put up the AQD booth—the ten posters I brought were installed in no time. For two days, Mr Sasamoto and Ms Sakurai manned the AQD booth and patiently explained to visitors what SEAFDEC is all about. They also made photocopies of a Nihongo edition of a SEAFDEC brochure to give away. After the Expo, they also took down the posters, packed them with the unsold books, and posted them back to the Philippines.

To facilitate payment, the dollar prices of the AQD publications to be sold were converted to Yen at the rate of ¥150 to US\$1 and price tags in Yen were displayed. During the first day, there was hardly any sale and even the free items were hardly picked up. But on the second day, the booth had more visitors and book sales eventually reached ¥17,750.

Although the majority of the exhibitors were Japanese companies, there were some exhibitors from Australia, Norway, USA, and other fishing countries. All booths, except that of SEAFDEC AQD, used Nihongo in their exhibits, posters, brochures, and down to the business cards (bilingual for non-Japanese). Many of the Japanese visitors just took a quick glance at the SEAFDEC/AQD booth and moved on upon seeing that everything was in English. A few lingered on once approached by Mr Sasamoto and Ms Sakurai.

AQD Researchers Win DA-BAR R&D Awards

At the 17th National Research Symposium of the Department of Agriculture-Bureau of Agricultural Research held in Diliman, Quezon City, on 4-7 October 2005, SEAFDEC/AQD Researchers Dr Emilia Quintio, Dr Fe Dolores Estepa, and Eleanor Tendencia and colleagues received three National Research and Development Paper Awards for their work.



Reproductive performance of mud crab *Scylla serrata* fed dietary lipids

ET Quintio, VR Alava, J de Pedro, Z Orozco, M Wille

Seed production of *Charybdis feriatus* FDP Estepa, ET Quintio, EM Rodriguez

Presence of snapper, seabass, and siganid inhibit the growth of luminous bacteria in a simulated shrimp culture system

EA Tendencia, MR de la Peña, CH Choresca

During the opening ceremonies on 4 October, the Head of Aquaculture and Fisheries Policy Research Unit announced that 110 research papers in various disciplines (crop science, fisheries, post-harvest, and engineering) were submitted to DA-BAR for evaluation, and 42 were chosen for the National R&D Paper Awards in four categories. Of the 42 papers, 21 were chosen to compete for the best paper in each category as follows: four in Basic Research, six in Technology Generation, eight in Verification/Adaptation, and three in Socioeconomics. The paper "Reproductive performance of mud crab *Scylla serrata*" was included in the Adaptation/Verification category.

The awardees received cash and certificates during the closing ceremony on 5 October. Senator Ramon Magsaysay, Chair of the Senate Committee on Aquaculture, Food and Fisheries, and BAR Director Nicomedes Eleazar handed the awards to the winners. Senator Magsaysay also delivered the keynote speech.

ET Quintio

It appears that very few Japanese, even within the fisheries circle, are aware of the existence of SEAFDEC as an organization, much less about the SEAFDEC's and AQD's mission and Japan's role and participation in the organization. If SEAFDEC is to become better known in all the member countries, participation in events such as the Aquaculture Techno Expo is a good way of doing it. However, it is important to render the SEAFDEC exhibits in both English and the local language so as to attract local visitors to the SEAFDEC booth.