



# AQD Matters

Newsletter of the SEAFDEC Aquaculture Department

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**Pasko  
sa  
Dagat  
2005**



## AQD evaluates R&D programs

Four days of program evaluation meetings were held at the OC Conference Room from 10 to 13 October in accordance with AO No. 32, Series of 2005-RRP, dated 26 September 2005, on the Operating Guidelines for the Restructured SEAFDEC/AQD Programs. The meetings were meant (1) to inform AQD Management and other concerned personnel about the progress of programs and projects, and (2) to identify constraints and corresponding solutions to improve the success of programs.

Fifteen R&D programs with more than 70 projects were implemented by AQD in 2005. Five programs were Departmental—on integrated abalone production (7 projects), mud crab seed production (8), shrimp domestication (3), marine fish seed production (6), and freshwater aquaculture for livelihood (5). Another three programs were undertaken with BFAR and other agencies—on aquaculture biotechnology (7 projects), technology refinement and dissemination (6), and dissemination and adoption of milkfish aquaculture technology with the World Fish Center. In addition, seven regional programs were carried out—on fish disease surveillance (8 projects), supply of good quality seeds (4), aquaculture for rural development (4), mangrove-friendly shrimp culture (2), regionalization of the Code of Conduct (2), stock enhancement for species of international concern (5), and research on koi herpes virus (with the Fisheries Research Agency of Japan).

Since AQD programs now cut across Divisions, the program evaluation meetings were attended not only by researchers, but also by aquaculture technologists, training and information specialists, and administration and finance personnel. The project leaders took turns reporting on their research, training courses, and other activities, and the other participants sought explanations and suggested ideas and solutions. There were indeed many problems and procedures that had to be ironed out among the projects, offices, management, and the implementors. Such glitches were not new, and despite them, real progress has been made in shifting to the program approach from the discipline-based and Division-centered implementation of projects. The Program Leaders noted all the comments and prepared summaries of the recommendations for future action.

Congratulations, everyone, for work well done !!!

*T Bagarinao*



## *Pasko sa Dagat* was fun for all

*May the essence of love, peace and unity dwell in our hearts* was the winning theme (from Jennette de Pedro) for the 2005 Christmas celebration. Amen to that.

What's *Pasko sa Dagat*? For several years now, AQD has invited the neighbors to celebrate with us in what Doris Bagarinao calls *Pasko sa Dagat*. At first, FishWorld held interschool contests where students were asked to consider the bounty that the oceans provide to our lives, including our Christmas festivities. There were prizes for the best Christmas cards, *parol*, Christmas reef, and other artwork. Then in 2002, AQD held its first Give a-Gift: 300 Gifts for 300 Kids. AQD employees acted as *Ninong* and *Ninang* to (underprivileged) *hijados* and *hijadas* from Buyuan Elementary School, Nanga Elementary School, and Eugenio Torrento Elementary School. *Pasko 2005* was AQD's third Give-A-Gift, and it was again a hit among the kids.

AQD's celebration on 16 December started with a thanksgiving mass by Rev. Fr. Sinforoso Padilla, Jr., parish priest of Tigbauan. The program started with an invocation by the Committee Chairman Eduard Rodriguez. AQD Deputy Chief Koichi Okuzawa welcomed everyone to the Christmas celebration. Then followed several production numbers by the different Division teams (see front page); this was a contest won by the blue team from TID. After the laughter subsided, AQD Chief Rolando Platon delivered his Christmas message of peace and faith. As a surprise number, the Committee members performed AQD's version of Pinoy Big Brother. AFD Head Jerry Opinion closed the morning program.

Lunch was late but yummy. Employees exchanged gifts by way of 'dance—form a group—give to your neighbor'. To everyone's delight, Dr. Okuzawa actively participated in the indoor games. Many employees took home raffle prizes and won P6,990 from the bingo. Dr. Platon and Dr. Okuzawa led the AQD employees in meeting the kids and giving away *pasalubong* at FishWorld. As we enjoyed a blessed Christmas, so also we sought to give joy to others.

