



SEAFDEC/AQD Chief Dan Baliao (leftmost) and Dr. Rolando Platon (2nd from left), culture systems consultant of SEAFDEC/AQD, turn over to representatives from BFAR and the local government unit in Surigao the feasibility study that will serve as framework of the implementation of the legislated multi-species hatcheries. The backdrop shows the perspective of the proposed multi-species hatchery. [PHOTO BY RD DIANALA]

aqd matters

September-October 2018

Newsletter of the SEAFDEC Aquaculture Department, Tigbauan, Iloilo, Philippines

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PTAC endorses more aquaculture R&D



BFAR national director Eduardo Gongona (left) and other PTAC members and observers discuss SEAFDEC/AQD's accomplishments and future directions.

MAKATI CITY - To secure a sustainable fish supply for the country, Philippine Technical and Administrative Committee (PTAC) members requested SEAFDEC/AQD to put all aquaculture research and development plans into fruition.

“The Philippines’ aquaculture industry needs to improve aggressively and we wish for SEAFDEC/AQD to put all future plans into action,” Director Eduardo Gongona of the Bureau of Fisheries and Aquatic Resources said during the

27th PTAC Meeting last 17 October 2018.

The PTAC is tasked to coordinate between SEAFDEC/AQD and the Philippine Government as host and is comprised of representatives from relevant government agencies.

Continued on next page...



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Director Gongona, in his capacity as PTAC chair, highlighted the importance of aquaculture research and development as it can solve the country's major concerns including food security and, even, decongestion of urban areas.

"Through enhanced aquaculture technologies, the government can encourage the urban poor to transfer to the rural areas with the option of better source of livelihood and income," Director Gongona said.

PTAC members also suggested for SEAFDEC/AQD, together with its government partners, to improve the mechanism of converting field-tested studies

into technologies that may be adopted by stakeholders.

"We believe that research, especially those with great potential, should be converted into something tangible that can help the industry," SEAFDEC/AQD chief Dan Baliao concurred while presenting SEAFDEC/AQD's activities with an emphasis on technology transfer.

Proposed production of low-cost feeds

Chief Baliao revealed that stakeholders will soon benefit from the mass production of low-cost feeds for milkfish, a product of years of nutrition research at SEAFDEC/AQD.

Through a proposed feed mill to be constructed at its

Tigbauan site, SEAFDEC/AQD will be responsible for the mass production of formulated broodstock and grow-out milkfish feed which will be distributed to BFAR demonstration centers and facilities all over the country.

Baliao pointed out that the project was made possible through collaboration between SEAFDEC/AQD, BFAR, National Fisheries Research and Development Institute, and Bureau of Agricultural Research (BAR).

"This is the reason why we wish to work closely with BFAR because they have the facilities and the demonstration funds to verify the technologies," he added.

Continued commitment

During the meeting with PTAC, Baliao and the rest of the SEAFDEC/AQD Executive Committee renewed their commitment to contribute to Philippine aquaculture through technology transfer and extension.

PTAC reviewed SEAFDEC/AQD's accomplishments and plans in terms of research and development, technology demonstration and extension, training and information, and administration and finance.

At the end of the meeting, the department's accomplishments in 2018 were noted and the plans for 2019, including the proposed budget for year 2020, were endorsed. **a**

- JM DELA CRUZ

AQD turns over feasibility study for multi-species hatcheries to BFAR

ILOILO CITY - SEAFDEC/AQD Chief Dan Baliao led the turning over of the feasibility studies for legislated multi-species hatcheries as stipulated in the agreement between SEAFDEC/AQD and the Bureau of Fisheries and Aquatic Resources (BFAR).

CARAGA region may soon start the P30-35 million per hatchery structure at two recommended sites in Lingig, Surigao del Sur and Del Carmen, Surigao del Norte.

The hatcheries are designed to produce 25 million milkfish fry annually and has the flexibility to allow fry production of other marine species, depending on the discretion of the LGU that will eventually take over the ownership and operation of the hatchery.

Options will be available on whether the hatchery would be operated for fry production of one species at any time or the apportioning of tanks to allow simultaneous fry production of different species.

The feasibility study was submitted in compliance with



SEAFDEC/AQD Chief Dan Baliao presents the assessment done by the Department on potential multi-species hatchery sites

RA 10825 enacted during the 16th Congress establishing a multi-species marine hatchery in various regions of the country.

The feasibility study includes site selection, hatchery technology for alternate species, implementing schedule, risk assessment, environmental impact, facility design and engineering, personnel requirements and economic and financial analysis.

