



A local gleaner showing sandfish collected in Molocaboc Island in Negros Occidental where SEAFDEC/AQD assists in a Community-Based Resource Enhancement (CBRE) project for recovering of over-exploited marine species like sandfish and abalone, safeguarding of natural marine habitats, while maintaining a sustainable supplemental livelihood.

aqd matters

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SEAFDEC/AQD campaigns for sustainable seafood

SEAFDEC/AQD supported the cause of various organizations, including restaurants and hotels, to improve the health of the oceans by sourcing seafood products from more sustainable fisheries and aquaculture during the week-long celebration of *Sustainable Seafood Week (SSW) 2017* held last February 20 to 26.

SEAFDEC/AQD highlighted its efforts in Molocaboc Island through its Community-Based Resource Enhancement (CBRE) Project that was greatly commended during the event for successfully involving fisherfolk organizations and the local government in replenishing abalone and sandfish wild stocks and promoting the recovery of the marine ecosystem around the island.

The fisherfolk organization at Molocaboc Island already



SEAFDEC/AQD signs commitment to support sustainable fisheries and aquaculture.

agreed to supply 20kg of live abalone per week to Marriott Hotel Manila through Meliomar Incorporated. The abalone are sustainably sourced because size and volume of spill-overs caught by fishers comply to agreed regulations. “Actually, Meliomar wants 50kg per week because the New World Hotel is also asking for live abalone. But we are being cautious, we informed them that we will supply volumes that will not compromise



the stocks in the CBRE site in Molocaboc,” remarked Associate Scientist Dr. Nerissa Salayo of SEAFDEC/AQD.

Dr. Salayo was together with SEAFDEC/AQD Scientist Dr. Ma. Rowena Eguia in promoting good aquaculture practices during the SSW in order to provide food for tables while protecting natural resources.

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“Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime. But teach a man how to grow fish and he'll feed generations even beyond his lifetime,” said Dr. Salayo during the NGO Workshop in Enderun Colleges last 21 February.

During the workshop, Dr. Salayo presented a lecture on “Resource Enhancement as Provider of Sustainable Seafood” while Dr. Eguia spoke on “Aquaculture as Provider of Sustainable Seafood.”

The SSW calls for the establishment of an open and dynamic platform for

stakeholders to discuss the status, challenges and promote awareness for more sustainable seafood in the Philippines.

At present, over 31% of global fisheries have been overfished and a further 58% are fully exploited (FAO SOFIA, 2016) as presented by Marine Stewardship Council Program Director Ms. Sheryl Torres-Wu who emphasized the importance of awareness of the ocean's sustainability for it is a strong driving force for consumers to buy sustainable seafood.

This is why the country's top restaurants and hotels vow to protect the world's seafood

supply. One of the partners for this cause is the five-star hotel Hyatt City of Dreams in Manila whose Executive Chef, Mr. Michael Ludtke, said that 58% of the seafood served in his kitchen last year was already sustainably sourced.

This move was commended by Greenpeace Southeast Asia Executive Director Mr. Naderev Sano who said, “When we start looking at our plates, we [must] realize what's at stake and be mindful of our oceans.”

The week-long event, spearheaded by Meliomar Incorporated, included sustainable seafood cooking



Dr. MRR Eguia and Dr. ND Salayo during their presentations.

masterclass, working group sessions, workshops and a beach clean-up in Pandawan Fishport in Rosario, Cavite where AQD's BFS staff participated in along with Le Club Juniors PH, Greenpeace Philippines and Cavite's local government unit - all as part of the promise of improving the health of our oceans.

- JM DELA CRUZ / RD DIANALA

AQD presents poster at World Lake Conference held in Bali



[Top] Dr. Aralar with International Lake Environment Committee Chair Dr. Walter Rast and Russia's Dr. Nafisa Mingazova with her daughter and [left] the WLC 2016 Philippine participants during the closing ceremonies with the Governor of Ibaraki Prefecture Masaru Hashimoto (center), host of the next World Lake Conference



MOU signing for the creation of the Southeast Asian Limnological Network (SEALNet)

SEAFDEC/AQD presented a poster at the *16th World Lake Conference (WLC)* which gathered over 800 participants from around 40 countries from 7 to 11 November 2016 in Bali, Indonesia.

