

# SEAFDEC AQD Matters

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

## Japanese Ambassador visits AQD



**H**is Excellency Makoto Katsura, Ambassador Extraordinary and Plenipotentiary of Japan and party dropped by AQD's Tigbauan Main Station on the afternoon of September 17. He was welcomed by AQD Chief Dr. Joebert Toledo, Deputy Chief Dr. Hiroshi Ogata, and division heads Atty. Jerry Opinion (AFD), Dr. Evelyn Grace Ayson (RD), Dr. Clarissa Marte (TVDD), and Ms. Kaylin Corre (OIC-TID).

Ambassador Katsura and his party were shown the AQD institutional video and were briefed on the biotech facilities by Dr. Ayson, including its objectives, services offered, and relevant activities. Ambassador Katsura asked how the technology from AQD gets passed to the end users, given the "sophisticated" nature of research. To this, Dr. Toledo



Ambassador Katsura (in white) at the GOJ-funded biotech laboratories with AQD officials and one of his party

said that research results are verified and demonstrated for the farmers, and that AQD has collaborative activities with the local government units, non-government organizations, and national government agencies, in addition to the conduct of training courses in aquaculture.

The group then proceeded to tour the biotech facilities and the abalone hatchery. Ambassador Katsura wished AQD more success, and with a full schedule ahead, the party departed for the province of Antique to assist the victims of Typhoon Frank.

## Stratplan meeting @ AQD

**A**QD personnel assembled at the TID Conference Room had their hands (and heads) full as they hammered out a strategic plan for AQD from August 13-15.

Over the next three days, four workshop sessions were conducted related to the four goals of AQD, namely (1) generate science-based aquaculture technologies and information

appropriate for the region; (2) verify, demonstrate and transfer viable technologies; (3) develop, strengthen the capacities of aquaculture sector; and (4) continuously promote the institutional and financial stability of AQD. In this vein, strategic plans of department-

tal & regional programs, and of the four divisions were presented. Issues and concerns, recommendations and follow-up actions were then tackled by the assembly, which included such topics as climate change and environmental impacts; industrial vs. rural aquaculture; high-volume but low-value species; and administrative and financial concerns.

The workshop sessions were facilitated by AQD consultant Mr. Salvador Garbanzos and Dr. Christine Mae Hernandez of UP Visayas.

Prior to the big event, each concerned division and section met to iron out their individual plans.



PHOTOS BY IT TENDECIA



## AQD participates in WB tilt...

**A**QD staff was very much visible in the international scene, attending three gatherings this quarter.

The latest was World Bank's 2008 Development Marketplace Global

VC ENCENA



Clockwise from top: Dr. Toledo, Dr. Ayson, Ms. Luhan and Mr. Encena at the competition venue; Dr. Ayson and the Chief man AQD's booth; some downtime with Dr. Giselle



Samonte-Tan (second from right), formerly of AQD, now the Director for Social Science Research and Outreach of the Center for Applied Biodiversity Science-Marine Managed Area Science (CABS-MMAS)

- : Competition which was held September 22-27 in Washington DC, the USA.
- : This was attended by AQD Chief Dr. JD Toledo, Research Head Dr. Evelyn Grace DJ Ayson, researchers Ms. Ma. Rovilla Luhan and Mr. Vincent Encena III.

- : The group presented a proposal on community-based abalone farming based on AQD's innovative modular abalone culture in sea netcages.

- : The competition sought innovations in three sub-themes: (1) linking small-scale farmers to input-output markets; (2) improving land access and tenure for the poor; and (3) promoting the environmental services of agriculture in addressing climate change and biodiversity conservation.

- : The tilt was co-sponsored by the World Bank, the Global Environment Facility (GEF), the International Finance Corporation (IFC), the Bill & Melinda Gates Foundation, and Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ).



## ...JICA training program...

**M**s. Dianne Hope Tormon of AQD's Socioeconomics Section participated in the JICA Training Program for Young

Ms. Tormon participating in the round-table discussions, and marveling at the work of a Japanese National Artist for ink painting



- : Leaders in the Field of Economic Development in Japan.
- : The training program was

- : held last September 10-27 at the JICA Center in Osaka and the Fukui Prefecture in the Hokuriku region.

- : What learnings can be possibly applied from her experience in Japan? According to Ms. Tormon, we could adapt the Japanese support system for small and medium enterprises (SMEs) and their positive attitudes and values, as well as develop national programs for entrepreneurial activities.