The operation of these multi-species marine hatcheries

have been integrated into the "Bangus Fry Sufficiency Program" launched by DA-BFAR early this year. The program seeks to address the country's dependence on imported milkfish fry reducing importation by about 85 percent.

SEAFDEC/AQD and BFAR will jointly pool resources and technical expertise to implement activities aimed at attaining objectives of the said legislation.

Meanwhile, out of 26 areas legislated for the establishment

of multi-species hatcheries, 10 were identified to have potential. However, only two of these 10 sites are now ready for implementation.

Another round of surveys to scout for other potential sites will be conducted in the next months.

The turnover was done on 28 September 2018, the second day of the "2nd National Bangus Congress" held at the Iloilo Convention Center. **a**

- MET ALDON

Experts update on aquaculture component of eel project



The participants of the second regional meeting on "Enhancing Sustainable Utilization and Management Scheme of Tropical Anguillid Eels in Southeast Asia." [PHOTO COURTESY OF MLC ARALAR]

BANGKOK, Thailand – During the second regional meeting on "Enhancing Sustainable Utilization and Management Scheme of Tropical Anguillid Eels in Southeast Asia," scientists from SEAFDEC/AQD reported on the progress of the aquaculture-related component of the project.

Dr. Maria Lourdes Aralar, one of the scientists from SEAFDEC/AQD, presented the results of the anguillid or glass eel aquaculture farm survey and the disease surveillance of selected eel farms being conducted by the Department's Binangonan Freshwater Station.

"Survival rate of glass eel to elver ranged from 30 to 98 percent," as stated in Dr. Aralar's report. The survey results also showed that the average culture period of glass eel to elver with a size of at least 15 centimeters is

6-8 months. Moreover, it was observed that *Anguilla bicolor pacifica* reached the target size at a shorter culture period compared to *Anguilla marmorata*.

Dr. Aralar also listed the problems faced by the industry such as illegal trade of anguillid eels; disease problems like gas bubble disease and fungal and bacterial infection; species identification of glass eels; and unreliable source of live food.

Meanwhile, SEAFDEC/AQD scientist Dr. Maria Rowena Eguia presented the results of the nursery rearing experiments and genetic identification and morphological characterization of anguillid eel samples from Aparri and General Santos City, Philippines.

"Continuous feeding of glass eels with *Tubifex* worms is better than when weaned

to artificial diet for 28 and 42 days," reported Dr. Eguia during the meeting. The results showed that the weight gain of glass eels fed with *Tubifex* is about 350 percent while eels weaned for 28 and 42 days have a weight gain of about 238 and 231 percent, respectively.

As for the identification of glass eels based on morphometric characters, eels from General Santos were 100 percent *A. bicolor pacifica* while those from Aparri were 70 percent *A. marmorata* and 30 percent still needs to be identified further.

The meeting, which was held on 18-19 October 2018, ended with a short presentation on the future plans of the project financed by the Japan-ASEAN Integration Fund. **a**

- RH LEDESMA



From left: Dr. Truong Ha Phuong, Deputy Director of the Research Institute for Aquaculture No.3 (RIA-3); Dr. Maria Lourdes Aralar, scientist of SEAFDEC/AQD; Ms. Parinthon Veerapattananon, JAIF Project administrative assistant of SEAFDEC/SEC; Dr. Maria Rowena Eguia, scientist of SEAFDEC/AQD; Dr. Evelyn Ame, Training Center Superintendent II/Chief of the Fisheries Training & Fisherfolk Coordinating Division, Bureau of Fisheries and Aquatic Resources Region 2; and Dr. Somboon Siriraksophon, Policy and Program Coordinator of SEAFDEC/SEC. [PHOTO COURTESY OF MLC ARALAR]

AQD scientist joins workshop on prospective species proposals to CITES COP 18

PALEMBANG, Indonesia - Being the AQD's lead person on eel, Dr. Maria Lourdes Aralar participated in the workshop on "Regional Awareness Raising in Asia on Prospective Species Proposals to CITES COP 18 and Preparation of Fisheries Related Information to Support Review of Species Proposals Against CITES Listing Criteria."

The workshop focused on catadromous eels as the prospective species to the eighteenth meeting of the Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES COP 18).

