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AQD Matters

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

AQD organizes and hosts FAO expert workshop

On-farm feeding and feed management in aquaculture" was the topic of the expert workshop that AQD organized and hosted for the Food and Agriculture Organization (FAO) at the request of its Aquaculture Service (FIRA) from 13 to 15 September in Manila.

From the global synthesis, regional reviews, and case studies in eight countries, the experts agreed that (1) generally, the use of high quality feeds does not necessarily mean high returns, but that (2) feed management protocols on-farm can significantly reduce costs by 15-20% and thereby increase profits of fish farmers.

An illustration of the second point is the experience of a farmer in Vietnam, Mr. Nguyen Ngoc Hai, who heads a 36-member cooperative raising catfish. In his presentation, Mr. Nguyen said they are getting a benefit of about VND 923 (US$ 0.05) per kg fish when they reduced their feeding from twice to once a day even though the culture period was longer by a month or so. Considering that the cooperative produces 150,000 tons, the savings from this feed management is substantial. He also said their farms had less incidences of diseases and the catfish were more acceptable to processors as these were considered less fatty.

The workshop identified these main issues in on-farm feeding and management: (1) limited access of farmers to information on feed and feed ingredients as regards their availability, prices and quality; (2) poor feed preparation and processing at the farm level; (3) lack of monitoring of feed and farm performances; (4) weak extension and dissemination of new strategies on improved feeding management (like alternate or skip feeding); (5) gaps in the understanding of the economic aspects of feed management; (6) need to develop health indicators for farm stock and integrate these to feed management; and (7) need for mechanisms to regulate feed quality.

There were 47 participants, 10 AQD staff and 5 observers who attended and listened to results of farm surveys in Bangladesh, China, India, Philippines, Thailand, Vietnam, Egypt and Ghana. The species covered were Nile tilapia, Indian major carps, striped catfish, whiteleg shrimp, tiger shrimp, and freshwater prawn.

AT THE OPENING

AQD Chief Dr. Joebert Toledo (below, third from right) outlined AQD's historical work on feed development and its role in assisting private sector development through the promotion of science-based, sustainable aquaculture technologies and practices.

Next to Dr. Toledo is BFAR-IV Regional Director Dr. Rosa Macas, who, on behalf of the DA Secretary, greeted the participants and noted the importance of the fisheries sector. She said that in 2009, the sector was worth US$3.6 billion and accounted for approximately 25% of Philippine agricultural production of which about half came from aquaculture.

Mr. Kazuyuki Tsurumi (5th from right), the FAO representative in the Philippines, reiterated FAO's commitment to helping countries manage their fisheries and aquaculture sectors effectively.

I TENDENCIA / SB ALAYON

NGUYEN NGOC HAI

CLOCKWISE FROM TOP RIGHT: World-renown nutrition experts Dr. Albert Tacon and Dr. Sena da Silva; a catfish farm in Vietnam; the workshop organizers Dr. Relicardo Coloso and Dr. Mae Catacutan (of AQD) flanking Dr. Mohammad Hassan of FAO-FIRA; and the participants deciding on priority recommendations

ASEAN-SEAFDEC identifies strategies for HRD, commends AQD

SEAFDEC Deputy Secretary-General Mr. Kenji Matsumoto gave his compliments to AQD and its scientists for their work during the *2nd ASEAN-SEAFDEC Regional technical consultation (RTC) on human resources development (HRD)* conducted August 17-19 at Bangkok, Thailand.

AQD was likewise highly commended by the ASEAN Secretariat Assistant Director and Agriculture Industries & Natural Resources Division Head Mr. Suriyan Vichitlekarn for its HRD project output, the 296-page *Training handbook on rural aquaculture*. He said that the handbook is a very informative reference material.

As the final activity of the *ASEAN-funded project on poverty alleviation & food security through fisheries intervention in the region*, the consultation meeting brought together representatives from the SEAFDEC Secretariat, Departments, and member countries as well as ASEAN Secretariat and ASEAN Foundation.