## ...and FFTC-NFRDI int'l workshop

**A**QD Chief Dr. Joebert Toledo was on hand to attend the 2008 FFTC-NFRDI

- : International Workshop on Integrated Coastal Zone Management for Sustainable

- : Aquaculture held last August 26 in Pusan, South Korea.

- : The Chief presented a paper on the role of sustainable aquaculture in integrated coastal zone management.

- : The workshop was organized by the Food & Fertilizer Technology Center and South Korea's National Fisheries Research & Development Institute.



# Dr. JHP one of Time's Heroes of the Environment



The Time Magazine cover; Dr. JHP as she appeared in the magazine (illustration by Leif Parsons)



**D**r. Jurgenne Primavera, Scientist Emerita of AQD, is the only Filipino featured in Time Magazine's cover story on Heroes of the Environment 2008.

Dr. Primavera was cited for her groundbreaking work on the life cycles of tiger prawns in the Philippines and for

campaigning for sustainable aquaculture to protect the mangroves. Dr. Primavera recommends a four-to-one ratio of mangroves to farm ponds so that nature and aquaculture both flourish.

In response to the well wishes that came her way, Dr. Primavera said, "Thank you for your congratulations. And thank you to Time's Hannah Beech for stating so clearly that I am not and have never been against aquaculture in my mangrove advocacy. My paradigm is that of mangroves and ponds existing side by side, carefully balanced to protect the environment while

sustaining food production. And it is the mandate of SEAFDEC/AQD to establish and continuously refine the parameters of that balance."

The 30 heroes, classified as leaders & visionaries, moguls & entrepreneurs, activists, and scientists and innovators, also featured the likes of California Gov. Arnold Schwarzenegger, writer Kim Stanley Robinson, and environmental activist Annie Leonard.

Read the article online at [http://www.time.com/time/specials/packages/article/0,288,04,1841778\\_1841782\\_1841792,00.html](http://www.time.com/time/specials/packages/article/0,288,04,1841778_1841782_1841792,00.html).

## Dr. JHP on mentoring and publishing

**D**ear colleagues in the scientific community and academe

In the wake of the Time Magazine special issue on Environment Heroes and the follow-up articles in The MindaNews, The News Today (Iloilo), and yesterday's Philippines Daily Inquirer, plus all the felicitations that I received, may I share two major points:

(a) ON PUBLISHING. It was through my publications that Time came to know of my work (as explained by Hannah Beech in her email to me). The peer-reviewed paper is the currency of the scientific realm, and those of us who do science should accept this as Lesson # 1 in our career. As a young scientist at SEAFDEC, the logic was very simple -- I submitted a proposal to do a study, was given funds and did the research, and therefore was DUTY-BOUND TO SHARE the results of my study (in the

form of a paper submitted to a peer-reviewed journal). Something for something, NOT something for nothing.

(b) ON MENTORING. Thanks to Dr. Flor Lacanilao for his kind words which are a mouthful, coming from the taciturn (in terms of praise) Lacâ, as we his students fondly call him. But such words should be expected and should be the norm, for the Bible says that sons/ daughters should be better than their fathers/mothers. In this day and age of the great Diaspora of Filipinos of all income brackets and professions, including teachers (to babysit HK wards or teach high schoolers in Texas), those who remain behind to practice their noble profession should be pinned medals of valor.

In my travels abroad, many a time inside the Boeing 747 have I sat beside a pregnant Filipina teen-age domestic helper fleeing a harsh employer in the Middle East, passed

Filipino staff (obviously professionals back home) too embarrassed to look me in the eye in the hallways of the San Francisco Hilton, observed hundreds of Japayuki of all ages, sizes, shapes at the Fukuoka Airport, each with their corresponding Japanese boyfriend/protector/*ano pa* in tow. *Nakakalungkot*. I feel only pity for them and rage at the present dispensation for failing to provide the opportunities to make a decent livelihood in their own country...

Because my teaching career has been limited to a decade at the Mindanao State University, I am deeply grateful for the publicity that the Time feature has given my work, providing a role model to young Filipinos (eg. Michelle, Benjie V) who love the environment. It is ironic that earlier media coverage of my work by the US-based PBS, a mangrove docu shown over nationwide Japanese

TV, and a 1990s BBC feature have enlightened scores of Americans, Europeans and Japanese BUT NOT my own countrymen/women. Speaking of irony, I have received an honorary doctorate from Stockholm University and have been elected to royal scientific societies in Belgium and Sweden SIGHT UNSEEN, based solely on my publications record, but not to Philippine scientific institutions. As the Bible says, no prophet is recognized in his/her country.