The poster “Plankton diversity in an aquaculture and capture fisheries site in Laguna de Bay, Philippines” was presented by SEAFDEC/AQD Scientist Dr. Maria Lourdes Aralar and Senior Technical

Assistant Engr. Emiliano Aralar.

The conference sessions included topics on policy improvement on lake management, limnology, biodiversity conservation, managing land use system, climate change & water crisis, ecotechnology & ecohydrology, water education, ecotourism and culture, and integrated lake basin management – all related to the conference's theme “Lake Ecosystem Health and its Resilience: Diversity and Risks of Extinction.”

Among the highlights of the conference was the awarding of the Ibaraki-Kasumigaura Prize, given at each WLC, to the

Philippines' Engr. Alvin Faraon and his co-authors for his paper “Valuation of Ecosystem Services of the Laguna Lake Basin: Erosion Control and Flood Water Retention.” This is the third WLC in a row where the Philippines won the prize.

A special meeting for the establishment of SEALNet, or the Southeast Asian Limnological Network, took place during the conference with Indonesia taking the interim lead.

The participants also went on a field trip to Lake Bratan and Lake Buyan, two of the crater lakes in the mountain range of Central Bali.

- MLC ARALAR / JM DELA CRUZ

Community involvement in SEAFDEC/AQD research lauded by evaluators



[Left] Participants of the 2016 Annual Progress Meeting of the GOJ-TF Program and [below] evaluators Dr. Takuro Shibuno of Fisheries Research and Education Agency, Dr. Joselito Somga of the Department of Agriculture-Bureau of Fisheries and Aquatic Resources, Dr. Carlos Baylon of the University of the Philippines Visayas and SEAFDEC Deputy Secretary-General Dr. Kaoru Ishii



Involvement of the community in SEAFDEC/AQD research projects was lauded by external evaluators as a positive development to make technology transfer faster and more effective.

Recounting how SEAFDEC/AQD research was just an academic undertaking in the past, Dr. Carlos Baylon of the University of the Philippines Visayas, noted that this later evolved to include technology packaging and dissemination.

“Now I am hearing the next stage which is the involvement of the community. I think this is a good strategy so that the technology transfer will be faster and more effective, from the researcher to the community. I think this is a good thing so I would like to commend SEAFDEC for this evolving research philosophy,” Dr. Baylon added.

Dr. Baylon was one of the external evaluators during the 2016 Annual Progress Meeting under the ASEAN-SEAFDEC Consultative Group Mechanism funded by the Government of Japan-Trust Fund (GOJ-TF) held 9 February 2017 at SEAFDEC/AQD’s Tigbauan Main Station.

The meeting reviewed 12 research studies that are part of two programs funded by GOJ-TF: (1) reinforcement

and optimization of fish health management and the effective dissemination in the Southeast Asian region and (2) environment-friendly, sustainable utilization and management of fisheries and aquaculture resources.

Dr. Joselito Somga, an evaluator from the Department of Agriculture-Bureau of Fisheries and Aquatic Resources (DA-BFAR), also noted the good results of SEAFDEC/AQD’s research into alternative ingredients as replacement for fish meal and expressed support towards involving the community in research programs.

“BFAR is willing to collaborate in the technology transfer of these projects so that the rural community will benefit from these projects,” Dr. Somga remarked.

Dr. Takuro Shibuno, Director of the Research Center for Aquaculture Systems, Fisheries Research and Education Agency and Former SEAFDEC/AQD Deputy Chief, also remarked on the importance of SEAFDEC/AQD’s study on aquasilviculture given that “mangrove ecological function is very important for the farmers and small-scale aquaculture.”