*ME Rodriguez*



The program evaluation meetings brought together the AQD Chief, Deputy Chief, researchers, technologists, trainers, information specialists, engineers, and administration and finance personnel



## AQD joins MFI at AgriLink 2005

SEAFDEC/AQD participated in the International AgriLink Fair held 6-8 October 2005 at the Philippine World Trade Center in Manila. At very short notice, the Meralco Foundation Inc. invited AQD to share a booth with the joint theme *Empowering the countryside*. The task of setting up an AQD exhibit fell on the staff of Binangonan Freshwater Station. MR Eguia, RV Eguia, AL Arago, EV Aralar and MLC Aralar took turns manning the MFI-AQD booth.

The MFI-AQD booth was among the most visited at the Fair. Among the visitors on the first day were Department of Agriculture Secretary Domingo Panganiban, a representative from the Embassy of France, Nelson Lopez of the Bureau of Fisheries and Aquatic Resources, and Prof. Dr. Xu Pao and Prof. Min Kuanhong of the Freshwater Fisheries Research Center in Wuxi, China.

AgriLink is held yearly as a venue for agri-based companies to exhibit and market their products. The booths that participated in the fair ranged from small and medium-scale agro-enterprises to large multinational companies.

*MLC Aralar*



*AQD Chief Rolando Platon and CFC-Eastern Rizal Provincial Area Director Rey Tan sign the MOA with Malou Aralar and Aurelio Guinto Jr. as witnesses*

## AQD signs MOA with Couples for Christ

The SEAFDEC Aquaculture Department signed a Memorandum of Agreement with the Couples for Christ-Eastern Rizal on 7 November 2005 to implement the CFC-Eastern Rizal Aquaculture Project under the Gawad Kabuhayan Program. Under the MOA, AQD will assist CFC in skills training and technical support for aquaculture livelihood projects in beneficiary communities. In turn, CFC will help in the dissemination of AQD aquaculture technologies to other communities where other CFC chapters operate.

CFC is a private organization that seeks to build renewed and empowered communities in depressed areas. CFC aims to (1) uplift the material and spiritual welfare of the poor, restore the dignity of the human person, empower families and the youth through values formation and skills training for a better quality of life; (2) build communities of stewards for sustained development and social transformation through networking and creative evangelization. Part of the strategy of CFC in community building is the Gawad Kabuhayan program, which includes aquaculture livelihoods in selected communities in eastern Rizal.

CFC first approached Ruel Eguia and Emiliano Aralar of the Binangonan Freshwater Station for assistance. Officers of CFC-Eastern Rizal later visited BFS and negotiated a collaboration between the two institutions. AQD looks forward to a close partnership with CFC in community building.

*MLC Aralar*



*AQD Chief RR Platon and MFI officials with DA Secretary Domingo Panganiban and other visitors to MFI-AQD booth*



*Prof. Dr. Xu Pao and Prof. Min Kuanhong of the Freshwater Fisheries Research Center visit the MFI-AQD booth*



*MR Eguia and Ruel Eguia respond to queries from visitors*

## Philippine Fisheries... in Crisis?

Republic Act 8435 (Agriculture and Fisheries Modernization Act of 1997) and RA 8550 (Fisheries Code of 1998) were enacted into law to support the provisions of the Philippine Constitution of 1986 concerning the management, utilization, conservation, and protection of the fisheries and aquatic resources of the nation. These laws took account of the needs of the time and the national commitments to international conventions such as the UNCED 1992. These two laws were a considerable improvement over Commonwealth Act 4003 of 1932 and the subsequent PD 704 of 1975.

Despite RA 8435 and RA 8550 and many other related policies and laws, Philippine fisheries faces the same problems now as it has for decades. Fisheries and aquaculture have been blamed wholesale for the deterioration of the environment. The industry has always complained of a lack of technical manpower to help improve production and develop new technologies. Fisheries colleges attract few students despite the clamor of the industry. The government has offered many fisheries scholarships through DA-BFAR and DOST, and private individuals and organizations have offered several others. Sadly, many of these scholars graduate and work in other countries, or remain unemployed, betraying the country's inability to use technical manpower for fisheries development.