The participants shared their experiences during the project implementation and found that the "learning-by-doing" practical session was an effective tool in skills development.

Furthermore, the meeting recommended (1) the establishment of a regional HRD network to share expertise and resources, and (2) continuous project monitoring to evaluate the effectiveness and impact of HRD.

COURTESY OF KG CORRE

FROM LEFT: AQD's Training & Information Head Mr. Renato Agbayani, Training Head Ms. Kaylin Corre, and SEAFDEC Deputy Secretary-General Mr. Kenji Matsumoto

AQD Chief Dr. JD Toledo (first from right) together with HRD participants

AQD joins workshop on small-scale aquaculture

AQD Chief Dr. JD Toledo participated in the regional workshop organized by the Network of Aquaculture Centres in Asia-Pacific (NACA) and the ASEAN Foundation for the project entitled *Strengthening capacity of smallholder ASEAN aquaculture farmers for competitive and sustainable aquaculture,* which was conducted August 11-13 in Hanoi, Vietnam. The countries involved in the project have identified priority commodities, namely, snakeheads (Cambodia), groupers (Indonesia), seaweeds (Philippines), tilapia (Thailand), and shrimp (Vietnam).

AQD, GAIA ink agreement on integrated mariculture

GAIA Mariculture Executive Director Dr. Mathilde Richer de Forges and AQD Chief Dr. JD Toledo sign the agreement

On September 16, AQD and GAIA Mariculture, a Singapore-based company, signed an agreement stipulating that AQD, through its expertise and science-based technologies, shall provide assistance to the latter in its pompano farm project in the Ronda Bay area in Cebu. The project, an integrated multi-trophic mariculture system using sea cucumber, pompano, and an algae species, will involve community-based conservation schemes.

AQD attends international fish health symposium

AQD Associate Scientist Dr. Ma. Michelle Peñaranda gave a presentation on *Specificity of DNA vaccines against the U and M genogroups of infectious hematopoietic necrosis virus (IHNV) in rainbow trout (Oncorhyncus mykiss)* at the *6th International symposium for aquatic animal health* held September 4-9 in Florida, USA. Her travel was sponsored by the University of Washington.

IHNV is a fish rhabdovirus that causes significant mortality in salmonid species. She investigated the efficacy of DNA vaccines containing either M (pM) or U (pU) virus glycoprotein gene during intra- and cross-genogroup challenges in rainbow trout and the correlates of protection. Her study suggests that there are other immune response mechanisms that provide late protection against IHNV in rainbow trout since there is no consistent correlation between neutralizing antibodies from the two vaccines and protection.

In addition to the symposium, Dr. Peñaranda was able to present AQD's facilities and research interests at the Western Fisheries Research Center - US Geological Survey in Seattle, USA on September 21.

AQD wins best paper award

AQD Senior Technical Assistant Ms. Dianne Hope Tormon was awarded the Best Scientific Paper for her work *Identifying women's roles in sustainable aquaculture livelihood development: experiences from the oil spill crisis in Guimaras Strait in the Philippines* during the 5th *National conference of the national network on women in fisheries in the Philippines* held September 15 to 17 in Cagayan de Oro City. She co-authored the study with AQD's Associate Scientist Dr. Nerissa Salayo and Socioeconomist Mr. Renato Agbayani.

Ms. Tormon noted that women in Nueva Valencia, Guimaras were interested in every livelihood option and were willing to learn new skills to augment household income. Aquaculture offers opportunities for the productive use of skills of both men and women in different but interrelated aquaculture activities.

AQD shows viability of small-scale aquaculture

AQD co-sponsors *FishLink 2010* held September 20-22 at the Iloilo Grand Hotel, Iloilo City. Sharing their research outputs and experiences in fish farming technologies, AQD's pool of experts established the viability of small-scale aquaculture for various commodities.