“All the outputs of the current projects are very

impressive,” over-all GOJ-TF fund manager and SEAFDEC Deputy Secretary-General Dr. Kaoru Ishii said while noting that the comments and suggestions given by scientists during the progress meeting are helpful in refining SEAFDEC/AQD’s research projects funded by Japan.

In closing, Research Division Head Dr. Evelyn Grace Ayson explained that SEAFDEC/AQD has indeed shifted from “purely academic research and publication, to publication and technology dissemination, and to the current publication plus technology dissemination plus community involvement.”

“It is good to hear that we are on the right track,” she added. Likewise, she encouraged all the study leaders to revisit the proposed deliverables and timelines so that next year there will be more progress and more exciting results.

Dr. Chihaya Nakayasu, SEAFDEC/AQD’s Trust Fund Manager and Acting Chief, thanked the study leaders and the rest of the staff for all the efforts made in their reports. He also acknowledged the evaluators for their important and insightful comments.

-GK FAIGANI / RD DIANALA

Research interests of SEAFDEC/AQD presented at DLSU Workshop

SEAFDEC/AQD participated in the *Strategic Planning Workshop of the Technologies for Biodiversity Use and Conservation* (TechBiodive) Unit of De La Salle University in Manila, Philippines on 11 February 2017. This activity was conducted so that TechBiodive can discuss future research projects with potential collaborators for possible funding by granting agencies such as DOST, DLSU, and USAID among others.

During the workshop, Drs. Maria Rowena Eguia and Maria Lourdes Aralar talked about SEAFDEC/AQD's research projects on genetics & biodiversity and freshwater ecology & conservation, respectively. SEAFDEC/AQD's



SEAFDEC/AQD Scientists Dr. Maria Rowena Eguia (seated, 2nd from left) & Dr. Maria Lourdes Aralar (seated, 3rd from left) and Senior Technical Assistant Mr. Dan Joseph Logronio (standing, 4th from right) together with other workshop participants.

Senior Technical Assistant Mr. Dan Joseph Logronio also attended the workshop.

TechBiodive is one of the 10 research units under the Center for Environment and Natural Science Research (CENSER), the research center of DLSU's

College of Science. CENSER Research Teams are given a one-time seed fund of Php 200,000 to start-up a research project. This workshop is the first activity for the DLSU investment.

- RH LEDESMA

SEAFDEC/AQD participates in regional biodiversity conservation workshop



SEAFDEC/AQD Scientist Dr. Ma. Rowena Eguia attended the *Southeast Asia Regional Forum on the Conversation and Sustainable Use of Marine Biodiversity Beyond Areas of National Jurisdiction* (BBNJ) as session moderator and panel discussant last 17-18 January 2017 in Manila.

The two-day workshop gathered public & private entities and representatives of the scientific community to provide insights and inputs for the national and regional positions in UN meetings that tackles the issues on managing



[Above] The participants of BBNJ discussions and [left] Dr. Eguia (right) together with University of Tokyo's Atty. Jacqueline Espenilla during panel discussion

marine biodiversity beyond national jurisdiction. There were presentations on specific topics including marine genetic resources, marine protected area management tools, environmental assessments and capacity building & marine technology transfer. Through this meeting, SEAFDEC/AQD managed to get updates on vital

issues and imparted knowledge to technical discussions.

The workshop was organized by the Department of Agriculture (DA), DA-Philippine Council for Agriculture and Fisheries and Department of Environment and Natural Resources in collaboration with Greenpeace and Pew Charitable Trusts.

- JM DELA CRUZ

Mangrove crab trainings in Mindoro Oriental and Iloilo



The participants observe how to install a hapa net in the pond

A total of 80 participants from Oriental Mindoro and Iloilo took part in SEAFDEC/AQD's trainings on mangrove crab farming, organized in partnership with various organizations.

SEAFDEC/AQD conducted a training on Mangrove Crab Nursery and Grow-out Culture in Concepcion, Iloilo last 31 January-1 February. The activity was attended by 32 participants from members of Plandico Fisherfolk Association, World Renew-Philippines, and Northern Iloilo Polytechnic State College.