The Time Magazine article widens the audience among my *kababayans* and makes me more hopeful for the environment, for our country. More hopeful as I start to experience creaking bones that may not hold longer in the field, and increasing senior moments that give intimations of mortality...

Jurgenne Primavera



# AQD keeps an eye on mariculture parks, develops early warning for pollution

With mariculture parks a-booming in the Philippines and elsewhere, the threat of pollution is never far away. Because of this, AQD is developing an early warning system under its Aquatic Ecology program.

“The concept is rather simple,” explains AQD Chief Dr. Joebert Toledo. “The color of sediments or soil taken from under the fish cages will

be compared to a reference color chart which will let fish farmers know how far off or how near they are from ideal conditions.” AQD is well on its way to developing this detailed color chart that non-specialists can easily use.

To develop the system, AQD first monitored two sites (fish cage site and non-fish cage site) at its Igang Marine Station in Guimaras

where a mariculture park is located. AQD researcher Ms. Sheila Mae Santander who made the study said that she compared the nutrients, presence or absence of infauna, and sulfides in the sediments collected using a core sampler. She found out that the sediment color mirrors the degree of sediment deterioration.

Pollution in sea cages comes from the feeds that are not eaten or digested properly, plus other waste products that go into the water. Some will eventually settle onto the sediment bottom which could impact the infauna, or animals living within the sediments such as polychaetes. Polychaetes are segmented marine worms which burrow in the sediment bottom. They play an important role in the marine environment through their burrows which serve as habitat of microorganisms. These microorganisms produce enzymes which recycle organic matter. This is very similar to the role that earthworms play in agricultural farmland. Polychaetes allow stable organic matter degradation through their burrowing. Without the burrows, the enzymes are easily washed out.

Should it be found that a mariculture park’s sediment is getting bad, AQD suggests that a “fallow period” be implemented. The fish cages may be moved into another area of the park to allow the sediments and infauna of the threatened area to recover. Park locators should also check their feeding regimes and must strictly adhere to the recommended or proper feeding management to help reduce wastes.



From okay to bad to worse: with a sediment color chart, fish farmers can now visually assess their cages’ impact and take action to head off fish kills



Sediment and water monitoring activities at the Igang Marine Station



# Bountiful fish harvests at AQD

What started out as research have bloomed into full-fledged fish harvests.

For the months of July and August, fish consumers primarily composed of AQD employees were able

to partake of the bountiful fish harvests at AQD, which were the results of painstaking verification and demonstration activities.

Below is the summary of harvests at AQD’s Dumangas Brackishwater Station.

Month	Commodity	Harvest (kg)
July	Rabbitfish	21.5
	Seabass	45.2
	Grouper	26
	Milkfish	880.3
	Crab	18
	Shrimp	39
August	Rabbitfish	155.5
	Seabass	149.45

## Laguna Lake Dev't Authority GM visits BFS

On his way to demolish illegal fishpens in Laguna de Bay, Laguna Lake Development Authority General Manager Edgardo Manda paid AQD's BFS a surprise visit last August 8.

BFS staff briefed him on the activities being conducted at the station and gave him a tour of the facilities.

In turn, he discussed the activities of LLDA and

suggested possible areas of collaboration between the two institutions, one of which includes promoting awareness of lake conservation and management in secondary school students, wherein BFS can act as venue of ecological camps for these students.

He found the training building and the housing facilities conducive venues for trainings and seminars.

Mr. Manda also foresees setting up a consortium of research institutions and academe involved in research in the lake to discuss issues and problems of the lake and come up with viable solutions. In this vein, the BFS laboratories can also be used by LLDA in collaborative researches and regular water quality monitoring. He is also interested in promoting the culture of the giant freshwater prawn *Macrobrachium rosenbergii* in the lake.

In addition, LLDA has an ongoing project on freshwater ornamental fish culture in tanks and ponds with BFAR Region IV-A and BioResearch, and suggested that BFS be involved in this project as well.

- FROM THE REPORT OF MLC ARALAR

MLC ARALAR



GM Manda (rightmost) with BFS' Dr. Eguia and Dr. Aralar

## AQD @ 1st Pinoy Aquatic Food & Tech Expo

AQD took part in the first-ever Pinoy Aquatic Food and Technology Expo organized by the Agri-Aqua Network International (AANI) and held at the AANI Site, Quezon Memorial Circle, Quezon City.