Innovative approaches in the culture & stock enhancement of tilapia, mudcrab, seaweeds, abalone, and pompano were presented by Dr. Ma. Rowena Eguia, Dr. Emilia Quinitio, Ms. Ma. Rovilla Luhan, Mr. Vincent Encena II, Dr. Ma. Junemie Hazel Ramos, and Mr. Albert Gaitan.

Monitoring white spot disease in shrimp farming was given by Dr. Leobert de la Peña; and AQD's projects on technical assistance for communities and entrepreneurs were discussed by Mr. Renato Agbayani and Ms. Jocelyn Ladja.

Organized by the UP Aquaculture Society Inc, FishLink 2010 was graced by BFAR Assistant Director for Technical Services Mr. Gil Adora who said that "(small-scale aquaculture can create) alternative livelihood, alleviate poverty, and give birth to a new breed of entrepreneurs, especially in rural areas where resources are few and livelihood opportunities are limited."

AQD's exhibit booth featured multimedia display of its institutional and instructional videos; posters on its small-scale backyard hatcheries, ICDSA and Malalison projects; and publication sales with earnings amounting to PhP 51,950.

Guests of honor BFAR Assistant Director Mr. Gil Adora, UPV Chancellor Dr. Minda Formacion, and AQD Chief Dr. JD Toledo during the FishLink 2010 exhibit opening

AQD's Technology Verification & Demonstration Head Dr. Ma. Rowena Eguia talks about advances in tilapia culture

AQD introduces ABOT in Palawan

COURTESY OF JM LADJA

ABOT in-charge Ms. J. Ladja at left; some of the student & teacher participants

AQD's Agree-build-operate-transfer (ABOT) AquaNegosyo Program was introduced at the *DOST science and technology fair* held September 15 to 17 in Puerto Princesa, Palawan by Demonstration and Packaging Head Ms. Jocelyn Ladja.

The participants, which included Palawan Live Fish Traders Association members, were mostly interested in grouper cage culture.

AQD attends PhilFIN workshop

Manila Office Head Ms. Grace Garcia represented AQD to the *Philippine Fisheries Institution Network, Inc. (PhilFIN) seminar workshop and general assembly* conducted September 2 to 3 in Lingayen, Pangasinan. PhilFIN is a non-stock, non-profit organization engaged in fisheries education and research.

Twenty-one member institutions attended.

LM FERNANDEZ / UPV

Updates on ICDSA [Institutional capacity development for sustainable aquaculture]

New consultation, new site

Only one out of five fisherfolk associations in the Petron-funded milkfish cage culture project in Guimaras profited from their operations.

This was the main discussion during the barangay consultation conducted by AQD and Taytay sa Kauswagan, Inc. (TSKI) on September 14 in Nueva Valencia wherein 25 fisherfolk association members attended.

AQD Igang Marine Station Head Mr. Gaitan said that during this phase (where the cages were placed outside the station and managed solely by the members), the associations encountered problems in leadership & members' attitudes, and in the operation itself like cage maintenance. For the next run to be successful, he enjoined the members to be more patient, cooperative, and dedicated.

The association representatives in turn were in agreement with Mr. Gaitan's assessment, expressing their gratitude to the project organizers and imploring everyone to help one another. They said the meeting helped them understand their obligations and how they incurred losses.

A member of the Magamay Small Fisherfolks Association remarked, "[We need to] give focus on this project for our children's future."

On the other hand, AQD Training & Information Head Mr. Renato Agbayani highlighted the need for the associations to have their own recording system for procurement and sales to monitor their financial operation.

The successful group -- Sto. Domingo Fisherfolk Association -- got a net profit amounting to Php 31,945. DOST Region VI, who sent Science Research Specialist Mr. Michael Paguntalan, committed free processing machines if the associations can pass TSKI's organization capacity assessment by 2012.

Earlier that day, AQD and TSKI met separately with Petron Foundation's Ms. Marilou Erni and Project Officer Ms. Raquel Cedeño to discuss the future directions of the project.