"The objectives of the workshop is to: (1) identify with real examples where fishery management needs to be strengthened, (2) identify with real examples if effective measures have been taken to monitor fundamental stock and market information needed for fisheries management and CITES assessments, (3) discuss a strategic framework for cooperation in collecting and sharing information on panmictic stocks of tropical eel, (4) share information on international management efforts and new technologies for management and conservation of commercially-exploited aquatic species specifically eel, and (5) make recommendations for actions that need to be taken to support management and conservation of commercially-exploited aquatic species," stated Dr. Aralar in her report.

The workshop was held at the Novotel Resort Hotel from 24 to 25 October 2018. **a**

- RH LEDESMA

Fish expert: preventive measures still the best way to avoid diseases



ILOILO CITY - To help fish farmers win their battle against fish diseases, Dr. Leobert de la Peña, scientist and head of SEAFDEC/AQD's Research Division, presented the common diseases found in farmed fish during the "2nd National Bangus Congress" on 28 September 2018.

"Preventive measure is still the best approach," said Dr. de la Peña

According to Dr. de la Peña, Vibriosis is one of the most prevalent fish diseases caused by bacteria belonging to the genus *Vibrio*, which affects many marine- and freshwater fishes.

The disease is characterized by blood poisoning and skin ulceration among others.

"Fish farmers need to be observant of the behavior of the stocks to detect early signs of the disease," advised Dr. de la Peña.

He explained that early signs of the disease include: slow growth, size variation, fluctuation in feeding, body odor, and abnormal body figures.

Dr. de la Peña further advised that fish farmers should also be mindful of the source of feed and feed storage since fish stocks may also acquire disease from contaminated feeds. **a**

- MET ALDON/RH LEDESMA

Two sessions of fish health course conclude

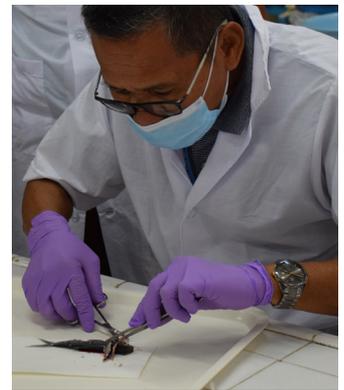
To enhance the knowledge of fish farmers on aquatic disease prevention and management, SEAFDEC/AQD offered two sessions of the training course on "Fish

Health Management" that concluded on 28 September 2018 and 29 October 2018.

The twelve participants of the two sessions learned about aquatic diseases, biosecurity

measures in shrimp and fish culture, and polymerase chain reaction (PCR) in disease diagnosis. There were also practical activities on sending live, fixed, and frozen samples; bacteriology; PCR; histopathology; and parasitology.

"I now have a growing respect for the efforts of the people working in the lab... now I understand the process for everything and I also appreciate all the insights I learned from the [resource persons] and my colleagues here. Now I know how to run the business, now I have a deep understanding of what is happening [in my business]," said Mr. Dominic Ledesma, a trainee of this course who



A trainee prepares a fish sample for diagnosis. [PHOTO BY EV ANTOLINO]

is from the Negros Prawn Producers Cooperative.

The five-day training course held in Tigbauan, Iloilo also taught the trainees how to process samples for diagnosis and how to prepare a diagnostic report. **a**

- RH LEDESMA

Foreign nationals complete course on sandfish

Two Singaporean and one Saudi Arabian completed the training course on "Sandfish Seed Production, Nursery, and Management," held in Tigbauan, Iloilo from 4 to 19 October 2018.

The training course had lectures on the biology and ecology of sea cucumbers, larval rearing, grow-out culture and sea ranching, natural food production, processing of sandfish, and community-based resource enhancement among others.

The participants also had hands-on activities such as broodstock preparation for spawning, phytoplankton identification and counting techniques, media preparation for culture of selected algal species, and larval rearing.

This is the second offering of the training course on sandfish this year. The first session was held on 5-20 April 2018. **a** - RH LEDESMA



The trainees monitoring the egg development of sandfish. [PHOTO BY EV ANTOLINO]

8 countries train on freshwater aquaculture

Fisheries officers of eight countries from Africa, Asia and Oceania spent 16 days training at SEAFDEC/AQD in the Philippines hoping to improve the fish farming industries in their respective countries.

The training course, held mostly at the Binangonan Freshwater Station, focused on freshwater fish farming and included lectures, practical sessions, and tours of fish farms across Rizal, Nueva Ecija, Iloilo, and Guimaras.

Representatives of fisheries agencies from Benin, Cambodia, Cameroon, Fiji, Kenya, Myanmar, Nigeria and Zambia attended the training from 8 to 24 October which was funded by the Japan International Cooperation Agency (JICA).