The expo, which ran from August 29-31, was

a "tiangge"-type affair, showcased agricultural and aquatic products, aquatic farms, aquatic feed and probiotic companies, and aquaculture technologies from AQD and the Bureau of Fisheries and Aquatic

Resources (BFAR) regional centers.

Staff from the Binangonan Freshwater Station and Manila Office took turns in manning AQD's booth during the activity. Around 85 visitors, mostly first-timers, dropped by the booth and availed of technical advice on mudcrab, seaweed and tilapia farming. About P9,600 worth of AQD publications were sold to the public.

The expo gave AQD an opportunity to promote its technologies and programs, especially ABOT; AquaNegosyo and ICDSA; advertise training course offerings and provide free technical assistance; and promote extension manuals, especially the new publications.

- FROM THE REPORT OF MRR EGUIA

MRR EGUIA





## Biotech updates

Working elbow-to-elbow in the lab yet too busy to talk to each other? The Molecular Endocrinology and Genetics (MEG) Laboratory and Algal Production Laboratory (APL) have found the solution to this dilemma: have biotech update meetings.



JB GONZAGA

From top: Ms. Thesa Billena demonstrating the techniques in electron microscopy; Mr. Kenneth Tibubos showing the excised tissue cultured in nutrient medium



The meetings — scheduled during lunchtime once every two months and attended by personnel and students working in the two labs — provide the staff a chance to discuss the problems encountered in the course of labwork and toss around ideas to solve them.

Exchange of techniques learned at each lab, plus tips on suppliers that can provide cheaper yet dependable consumables, could prove useful to the staff.

A very short special topic

is also presented toward the end of the meetings given by the assigned staff and if possible, hands-on exercises were also conducted.

Some of the topics discussed were “what we need to know about ethidium bromide” (stain used for agarose gel electrophoresis), “electron microscopes”, “how to design a primer (synthetic nucleotides for PCR), “DNA sequencing principles and applications” and “tissue culture” (growing whole plant from an excised tissue).

The group also has fund raising activities for proposed “exposure” field trips like selling valentine chocolates, energy drinks during palaro and reusable plastic containers.

The meeting is open to any staff interested to learn a bit about research projects undertaken at biotech labs, so if you want to expand your knowledge, do attend our luncheon meetings!

- JB GONZAGA

## Training updates

This quarter, AQD completed four short training courses for its different stakeholders: (1) *Induced spawning of clariid catfishes* which was held 30 June – 04 July for two from the private sector; (2) *Milkfish hatchery*, 05-14 July, for three from the private sector; (3) *Nursery cage culture for*



RT BAUTISTA, R PAGADOR



*grouper*, 16-19 July; and (4) *Grow-out cage for grouper*, 10-11 September.

The grouper training courses were for the fisherfolk in Mindanao (Misamis Occidental province). Two sessions of each course were conducted in cooperation with either the Philippines-Australia Community Assistance Program/MOAVEC or ACIAR/GataDaku Multipurpose Cooperative.

Meanwhile, another four training courses are ongoing: (1) *Fish health management*, 11 Sept – 12 Oct, being attended by a Tanzanian national; (2) *Crab seed production*, 15 Sept – 01 Oct, for a Malaysian national; (3) *Grow-out culture of mudcrab*,

22 Sept – 10 Oct, for two Filipino entrepreneurs; and (4) *Principles of health management in aquaculture*, 29 July – 14 Dec, the internet course with 14 virtual trainees from Brunei, Philippines, Singapore, Thailand, China, Hong Kong, Sri Lanka, and the USA. The online course is funded by GOJ-Trust Fund.

Further, AQD hosted 17 study tour groups whose interests ranged from abalone and marine fish hatcheries to information technology infrastructure. A total of 216 entrepreneurs, fish farmers, government officials and out-of-school youths have so far been oriented on AQD programs and facilities.

# Passages at AQD

Comings and goings are a common occurrence in any institution, and AQD is not immune to both. From January to September of this

year, we list some of the new faces, those who retired (and/or were rehired), those who have left AQD to pursue other worthwhile endeavors. We

also extend our condolences to the members of the AQD family who have suffered the loss of their loved ones.