In the 1980s, the Philippine government sought to help fisheries education and improve the facilities of eight fisheries colleges in the country by acquiring the 6<sup>th</sup> Educational Loan Fund from the World Bank. Thus the facilities and human resources of the selected fisheries institutions were improved tremendously. Unfortunately, the beneficiary institutions were not able to maintain the facilities nor sustain the faculty and staff through competitive salaries and benefits.

Furthermore, the Philippine government keeps on investing in R&D and more and more technologies are developed, but few have been used for increased production or employment. Ironically, the same technologies as well as Filipino manpower are used by other countries for their own benefit. Major programs in support of fisheries been implemented by the government with donor support. The more recent ones are the Fishery Sector Program (FSP), Fisheries Resources Management Project (FRMP), and the ongoing Fisheries Improvement for Sustained Harvest (FISH).

Still, the problems of Philippine fisheries continue to get worse. Why is this so? What went wrong and what solutions can be offered? It was in this context that the Philippine Fisheries Institutions Network (PhilFIN) conducted its latest symposium: *Philippine Fisheries... in Crisis* at Innotech, UP Diliman, on 20-21 October 2005. The papers presented and discussed were:

- *Status, Needs, and Plans of the Philippine Fisheries Sector*  
Atty. Malcolm I. Sarmiento (delivered by Atty. Tabios)
- *Professionalization of fisheries graduates, employment concerns, and declining fisheries student population*  
Dr. Rogelio O. Juliano
- *Technology resource base and needs for technical manpower in fisheries RD&E*  
Dr. Rafael D. Guerrero III
- *Sustainability of fisheries and aquaculture in the Philippines*  
Dr. Rolando R. Platon



A/QD Chief RR Platon presents his paper to the PhilFIN educators

Four workshops were held according to the topics of the four papers. I was in the workshop on sustainability of fisheries and aquaculture together with UP-Visayas Chancellor Ida Siason, Dean Ninfa Pelea of Bicol University, and several professors from other fisheries colleges. We had a lively discussion and finally came up with the following recommendations:

### What PhilFIN can do to help ensure sustainability of aquaculture and fisheries

- Support the government's population control program to slow down population growth and reduce or at least stabilize the demand for food and other resources, including fisheries and aquaculture products. Teach students the need for a slower population growth.
- Adopt the Code of Conduct for Responsible Fisheries, in particular the regional (Southeast Asian) versions. Teach students about the requirements for sustainability and the need for responsible fishing operations, aquaculture, and post-harvest operations. Teach the positive aspects of the provisions.
- Support programs and initiatives to reduce fishing effort and overcapacity. Conduct capability-building seminars and training courses for students, LGUs, and FARMCs to help them implement a limited access regime, including registration of fishermen and fishing boats, regulation of gears, etc.
- Put more emphasis on reduction of bycatch and post-harvest processing and value-adding (need to do research, verification, and extension for this)
- Establish collaboration with other institutions and organizations working in the aquatic sciences – e.g., basic research done by MSI or UPV, presented at annual meetings of the Philippine Association for Marine Science, can input into fisheries work. Hold forums with other professionals in other disciplines.
- Conduct research and extension on local fisheries questions.

SEAFDEC/AQD is the only PhilFIN member that is not a school, apparently brought into the network by UP Professor and former AQD Chief Efren Flores. AQD attended PhilFIN meetings in April and October 2005 and gave to the member schools for FREE many aquaculture books, manuals, and other publications including the *Regional Guidelines for Responsible Fisheries—Responsible Aquaculture* and the *Code of Practice for the Responsible Use of Mangrove Ecosystems for Aquaculture in Southeast Asia*. The hope is that SEAFDEC/AQD can help get Philippine fisheries out of the crisis.

T Bagarinao

## To Australia and back!

*Josette Bangcaya-Gonzaga*

To apply or not to apply? I was very hesitant when I was recommended for a competitive study grant open to researchers at institutions that had collaborative projects with the Australian Center for International Agricultural Research (ACIAR). With the encouragement of AQD Scientists Joebert Toledo, Felix Ayson and Evelyn de Jesus, I prepared a thesis proposal to look at molecular markers for egg quality. The proposal was approved and I qualified to enroll at the Queensland University of Technology (QUT) in Brisbane under the supervision of Dr. Alex Anderson.