Atsushi Saga, general manager of Marino Forum 21, a Japanese non-profit organization implementing the training in partnership with SEAFDEC/AQD, said they chose to conduct the training course in the Philippines because the species being cultured here are like those already being cultured in the trainees' home countries.

During their stay, trainees were hands on in the breeding of carp, freshwater prawn, catfish, and tilapia. They also had sessions on ecology, design and construction of aquaculture systems, feed preparation and aquaponics. SEAFDEC/AQD and JICA are set to conduct two more similar trainings in the Philippines annually until 2020.

Finding solutions

Vincent Ireri Kanyua, Assistant Director of Fisheries at Kenya, said he was sent by their government to address the low productivity of aquaculture systems in their country.

"The main purpose for me to be here is to learn more technologies and see how the Philippines, for example, have been able to have a high production, let's say of tilapia where they become number three globally," Kanyua said.

With Kanyua's exposure to SEAFDEC/AQD's thrust to reduce the cost of aqua feeds, he has become intent to similarly examine their locally-available feed ingredients back in Kenya as a way of reducing the production cost for small-scale fish farmers.

"Many things that we have a problem at home I can see some beginning of solutions at SEAFDEC here," said Segla Bienvenue Toviwazon, Rural Development Officer of the Republic of Benin, while revealing that their country relies on importation to fill a shortfall on fisheries production.



Trainees in a practical session on the induced spawning of bighead carp. [PHOTO BY JF ALDON]

"Through the lectures that I received from SEAFDEC here, I see that even on a small scale, people can choose broodstock and still get a better result, instead of us bringing broodstock from outside the country with all the problems and complications," Toviwazon added.

Small-scale fish farmers to benefit

Ojo Kingsley, Assistant Chief Fisheries Officer at Nigeria, remarked that the aquaponics setup he saw at the Central Luzon State University in Nueva Ecija spawned an idea of how aquaponics could also be incorporated through his outreach programs of promoting aquaculture in Nigeria as a means of boosting small-scale fish farmers' incomes.

"If the farmer is harvesting fish here and harvesting vegetables here, it's another source of income to boost the standard of living," Kingsley remarked after seeing lettuce being grown using water from a fish pond.

Mr. Libanga Ochola, a fisheries training officer from Zambia, revealed that because of his experience in the Philippines, his office will be enhancing their scheduled training in Zambia to benefit about 50 small-scale fish farmers.

"For the first time, when I go back home in the next few weeks, we are going to include fish breeding and feed processing as a topic for small-scale fish farmers. So, you can see the importance of this training here," Ochola said. [a](#)

- RD DIANALA



Trainees with SEAFDEC/AQD officials and representatives from JICA and Marino Forum 21 during the closing program. [PHOTO BY JF ALDON]

HK to venture into crustacean hatcheries, trains at AQD

The Hong Kong Special Administrative Region (HKSAR) Government sent two fisheries technical officers, Lee Yin King and Yuen Pui Sze, from their Agriculture, Fisheries and Conservation Department, to train on mangrove crab and shrimp hatchery operations at SEAFDEC/AQD.

“We are trying to do hatchery of crabs and shrimp in Hong Kong so that’s why we came here. What we expect is we’ll have hands-on experience on how to deal with larvae, and how to do the nursery,” Yuen Pui Sze remarked.

The training, held on 23-29 October 2018, included lectures on mangrove crab and shrimp biology, ecology,

culture, and nutrition including natural food production. It also covered practical sessions on crab and shrimp seed.

“During the training, I think we really got lots of information about the hatchery. It’s very good and everyone is very willing to help, answering our questions. We only have one week to do crab rearing, so we wish to stay longer for more practicals and training,” Yuen Pui Sze added.

Through the specialized training course, the participants confirmed that they now get the whole picture of the life cycle of shrimp and crab, enabling them to know what to do at which stage, and what to prepare and expect.

When asked about their future plans, the Hong Kong nationals mentioned applying their acquired skills and knowledge on their next projects involving hatchery and rearing of crab and shrimp, in addition to modifying their current set up and practice of crab hatchery system, further expecting a higher survival rate. They will also try to set up hatchery facilities for shrimp culture.

“My impression is that learning about the hatchery and rearing facility in SEAFDEC is very good. I’ve been to other training before, but they cannot provide many practical or many lectures. Also, there’s something they’re not telling us, or they keep as a secret” Lee Yin King informed.