The training was organized in partnership with the World Renew Fund, an international organization that helps rehabilitate communities affected by typhoon Haiyan.

Moreover, 48 participants took part in the *Klinika Series: Aquaculture Reform 3.0 - Training Course on Mangrove Crab Nursery and Grow-out Culture* organized by SEAFDEC/AQD in partnership with Tamaraw Young Professional Reformers on 8-10 February in Oriental Mindoro. The training was funded by the Bureau of Fisheries and Aquatic Resources Region 4B and aimed to provide the participants with the knowledge and technical skills needed to culture mangrove crab.

SEAFDEC/AQD scientists Dr. Emilia Quintino, Dr. Fe Dolores Estepa, and Dr. Mae Catacutan were invited, respectively, to give lectures on (1) overview of the mangrove crab industry, hatchery operations, site selection & pond preparation, crab culture in ponds, pens & cages, crab fattening, aquasilviculture, soft-shell crab production and good aquaculture practices; (2) biology & identification of the

mangrove crab and nursery management; and (3) nutrient requirement, feed formulation, and feed preparation for grow-out.

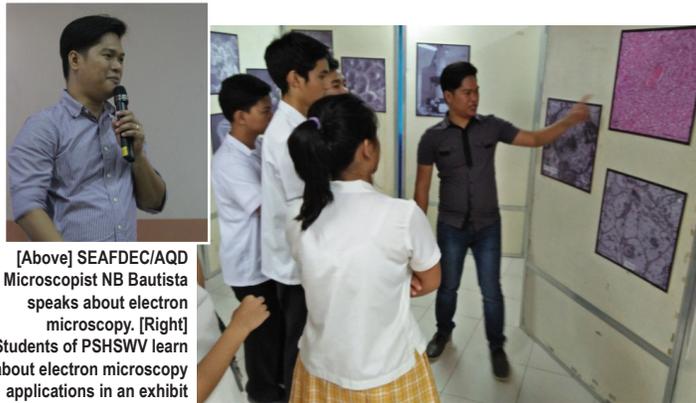
The participants also took part in practical sessions that included stocking & acclimation of crab instar, sampling, monitoring of pond water, feeding management, harvesting, tying of mangrove crabs, packing and transport.

- GK FAIGANI



[Above] SEAFDEC/AQD Mangrove Crab Experts Dr. Fe Dolores Estepa and Dr. Emilia Quintino discuss the anatomy of mangrove crab to the trainees. [Left] Dr. ET Quintino demonstrates the proper way of tying crabs.

Electron microscopy at SEAFDEC/AQD promoted in science congress



[Above] SEAFDEC/AQD Microscopist NB Bautista speaks about electron microscopy. [Right] Students of PSHSWV learn about electron microscopy applications in an exhibit

Norwell Bautista, SEAFDEC/AQD Microscopist, presented the availability, functions, capabilities, and research applications of electron microscopy during *Panubason*, a science congress at the Philippine Science High School Western Visayas (PSHSWV) last February 22, 2017 in Iloilo City.

SEAFDEC/AQD's main station in Tigbauan, Iloilo is

host to a scanning electron microscope (SEM) and the only transmission electron microscope (TEM) in Visayas and Mindanao. The SEM is capable of magnifying objects up to 25,000x while the TEM can magnify up to 1,000,000x.

Mr. Bautista's talk focused on different TEM and SEM images generated over the years. He discussed how each image provided answers to different research problems.

Electron microscopy services are used for SEAFDEC/AQD's research activities but are also available for students doing research work and the private sector.

The science congress was attended by students and faculty of PSHSWV and other high schools from Western Visayas. An exhibit of photos captured from the SEAFDEC/AQD's electron microscopes was also held during the week to showcase the capabilities and applications of the technology.

The *Panubason* science congress brought together PSHSWV alumni who are active in the research field and intends to help science high school students to see themselves as career scientists in the future.

- RD DIANALA



Panubason science congress attendees in a group photo



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