I arrived in Brisbane in June 2002. It was the middle of winter and the temperature range of 5—15°C was too cold for me. Without the benefit of orientation that the other AusAid scholars received from the Australian Embassy (a day of seminar-orientation in Manila and one month of familiarization in Australia), I experienced not only temperature shock but culture shock as well. Luckily, Nerissa Salayo provided me the address of Lina Glassington, a Filipina in Brisbane who welcomed me warmly into her family and helped ease the homesickness I felt.

The first five months at QUT was spent on literature review in preparation for a research proposal seminar at the end of the semester. It seemed like endless days of staring at the computer (the library has online access to most scientific journals) and lugging of heavy books home (reading at the library induced drowsiness). At the end of 2002, I transferred to Bribie Island Aquaculture Research Centre (BIARC) of the Department of Primary Industries to conduct the lab work under the supervision of Dr. Abigail Elizur. Bribie Island is connected to mainland by a bridge, but it is very much like Guimaras. The apartment that was my home for two years is just across the white sand beach, facing the Pacific Ocean. Josephine Nocillado, formerly of the AQD Breeding Section and currently working on her PhD at BIARC is my housemate. The lab is about 1.5 km from the apartment and every day, I used the racer bike that Jo lent me.

Josephine was also my very helpful senior tutor in my work on cloning the insulin-like growth factors (IGF-I, IGF-II, IGF-IR) in mullet and grouper. I had the benefit of being in a biotechnology lab with other Australian students at various stages of their PhD and post-PhD research and some Asians doing their honor's research work—on mud crab, blue crab, abalone, biofiltration, shrimp genetics, and the Moreton bay bug. Aside from biotech work, I learned enzyme-linked immunosorbent assay on vitellogenin in mullet and grouper under the supervision of Dr. Neil Anderson, with antibodies provided by Dr. Hara (Japan) and Dr. Lubzens (Israel). From 2003 to 2004, my schedule of work was Monday to Sunday, from 7:30 in the morning and late into the night. During the winter (June-August), I spent nights in the BIARC dorm as it was too cold to bike back to the apartment.

To have a balanced student life, I did make time to attend conferences, seminars, and socials. The most memorable was the 6<sup>th</sup> International Marine Biotechnology Conference in Chiba, Japan in September 2003, where I won (with a Japanese and a Frenchman) the Outstanding Poster Award from among



**Josette,  
congratulations  
and good luck!**

*Josette was a Technical Assistant at the Feed Development Section of the Research Division from 1991 to 2001. In 2002, she enrolled at the Queensland University of Technology for a masteral degree funded by a John Allwright Fellowship (JAF) from ACIAR. In 2004, she finished her thesis and came back to the Philippines with a Masters in Applied Science degree. She is now an AQD Research Associate working on IGF-II and growth hormone mRNA expression levels. The objective is to design a diagnostic kit for determination of egg quality in fish. Her research is now funded by AQD and ACIAR. Josette married Gerald Gonzaga on 30 October 2005.*



150 posters. I also attended the one-week seminar of JAF fellows at the main office of ACIAR in Canberra in October 2003, the Annual Postgrad Conference of the University of Queensland at North Stradbroke Island in November 2003, and the 7<sup>th</sup> Asian Fisheries Forum in Penang, Malaysia from 30 November to 4 December 2004 where I gave an oral presentation on “IGF-I, IGF-II and IGF-IR as molecular markers for egg quality”.

I went twice to Cairns, the jump-off point for the famous Great Barrier Reef—the first for sampling activities and the second for a seminar presentation. On both occasions, Dr. Mike Rimmer, the coordinator for the ACIAR project, was a wonderful host. I had side trips to most of the tourist spots in Cairns area (you need to stay for months to experience all).

In Brisbane, I experienced the (much televised) countdown to New Year at midnight in the middle of the park with hundreds of people. I experienced a fighter jet fly just meters above my head during the River Festival. I tried wine tasting in the vineyards, watched a heifers and bullock parade, did body surfing in the beach, and enjoyed the thrill of Aussie football at Brisbane Stadium. Lastly, I gave myself a treat watching the whales at Hervey Bay just before I came home in October 2004.