A trainee learns how to tag a mangrove crab [PHOTO BY CV GENZOLA]

“Some of the other training that we have been to, in other institutions, or in other countries, the trainer just teaches all the lecture notes, but when we ask for details, they’re not quite willing to tell. But here in SEAFDEC, everyone is very willing to help us,” Yuen Pui Sze added. **a**

- DEVCOM

Info officers discuss new and existing information-related initiatives

CHONBURI, Thailand – In order to enhance the visibility of SEAFDEC in the region, information officers from the different SEAFDEC departments meet yearly to discuss information-related issues and initiatives.

For this year’s meeting, new initiatives discussed were the harmonization of websites, an updated version Notes for Editing of SEAFDEC Documents, guidelines on the standard format for official documents and stationeries, and placing of QR code in publications.

The “Notes for Editing of SEAFDEC Documents” and the “SEAFDEC Standards for Official Documents and Stationeries” will be submitted to the Department Chief’s Meeting for consideration and support. Upon approval, the

departments are enjoined to follow these guidelines.

The meeting also reviewed the progress and development of the institutional repositories of the departments and the implementation of information-related strategies for enhancing SEAFDEC visibility and communications.

Mr. Julius Manuel de Pili, information specialist of SEAFDEC/AQD, reported the website metrics of the Department’s website, while Senior Information Assistant Mr. Elvi Nemiz presented the progress of SEAFDEC/AQD’s institutional repository.

The Nineteenth Meeting of the SEAFDEC Information Staff Program was held from 9 to 11 October 2018. **a**

- RH LEDESMA



SEAFDEC/AQD information specialist Mr. Julius Manuel de Pili (top) and senior information assistant Mr. Elvi Nemiz (above) presenting AQD’s website and institutional repository statistics, respectively [PHOTOS BY RH LEDESMA]



AQD representatives Mr. Julius Manuel de Pili (seated, 2nd from left), Mr. Elvi Nemiz (standing, rightmost), and Ms. Rossea Ledesma (standing, 3rd from left) with the other participants of the Nineteenth Meeting of the SEAFDEC Information Staff Program [PHOTO BY SECRETARIAT]

Training for crab farming is in demand

Mangrove crab continued to be an important commodity among aquafarmers in Asian countries including the Philippines as shown by the high demand for training on the culture of the prized commodity.

SEAFDEC Aquaculture Department (SEAFDEC/AQD) has been among the leaders in the advancement of mangrove crab technology having done research work on the species since 1981. Today, its research work has borne fruit and experts have become busy providing technical knowledge and skills to increasing numbers of stakeholders.

“We have been offering training courses on mangrove crab culture since 2001 and since then catered more than 900 participants from different sectors like the government, academe, and private companies and institutions,” said Mr. Caryl Vincent Genzola, head of the Training Section at SEAFDEC/AQD.

After being offered yearly

for almost two decades at an average of two to three training courses a year, more stakeholders are showing interest in recent years.

“This year, for mangrove crab-related trainings alone, we offered nine courses with a total of 136 participants,” Genzola added.

Participants this year come mostly from the Philippines, although five other countries are represented including Singapore, Thailand, Indonesia, China and Bahrain. In all, more than 25 different countries have availed of SEAFDEC/AQD’s mangrove crab trainings since 2001.

“We believe that the caliber of experts and the quality of technical knowledge and skills being imparted to the trainees is what sets us apart from other training courses offered elsewhere,” Genzola added.

Training courses consist of 60% hands-on activities and farm visits while lectures take up 40% of the time.

Depending on the needs of participants, the different phases of mangrove crab culture may be covered: hatchery, nursery and grow-out. Crab fattening and soft-shell production technology may also be discussed.

Interested trainees may attend the regular training courses prescheduled annually or request for specialized training courses to fit their technology needs and schedule.

Since September, two specialized courses focusing on mangrove crab fattening were conducted. The first session for mangrove crab fattening was last 4-6 September 2018 with three participants and the second one was last 15-17 October 2018 with four participants. Another specialized training on hatchery and nursery



Associate researcher and mangrove crab expert Ms. Joana Joy Huervana lectures about biology and identification of mangrove crab [PHOTO BY CV GENZOLA]

operations was held 8-26 October with five participants.

The regular hatchery and nursery course was conducted last 13 August-3 September 2018 with 15 participants and the regular nursery and grow-out course was last 17-26 September with 13 participants.

Inquiries for training may be sent to training@seafdec.org.ph while the schedule for regular trainings is available at www.seafdec.org/training.