## NEW PERSONNEL

- ♦ Mr. Rechie Andrada, who earned his Certificate in Marine Eng'g, is assigned at the Farming Systems and Ecology Section as Technician



- ♦ Mr. Norwell Brian Bautista joins the Fish Health Section as Technical Assistant; a BS Chemistry graduate



- ♦ Mr. Ursan de la Paz is assigned at the Binangonan Freshwater Station (BFS) as technical Assistant; a BS Fisheries graduate



- ♦ Mr. Joebert Encio, a BS Accountancy (CPA) graduate, joins the Financial Management and Evaluation Unit as Financial Assistant III



- ♦ Mr. Joy Entusiasmo, an undergrad of Fishery Technology, is assigned at the Nutrition and Feed Development Section as Technician



- ♦ Mr. Al Agustin Futralan, who finished his secondary education, joins the Training and Information Division (TID) as technician



- assigned at the Misamis Occidental ICD-SA project
- ♦ Mr. Rodante Garbino, an Associate in Marine Eng'g, likewise joins TID as Technician assigned at the Misamis Occidental ICD-SA project

- ♦ Ms. Vivian Jatulan, hired as Admin Assistant assigned at BFS to replace Mr. Mateo Yap

- ♦ Mr. Joseph Leopoldo Laranja, who finished his MS in Aquaculture, assigned at the Farming Systems and Ecology Section as Associate Researcher



- ♦ Mr. Noel Opiña, a BS Fisheries grad, joins Dumangas Brackishwater Station as Technical Assistant



- ♦ Ms. Sheila Mae Santander, who finished her MS in Marine Science, an Associate Researcher of the Farming Systems and Ecology Section



- ♦ Mr. Joemel Sumbing, who finished his BS Chem. Eng'g is a Technical Assistant under the Stock Enhancement Program



- ♦ Mr. Michael Tesorero, a BS Marine Biology graduate, joins the Igang Marine Station as Technician



## DEPARTURES

- ♦ Mr. Roger Edward Mamauag, resigned March 2008, now a 2008 Japanese Government scholar
- ♦ Mr. Fredson Huervana, resigned August 2008, to work as an aquaculturist for Sapijan Sy Aqua, CNMI, USA
- ♦ Mr. Marcial Eduard Rodriguez, resigned September 2008, to emigrate to the US
- ♦ Ms. Zenith Gaye Orozco, resigned for continuing studies in the University of Ghent, Belgium under the VLIR scholarship
- ♦ Mr. Jeff Bogart Abroguena, contract ended, now an Erasmus Mundus scholar
- ♦ Mr. Jimmy Salamida, contract ended, now a PCAMRD scholar
- ♦ Ms. Mercedes Maceren, contract ended, now a PCAMRD scholar

## RETIREES

- ♦ Mr. Vicente Torrigue – 21 January 2008
- ♦ Dr. Gilda Lio-Po – 03 February 2008 (rehired as Scientist, effective 04 February 2008, fixed term)
- ♦ Mr. Edwin Parrenas – 15 February 2008
- ♦ Ms. Adelaida Arago – 01 April 2008
- ♦ Ms. Amelia Arisola – 29 August 2008 (rehired as Head of Library and Data Banking Section, effective 01 September 2008, fixed term)

## TRANSFER OF OFFICE

- ♦ Mr. Mateo Yap, from Binangonan Freshwater Station to Igang Marine Station effective 01 October 2008

## CONDOLENCES

- ♦ Mr. Artemio Bernardino, former Research Associate in BFS
- ♦ Ms. Judith Andrada, former IMS employee
- ♦ Ms. Rodgie Villegas, wife of Dr. Cesar Villegas (former TID Head)
- ♦ Mr. Mateo Arizabal, father of Ms. Ma. Antonia Tresvalles (Administrative Assistant 3- Office of the RD Head)
- ♦ Mr. Edmundo Tupas, husband of Ms. Dorfra Tupas (Nurse) and father of Ms. Richelle Bautista (Information Assistant)
- ♦ Mr. Jose Capague, father of Mr. Jose Maria Capague (Technical Assistant- Marine Fish Program)
- ♦ Mr. Ricardo Hitalia, grandfather of Mr. Gerald Gonzaga (Technical Assistant-Feed Mill)
- ♦ Mr. Jose Dumaran, father of Mr. Eufredo Dumaran (Driver)
- ♦ Mr. Ricardo Aboyo, father-in-law of Mr. Julius Jimenez (Technician- Marine Fish Hatchery) and father of Ms. Lucy Jimenez, former TMS employee