My Australian experience was wonderful because of fantastic people and places. It also made me realize the enormous ecotourism potential of my country that I would like to see developed. I am very glad that I overcame my hesitation to apply for that JAF study grant in Australia.



Participants and resource persons in the AQD-OIE training course on Important Viral Diseases of Shrimps and Fishes, 14-30 Nov 2005

### AquaHealth face to face

The Hands-on Training Course on Important Viral Diseases of Shrimps and Fishes was conducted at SEAFDEC/AQD on 14-30 November 2005 in cooperation with the Office International des Epizooties, Tokyo. There were three men and seven women trainees, seven of whom had participated in the 2003 and 2004 AquaHealth Online. The training course was part of the Regional Fish Diseases Program and the Government of Japan Trust Fund supported all 10 trainees, one each from the Philippines, Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Singapore, Thailand, and Vietnam.

The resource persons for this training course were nearly all the staff of AQD's Fish Health Section, including Dr. Celia Lavilla-Pitogo, Dr. Gilda Lio-Po, Dr. Leobert de la Peña, Dr. Edgar Amar, Ms. Eleonor Tendencia, and Ms. Fely Torreta. Dr. Yoshiyuki Oketani from OIE Tokyo lectured on the International Aquatic Animal Health Code and discussed the Diagnostic Manual for Aquatic Animal Diseases – Viral Pathogens of Fish and Shrimp. Dr. Toshihiro Nakai from Hiroshima University lectured on Epidemiology of Viral Diseases of Fish.

*TD Mallare*



Dr. Yoshiyuki Oketani from OIE Tokyo lectures at AQD



Trainees get their hands on the electron microscope and some DNA



Ten guys graduate to work on abalone back home

### Eat and spawn—live like abalone...

So say 23-year old Abelardo Tolentino and nine other men who finished the second training course on Hatchery and Grow-out of Abalone from 15 to 29 November 2005. The Technical Lead Person for the course was Shelah Mae Buen-Ursua and the resource persons included MR dela Peña, Sol Titular, Nestor Bayona, and TD Mallare. Lectures, laboratory sessions, and hatchery work were done in Tigbauan and practical work in abalone grow-out in floating net cages was done in Igang. The trainees also visited an abalone grow-out farm in Carles (a project of the Rotary Club assisted by AQD) and private seaweed farms in Leganes and Carles.

All 10 trainees paid for the course with personal funds. The Vietnamese participant Nguyen Van Quan is a marine biologist from the Institute of Marine Environment, Hai Phong City. Alex Lien is a Canadian working to set up livelihood projects in rural communities in Vietnam. The Filipino-Micronesian 'hybrid' Gerhart Aten joined the course. Young Abe was one of seven Filipinos. Two were from the Sagay Marine Reserve and the government of Pinamalayan, Oriental Mindoro. The others were businessmen.

The graduates of the abalone course joined the AquaHealth graduates on a leisure trip to Boracay.

*RF Bombeo*



The range of practical work in abalone hatchery and grow-out

## Sandakan through the back door

WG Yap

To go from Iloilo to Sandakan for the BIMP-EAGA workshop, the AQD team flew to Cebu then Zamboanga on Sunday, 11 December. There used to be a direct flight serving Sandakan and Zamboanga City, but the Southern Phoenix Airways has suspended operations for some time now. The Zamboanga-Sandakan route is now served only by sea crafts—a 22-hour overnight voyage by a regular ship, the MV Mary Joy, or a 12-hour day trip by fast craft, the Weesam Express 3. The MV Mary Joy, we were told, is popular with barter traders who bring in and out large volumes of goods. The other option would have been to fly from Manila or from Clark to Kota Kinabalu and then either drive 5 hours or fly 40 minutes by MAS (Malaysian Air System) to Sandakan.