- JM DELA CRUZ

Crab growers update learnings on crab

To enhance their knowledge and skills on mangrove crab culture, crab growers from the different parts of the Philippines attended SEAFDEC/AQD’s training course on “Mangrove Crab Nursery and Grow-out Operations.”

The 10-day training course held in Tigbauan, Iloilo started on 17 September 2018 with four trainees each from Luzon and Mindanao and five trainees from Visayas.

SEAFDEC/AQD crab experts guided the participants to develop their skills on mangrove crab species identification, disease



Ms. Joana Joy Huervana (left) teaches the trainees how to identify the different species of mangrove crab [PHOTOS BY CV GENZOLA]

diagnosis, pond preparation and installation of hapa nets and shelters, hatchery operations, feed preparation, and soil and quality monitoring among others.

There were also lectures such as principles of sustainable aquaculture,

biology and hatchery operations, site assessment and selection, pond design and construction, disease management, marketing practices, soft-shell crab farming, food safety, impacts of climate change, and mangrove management.

The participants also had the chance to visit privately-owned soft-shell crab farms, grow-out farms and trading centers in the Panay area.

- RH LEDESMA

Forum tackles effect of invasive fishes in aquaculture

BINANGONAN, Rizal – To increase awareness of relevant government agencies and institutions on the impact of invasive fish species, the “3rd National Forum on Invasive Fish Species” was organized last 18 September 2018.

Dr. Maria Lourdes Aralar, SEAFDEC/AQD scientist and one of the resource persons of the forum, talked about the “Impacts of Invasive Fishes on Aquaculture.”

“Invasive species are capable of altering ecosystems services by affecting populations, community interactions, ecosystem processes, and abiotic variables,” Dr. Aralar’s presentation stated.

Dr. Aralar also enumerated the top 10 invasive fish species based on their impact to underwater ecosystems. An example is common carp, *Cyprinus carpio*, that destroys submerged vegetation which would have been food for other native aquatic organisms. Another is mosquito fish, *Gambusia affinis*, that not only feed on mosquito larvae but also eat small fishes. One more example of invasive species

cited by Dr. Aralar is rainbow trout, *Oncorhynchus mykiss*, which is responsible for increasing the prevalence of “whirling disease” due to a parasite.

“Adverse impacts of invasive fish species on aquaculture include: competition for food, dissolved oxygen, and habitat; predation; introduction of pathogens and parasites; and hybridization from interbreeding of two genetically distinct individuals,” discussed Dr. Aralar.

To control the spread of invasive fish species in aquaculture, Dr. Aralar stressed the importance of implementing and enforcing regional guidelines for responsible aquaculture as well as the country’s own regulations. The conduct of risk assessment and management was also proposed as the first line of defense against unwarranted effects of introduced species. Dr. Aralar also suggested to reduce dependence on alien species for aquaculture and promote domestication of commercially important local species instead. **a**

- RH LEDESMA



SEAFDEC/AQD scientist Dr. Maria Lourdes Aralar (right) answers a question from a participant of the “3rd National Forum on Invasive Fish Species” [PHOTO COURTESY OF MLC ARALAR]



Group discussions during the Project Cycle Management Training [PHOTO BY IT TENDECIA]

Project Cycle Mgmt. for effective planning and implementation

Officials and office heads of SEAFDEC/AQD underwent a training on Project Cycle Management (PCM) to aid in their project planning and formulation, monitoring and evaluation.

PCM is widely used for project formulation and implementation, particularly by UN organizations, donor agencies and the World Bank.

The training, held 23-24 October at the Multi-Purpose Hall, saw participants learning how to effectively use the logical framework, or logframe, as a tool for effective PCM. It is used to break down complex projects into its essential elements and define parameters for effective monitoring.

During the training, each SEAFDEC/AQD division prepared logframes according to their division’s development objectives. Assumptions and risks were identified along with appropriate monitoring mechanisms.

Pedro Bueno, former Director-General of the Network of Aquaculture Centers in Asia (NACA) and FAO Consultant in Fisheries Management and Planning,



The resource persons of the Project Cycle Management training are Mr. Pedro Bueno (top) and Mr. Masanami Izumi (above) [PHOTOS BY IT TENDECIA]

and SEAFDEC advisor Masanami Izumi served as resource persons for the training.