## Research seminars for August & September

August 21



**The scale questions in co-management: the experience of Malalison Island and LIPASECU Bay Management Council, Inc. in the Philippines**  
By Ms. Didi Baticados  
SEAFDEC/AQD

August 28



**Milkfish hatchery-bred nursery production in ponds**  
By Mr. Eliseo Coniza  
SEAFDEC/AQD

September 4



**Extension of nursery culture of *Scylla serrata* (Forsk.) juveniles in net cages and ponds (*Sayonara seminar*)**  
By Mr. Marcial Eduard Rodriguez  
SEAFDEC/AQD

September 11



**Overview of the mud crab industry in the Philippines**  
By Dr. Emilia Quintio  
SEAFDEC/AQD

September 18



**Sociocultural and economic baseline assessment of fishers in Anini-y, Antique for coastal resources management**  
By Ms. Eva Aldon  
SEAFDEC/AQD

September 25



**Sea cucumber fishery, research and culture initiatives in Western Visayas, Philippines**  
By Ms. Marie Frances Nievales  
UP Visayas

## 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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Thanks to our colleagues who provided facts, images and feedback!



# New papers published by SEAFDEC

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# AQD bridges discussion between fishers and regulators

Text and pictures by TU Bagarinao

**A** Workshop on the filter net (*tangab*) and lift net (*bintahán*) fisheries in Iloilo Strait was held at FishWorld on 18-19 August 2008 by the SEAFDEC Aquaculture Department and the Bureau of Fisheries and Aquatic Resources (BFAR) Region 6 in an effort to find ways to reduce the waste of marine resources due to the *tangab* and *bintahán*.

- : FishWorld Curator Teodora Bagarinao studied the *tangab* fishery in the Oton and Tigbauan, in Morobuan, Jordan, Guimaras, and in Calumpang and Santo Nino Sur, Iloilo City in 2007-2008.
- : She published her initial findings in a colorful booklet (*What's in a Tangab?*) that has been widely circulated at the four *tangab* fishery sites.
- : AQD Chief Dr. Joebert Toledo

- : asked her to present the results of the study at a workshop of the main *tangab* stakeholders. So she did. At the workshop, Prof. Ricardo Babaran of the University of the Philippines College of Fisheries and Ocean Sciences also presented research data about the *bintahán* fishery in Miagao.
- : Some 53 stakeholders from Iloilo City, from Jordan, Guimaras, and from Oton, Tigbauan, Guimbal, and Miagao of the First Congressional District of Iloilo attended the workshop — *tangab* operators, *bintahán* operators, barangay captains, municipal and city agriculturists, agriculture technicians, chairpersons of the Fisheries and Aquatic Resources Management Councils, and members of the Sangguniang Bayan.

- : The workshop included a site visit to Calumpang, Iloilo City to see the *tangab* harvest on the morning of 19 August. Upon return to FishWorld, the different LGUs met with their respective *tangab* and *bintahán* operators and defined their positions regarding the two fisheries. In the afternoon, Romulo Pangantihon of the Iloilo City Agriculturist's Office moderated the plenary discussion. BFAR's Dr. Jonathan Dickson helped the discussion along. Other BFAR regulators and the stakeholders themselves recommended various interventions that could improve the *tangab* and *bintahán* fisheries.

- : The workshop confirmed the need to ensure the sustainability of these local fisheries, and in particular, to maintain the economic benefits in terms of food and livelihood but to reduce the ecological costs in terms of the killing and waste of small marine animals and young and undersized fishery species.



Clock-wise from top left: Tangab catch from Calumpang, Iloilo City, August 2008; workshop participants strike a pose; and discuss during the plenary workshop

## Milkfish Loaf in Blanket

### Ingredients:

- 1 onion, chopped
- ½ cup evaporated milk
- 1 ½ cups chopped milkfish meat
- 2 cups finely chopped cooked potatoes
- Salt and pepper
- Baking powder biscuit dough (made with 2 cups of flour)
- 2 eggs
- Cooking oil



### Procedure:

- : Brown onions in cooking oil, add potatoes, mix well and combine with next five ingredients. Heat thoroughly. Roll biscuit dough into rectangle ¼ inch thick shape. Shape hot meat mixture into loaf and draw dough up over mixture to form a roll. Press edges of dough firmly together. Slash top on baking sheet and bake in hot oven (425°F) 15 to 20 minutes.
- : Serve with hot mushroom sauce.

: This recipe from St. Louise de Marillac School of Miag-ao won the 1st Prize in the Seafood Dish Contest during the Aquaculture Week