We opted for the fast craft (fare P4,590 with taxes). Booking was easy. It turned out that the daughter of the owner of Weesam Express, Ms. Nashieba Musa, is an AQD alumnus. She and her husband Alvie participated in the first training course on abalone hatchery and grow-out in 2004. All it took was a call to Alvie and he did the rest. The couple took us out for dinner at a 'mano-mano' restaurant (that's *kamayan* to non-Chavacanos). Alvie brought us to the pier at 5:30 at dawn and saw us off. To top it all, he assigned a steward to take care of us throughout the trip. (One can book online at the weesam.com website. A sister-vessel serves the Iloilo-Bacolod route.)

Weesam Express 3 leaves Zamboanga City for Sandakan at 6:30 in the morning on Mondays and Thursdays, and passengers have to be in Zamboanga City the previous night. In Zamboanga City, immigration officers pre-inspect passports and embarkation cards before passengers board. The fast craft makes two stops, in Jolo and in Bongao, to unload and load passengers. The travel time from Zamboanga City to Bongao is 7 hours 30 minutes, but it takes less than five hours from Bongao to Sandakan. Those who think 7 hours in a fast craft is too long can fly by Sea Air from Zamboanga to Bongao and catch Weesam Express at Bongao at two in the afternoon.

Bongao has a very sorry-looking shed passing itself off as a port passenger terminal. The passports of those departing from the Philippines are checked by passport control officers stationed at a decrepit wooden table covered by a torn plastic sheet (where is our national pride, BID?). Two fully armed Marines accompany the fast craft all the way to Sandakan.

Our ride was uneventful. We had time to catch up on our readings or watch videos of five old movies. We reached Sandakan after six in the evening of Monday, 12 Dec.

The Sandakan port stood out in sharp contrast with the Bongao port. There were no bystanders, no porters, no vendors. There was a sign saying that the port was a secure zone with unauthorized persons not allowed in the premises. The pier itself is a long way from the passenger terminal where passport control is located. A mini-bus shuttles new arrivals to the terminal (fare is 1 Malaysian ringgit but a P20-peso bill is also accepted). Persons in civilian clothes first inspect luggage for arms or explosives. The Sandakan port passenger terminal is a large air-conditioned building with passport control counters just like in international airports.

Sandakan is the old capital of the then North Borneo and is a scenic town with rolling terrain and many coves and bays. Sandakan is where logs from the lush forests of Borneo were brought down and loaded on cargo vessels for the overseas markets. Sandakan's economy fell when the government stopped the massive deforestation and moved the State Capital to Kota Kinabalu. All the barter trade goods in Zamboanga come from Sandakan. Being a major trading post, Sandakan has a disproportionately large number of hotels and restaurants for a community its size (population only 370,000). It has retained a frontier-town look and feel with its rows of uniform mixed commercial-residential buildings. The State wants to develop the waterfront into a modern commercial center. In place of the timber industry is now the palm oil industry. Sandakan has large palm plantations and plans to be Asian's biodiesel hub.

One must-see site in Sandakan is the Sepilok Orangutan Rehabilitation Center, established by a private foundation but now supported by the State as well. The massive deforestation in the past has displaced and orphaned many orangutan. At Sepilok, orphaned orphans are trained to fend for themselves. Visitors can trek through marked trails in the forest, but most are content to just watch the orangs at feeding time. A wooden feeding platform is installed accessible to the orangs by cables. Bananas and milk are provided to supplement what the animals can gather in the wild. The same monotonous food is given every day in order to motivate the orangs to find other food. During the fruiting season in the forest, very few orangs bother to come to the feeding platform. But when they do, they are a delight to watch as they swing by the cables or ham it up by putting basins or pails on their heads.

The Weesam Express leaves Sandakan for Zamboanga at six in the morning of Tuesdays and Fridays. Since there was a field trip on 16 Dec, the fast craft was not an option for us. MV Mary Joy leaves Saturday morning and arrives Zamboanga Sunday morning. We decided to fly Saturday morning from Sandakan to Kota Kinabalu by MAS (110 ringgit), then to Clark, Philippines by Air Asia (233 ringgit). These budget airlines both offer low fares, free seating, no frills, and completely comfortable flights on Airbus 320. Lunch on board cost 8 ringgit for a boxed Nasi Lemak. The Diosdado Macapagal International Airport in Clark has no passenger tubes, but is spacious and has very long baggage conveyors and clean toilets. The immigration officers were fast and courteous and the customs officers just waved us out. We took a Philtranco bus (fare P300) and arrived at the Megamall in Mandaluyong by Saturday evening.