Prior to the training in SEAFDEC/AQD, Bueno and Izumi also conducted the same training with SEAFDEC Secretariat and Training Department staff in Bangkok last 26 September 2018. **a**

- RD DIANALA

Student researchers gain from scientific environment



The student researchers from the Iloilo National High School - Special Science Class and Philippine Science High School Western Visayas
[PHOTO BY E MACAINAN]

Students from Iloilo National High School - Special Science Class (INHS-SSC) and Philippine Science High School Western Visayas (PSHSWV) found a supportive scientific enclave in SEAFDEC/AQD where they conducted experiments, as part of their research requirement in the science curriculum.

All the students agreed that SEAFDEC/AQD provided a conducive environment and community in order to properly conduct their research.

The group of Jem Patrice Alfonso, Keisha Carmela Bungay, and Dominic Yap from PSHSWV tried to determine the effect of the hot-water extract of seaweed *Gracilariopsis heteroclada* on the immune response of *Litopenaeus vannamei* juveniles.

"Everything was systematic, and SEAFDEC certainly helped us not only in the provision of materials and equipment but also in professional insight," they said.

Meanwhile, the group of Kristina Celis, Julieta Cruz-Am and Angel Shane Edrosolano from INHS – SSC worked on the phytoplankton *Tetraselmis tetrathele* as probiotic enhancer against the bacteria *Vibrio harveyi*.

"The staff were very approachable and were ready to help us. The library was also easily accessible which also greatly helped our study," they acknowledged.

On October 24, the students presented their research findings through the AQD in-house seminar held at the TID Conference Room with the objectives of evaluating their studies and improving their presentations.

Other students from INHS – SSC, Lyny Giovyn Cainglet, Raef Cen Palomar, and Samantha Mikhaila Patiño, evaluated the in vitro antibacterial activity of *Litopenaeus vannamei* exoskeleton on the sensitivity of *Escherichia coli*, while the lone student-researcher Tricia Marie Tenerife studied the antibacterial activity of *Oreochromis*

niloticus epidermal mucus against *Escherichia coli* and *Staphylococcus aureus*.

On the other hand, the group of Joseph Dinesh Lamzon, Jec Jose Cabalfin, and Vaughn Remos Serra from PSHSWV experimented the effect of marine bacteria, *Rhodobacter sphaerioides*, against harmful-algal-bloom-causing dinoflagellate, *Amphidinium cartararum*.

The students from INHS bagged some awards when they participated in the Division Science and Technology Fair held in Iloilo City last October 6- 7 under the life science category.

For the team category, Cainglet, Palomar, and Patiño were in the top 5; while for the individual category, Tenerife was included in the top 2, making her a qualifier to the Regional Science and Technology Fair. Celis, Cruz-Am, and Edrosolano won best poster during the event. 📌

- DEVCOM

Travels funded by the Staff Dev't Committee

- **Jeralyn Felera-Panizales**
She attended the training course on "Quality Assurance in Chemical Analysis" held at the Natural Sciences Research Institute, University of the Philippines, Diliman, Quezon City from 4 to 6 April 2018.
- **Norwell Brian Bautista**
He presented his paper on "Optimizing culture requirements for maximum poly- β -hydroxybutyrate (PHB) production in *Bacillus* spp. JL47" at the 1st Bilateral Research Symposium in Taipei, Taiwan on 11-13 April 2018.
- **Dr. Jon Altamirano**
He presented papers on "Adverse effects of storms on growth and survival of juvenile tiger shrimp *Penaeus monodon* in a mangrove silvo-aquaculture pen" and "Nursery culture of sea cucumber *Holothuria scabra* in sea-based floating hapa bag nets" at the Asian-Pacific Aquaculture 2018 in Taipei, Taiwan on 23-26 April 2018.
- **Jessebel Valera-Gadot**
She attended the 33rd Philippine Chemistry Congress held in Pasay City from 30 May to 1 June 2018.
- **Stephen Alayon**
He attended the 17th Congress of Southeast Asian Librarians held in Nay Pyi Taw, Myanmar from 2 to 5 May 2018.
- **Dr. Edgar Amar**
He presented a paper on "Comparative pathogenicity and virulence of *Vibrio parahaemolyticus* derived from an AHPND outbreak in the Philippines" during the World Aquaculture Society meeting in Montpellier, France on 26-29 August 2018.
- **Al Edward Omar Limoso**
He attended the 49th National Annual Convention and 68th Foundation Anniversary of the Occupational Health Nurses Association of the Philippines, Inc. held in Manila on 7-8 September 2018.
- **Engr. Margarita Arnaiz**
She attended the Quality Assurance and Compliance – Part 2 seminar held at the St. Paul's University in Quezon City on 6-7 September 2018.