Dumarao, Capiz

On September 7, Training & Information staff Mr. Renato Agbayani, Ms. Kaylin Corre, and Mr. Rosenio Pagador met with the Dumarao Fish Farmers Multi-Purpose Cooperative in Dumarao, Capiz to gather status updates on the ICDSA project.

They learned that the cooperative has halted its operations, although some of its members started their own tilapia cage culture. They also noted that the harmful water hyacinths were replaced by edible "kangkong" after heavy rains. They also informed the cooperative of the upcoming freshwater aquaculture training to be conducted in November 2010.

Surigao del Norte

In response to the request of Surigao del Norte College of Agriculture and Technology, AQD senior technical assistants Mr. Nestor Bayona, Ms. Dianne Hope Tormon, and Mr. Alessandro Babol assessed a new prospective site for small-scale aquaculture in Dinagat Island, Surigao from July 23 to 26.

As a result, AQD selected three possible sites for abalone: New Mabuhay in Dinagat & Puerto Princesa in Basilisa for growout and Sugbuhan islet for hatchery. Meanwhile, two other sites were also identified as appropriate for marine fish and mudcrab culture.

Some of the major concerns that could affect the sustainability of operations include limited availability of freshwater supply, construction materials, seaweeds, commercial feeds and fish & abalone seedstock. Due to Dinagat's limited access to big markets for aquaculture products, marketability of abalone needs to be investigated further.

RR PAGADOR

COURTESY OF DHM TORMON

CLOCKWISE FROM TOP LEFT: AQD and TSKI with participants of the barangay consultation; TSKI's Engr. Reynaldo Ambao, Petron Foundation's Ms. Marilou Erni, AQD's Mr. Renato Agbayani; AQD's Ms. Dianne Tormon and Mr. Alessandro Babol evaluate Sugbuhan Islet; AQD's Ms. Kaylin Corre and Mr. Agbayani discuss with the Dumarao Fish Farmers Multi-purpose Cooperative

New directions set for AQD

Starting 2011, AQD will steer into new directions as outlined during the *In-house strategic planning and review* conducted September 28-30 at AQD's Tigbauan Main Station in Iloilo.

AQD Chief Dr. JD Toledo emphasized that AQD will shift from taking on a commodity-based approach to adopting a thematic approach, specifically, having program themes based on the *Regional technical consultation on aquaculture* (RTC) held in March 2010.

In order to come up with a modified five-year strategic plan (2011-2015), AQD senior staff discussed in plenary and small-group workshops the harmonization of the 2009-2012 strategic plans with the five RTC themes. They also determined major gaps in current technologies, suggested priority R&D areas (i.e., research and information-education-communication), made action plans, and identified potential collaborations.

The RTC themes are: (1) meeting social and economic challenges; (2) supply of good quality seeds; (3) healthy and wholesome aquaculture; (4) maintaining environmental integrity through responsible aquaculture; (5) adapting to climate change.

Some of the issues raised during the open forums included (1) patentable AQD products like feed formulations; (2) institutionalizing AQD's mentorship program for research students; (3) preparation of winning project proposals that can be funded by external sources; and (4) improving support services.

The Chief noted that although there are many proposed plans of action, issues on limited financial and human resources remain. "Let us consider these constraints as a challenge... Being a dynamic institution, AQD needs to be always at the forefront of any development, which is in line with AQD's vision, and that is, to be a global leader in the generation of science-based technologies."

Thanking the staff for their active participation, the Chief encouraged everyone to "move together, move forward and work together, and bring a good future for AQD."

Consultant Dr. Felix Ayson (leftmost), who facilitated the whole workshop exercise on R&D, joins the group discussion on climate change

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US Peace Corps tours AQD

US Peace Corps officers at the abalone hatchery

US Peace Corps officers toured AQD's Tigbauan Main Station on September 18. The 12 American and 3 Filipino volunteers are based in Banate, Iloilo.