Chris Ganancial, Fred Yap, and Teresa Mallare in front of Weesam Express 3 in Bongao, Tawitawi; passport control in Bongao

## AQD conducts workshop for BIMP-EAGA in Sandakan

*Wilfredo Yap and Teresa de Castro-Mallare*

The Training-Workshop on Responsible Aquaculture Development was the last AQD activity for 2005 and the first one held in Sabah (in Sandakan at that!) from 13 to 16 December. For the first time also, an AQD team exited the Philippines through the southern backdoor (see overleaf). The workshop was one of the activities of the ASEAN Human Resources Development Project for Sustainable Fisheries in the BIMP-EAGA— Brunei, Indonesia, Malaysia, Philippines East Asia Growth Area. Similar workshops are planned for Brunei Darussalam, Indonesia, and the Philippines during the first half of 2006.

Local arrangements for the workshop were made by the Sabah State Department of Fisheries, particularly Mr. Awang Hj. Pakar of the Sandakan District Fisheries Office and Ms. Dorothy Chung and Mr. Boniface Jintony from the Fisheries Central Office in Kota Kinabalu. They identified and notified the participants and selected the venue – the Sanbay Hotel in Sandakan.

During the first planning workshop held in Kota Kinabalu in May 2005, the activity in Sabah was to involve only 18 persons, based on the available budget. As the workshop date drew near, the number of participants increased to 25, then 36, then to 40 when the workshop started. The Sabah State Department of Fisheries sponsored all the other participants in excess of the 18 that the BIMP project budgeted for. As a result, practically all the coastal districts of Sabah, including far away Semporna, as well as the central office in Kota Kinabalu, were represented in the workshop.

Mr. Awang presented the vision of the Department of Fisheries of Sabah: a modern, commercial, and progressive fisheries industry. Its mission is to develop and manage the fisheries industry to establish a modern commercial sector, provide maximum opportunities and benefits for all sectors, and ensure continued growth and sustainability.

The AQD team consisted of lecturers Fred Yap (who taught about responsible aquaculture, project planning and development), Neil Jamon (about crab culture and culture of marine fish in cages), Chris Ganancial (about mangrove-friendly shrimp culture), and Training Officer Teresa de Castro-Mallare (about seaweeds, oysters and mussels). The technical lectures were held during the first and second days.

On the third day, the participants were distributed into four projects of their own choice: seaweed farming, brackishwater pond culture (shrimps and grouper), grouper culture in sea cages, and crab culture in mangrove pens. The four project teams were then guided in developing technical and financial assumptions, making costs-and-returns estimates, and determining the viability of their respective projects. The teams then presented their feasibility studies in a plenary session. The seaweed team led by Mr. John Enca Apin of Semporna had the most innovative presentation—Mr. Ruzlee Jumatin introduced himself as the CEO making a presentation to his Board of Directors. Mr. Azhar Hj Kassim, head of the brackishwater pond culture team, compared shrimp culture and grouper



*Mr. Awang Hj Pakar of the Sandakan District Fisheries Office welcomes the workshop participants*

culture in ponds and showed convincingly that shrimps are more profitable. Mr. Awang himself led the cage farming team and made a presentation on producing 10,000 tons of grouper in Sandakan. Of the four projects, crab farming in mangrove pens was found not profitable because mangrove crabs are abundant and available at low price in Sabah. The crab project was presented by Mr. Jephrein Wong, who had attended the training on Aquaculture Research Methodology in Tigbauan in 1980.

For most participants, it was the first time to do such an exercise in project planning and oral presentation. And for all except Jephrein and Boniface, it was their first opportunity to participate in a SEAFDEC/AQD training workshop. To all 40 of them, congratulations!!



*Participants work on their project proposals*



*Participants to the BIMP-EAGA Participatory Workshop on Responsible Aquaculture Development in Sandakan, Sabah, Malaysia*