*Other travels funded by the Staff Development Committee not included here were already featured in the previous issue of AQD Matters.

Newly-hired Employees for the 2nd and 3rd Quarters of 2018



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External evaluators commend SEAFDEC/AQD research efforts



SEAFDEC/AQD program leaders, senior staff together with external evaluators discuss activities and plans [PHOTO BY JM DELA CRUZ]

Reduction of feed costs for milkfish, sharing of economic knowledge to local fish farmers, and reviving the shrimp industry were among the initiatives of SEAFDEC Aquaculture Department which were commended during the In-house Review and Planning Meeting last 25-26 September 2018.

The meeting reviewed the progress of activities in 2018 and discussed the future plans for 2019 to ensure that they are within the department's goals and objectives.

Together with SEAFDEC/AQD's executive committee and senior staff, external reviewers who appraised the activities include Mr. Roy Ortega, Aquaculture Division officer-in-charge from the Bureau of Fisheries and Aquatic Resources; Ms. Ma. Theresa Mutia, Chief Aquaculturist from

Department of Agriculture's National Fisheries Research and Development Institute; Dr. Emelyn Flores Assistant Regional Director for Technical Operations from the Department of Science and Technology; and Mr. Joseph Borromeo, National President of Philippine Association of Fish Producers Incorporated.

Program leaders and section heads presented around 40 studies and projects in research, technology verification, training, information, and administration.

Aside from reviewing the programs and projects, external evaluators showed interest in starting collaborations with the department especially in the field of vaccine production and popularizing matured technologies. **a**

- JM DELA CRUZ



The external evaluators during the In-house Review and Planning Meeting (clockwise): Mr. Joseph Borromeo, National President of Philippine Association of Fish Producers Incorporated; Mr. Roy Ortega, Aquaculture Division officer-in-charge from the Bureau of Fisheries and Aquatic Resources; Ms. Ma. Theresa Mutia, Chief Aquaculturist from Department of Agriculture's National Fisheries Research and Development Institute; and Dr. Emelyn Flores Assistant Regional Director for Technical Operations from the Department of Science and Technology [PHOTOS BY JF ALDON]

HRMS conducts policy orientation for researchers

For the benefit of new associate researchers and technical staff, the Human Resources Management Section organized an orientation on the policies and guidelines of the Department.

Ms. Kimberly Dianne Abrogueña, officer in-charge of the Employees' Welfare and Benefits Unit, informed the attendees about the major responsibilities, level and step promotion, and publication compliance of researchers.

"The major responsibilities of a researcher include publication of original research results in reputable peer-reviewed science journals, conduct approved research studies every year consistent with the objectives of AQD, and must help in the training and information dissemination programs," explained Ms. Abrogueña.

Ms. Abrogueña also informed the researchers that an employee is qualified for adjustment to a higher level or step upon satisfying the minimum senior authorship and scientific merit point requirements for the level or step.

On the other hand, Mr. Stephen Alayon, acting head of the Library and Data Banking Services Section, discussed further on the guidelines for level and step promotion, guidelines for the granting of scientific merit points, and the criteria for incentive pay for scientific publications.

"Incentive pay for full primary scientific publications is applicable to employees with positions of technical assistant to senior scientist," stated Mr. Alayon in his presentation.

Moreover, he explained that an employee is qualified to get an incentive pay if he or she has published a full primary scientific paper as senior author describing original research results in a peer-reviewed journal covered by ISI Current Contents. The paper must also be in aquaculture or related fields and "SEAFDEC Aquaculture Department" must appear in the paper's by-line as the senior author's address.

Mr. Alayon also oriented the researchers on the required forms or reports to be submitted to Databank such as research proposals, staff accomplishment reports, and quarterly and annual progress reports.

Forty researchers and technical staff from the Research Division and Technology Verification and Extension Division attended the orientation held at the Training and Information Division Conference Room on 10 October 2018.

"This Policy Orientation clarified the guidelines and benefits of [researchers] and this should be a yearly activity, preferably on the first quarter of the year," commented some participants. 

- RH LEDESMA



Ms. Kimberly Dianne Abrogueña, officer in-charge of the Employees' Welfare and Benefits Unit (left) and Mr. Stephen Alayon, acting head of the Library and Data Banking Services Section (right) discuss the policies and guidelines of SEAFDEC/AQD [PHOTOS BY JF ALDON]



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The participants of the policy orientation [PHOTOS BY JF ALDON]