Trainee completes marfish course

Julius Lucky of the Marshall Islands, the sole participant of the *Special training on the hatchery of selected marine fishes*, successfully finished the month-long course which started August 10. Mr. Lucky received his certificate of completion on September 9.

AQD research seminar

Dr. Anacleto Argayosa from UP Diliman's Institute of Biology gave a seminar entitled *Lectins and nine lives* on September 22. He discussed lectins, the carbohydrate-binding proteins with various biological functions, namely protein folding, cell adhesion, endocytosis, cellular recognition and innate immunity. Dr. Argayosa's team discovered lectin in milkfish serum and other fish sera, such as kumpolin1, a mannose-binding protein from African catfish and the fucose-binding protein from the Nile tilapia. He also presented the extraction method of lectins from fish sera, their physico-chemical characteristics, the tests used to determine biological activity, the application of lectin probe for their detection, and their future applications.

Bereavement at AQD

The AQD family bids farewell to its dearly departed members and extends its deepest sympathies to members who suffered the loss of their loved ones.

Mr. Angelo Miranda, former senior research technician who served at AQD from 28 June 1977 to 2004, passed away July 12.

Ms. Rosita Sayno, mother of Mr. Remegio Sayno, laboratory maintenance technician, passed away September 4.

Mr. Napoleon Alpasan, brother of Ms. Lota Alpasan, senior technical assistant of the Breeding and Seed Production section, passed away September 15.

Ms. Zenaida Pagtanac, mother-in-law of Ms. Elisa June Pagtanac, administrative assistant II of the Housing, Building & Grounds Maintenance unit, passed away September 19.

Ms. Consorcia Aranda, mother of Engr. Salvador Rex Tillo, head of Engineering section, passed away September 21.

AQD takes part in Iloilo government initiatives

Tree-planting activity in Maasin

AQD participated in the *11th Piyesta sa Kakahuyan*, a tree-planting activity conducted on September 11 in Brgy. Daja, Maasin, Iloilo. AQD brought 200 seedlings of palo santo, a species indigenous to the area. According to Iloilo Provincial Environment and Natural Resources Officer Soledad Sucaldito, whose office organized the event, a total of about 4,000 seedlings were planted.

The reforestation project, with the theme *Tubig sa kagulangan: Maasin watershed balikan*, aimed to respond to the water shortage problem being experienced in Iloilo and to replace the trees uprooted during the onslaught of Typhoon Frank in June 2008.

For more information on the tree-planting activity, visit http://balita.ph/2010/09/15/4000-seedlings-planted-during-piyesta-sa-kakahuyan-in-iloilo.

AQD volunteers at the venue of Piyesta sa Kakahuyan; AQD Chief Dr. Joebert Toledo in tree-planting action

Clean-up drive against dengue in Tigbauan

Joining the campaign for the prevention and control of dengue, AQD employees led by AQD Chief Dr. Joebert Toledo answered the call of the Iloilo Provincial Government for a simultaneous provincial-wide clean-up drive on September 1. The offices, facilities and surroundings of Tigbauan Main Station were cleared of possible breeding grounds of the *Aedes aegypti* mosquito responsible for the spread of dengue.

FishWorld exposes 15 interns to aquatic science careers

TU BAGARINAO

The *9th session of FishWorld's R&D internship program* conducted from April 26 to May 21 had a total of 15 participants, including six incoming juniors from the Philippine Science High School Western Visayas, five incoming seniors from the University of the Philippines High School in Iloilo, and four incoming seniors from the Guimbal National High School. As part of the program, the interns were involved in 40% field work, 40% laboratory-hatchery work, and 20% lecture-discussion.

FishWorld, through its 20-day internship program, helps strengthen science and environment education in schools and guides students into careers in the aquatic sciences.

CLOCKWISE FROM TOP LEFT: Field sampling in Sibunag River; Along the Tigbauan beach to learn biodiversity; In Lawi, Guimaras to meet the sea turtles; At the Dumangas mudflat during low tide