

A technician releases milkfish breeders into the new broodstock tanks of SEAFDEC/AQD in Tigbauan, Iloilo on 30 March 2021. See story on page 6. [PHOTO BY JF ALDON]



# aqd matters

March-April 2021

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

## Matters inside

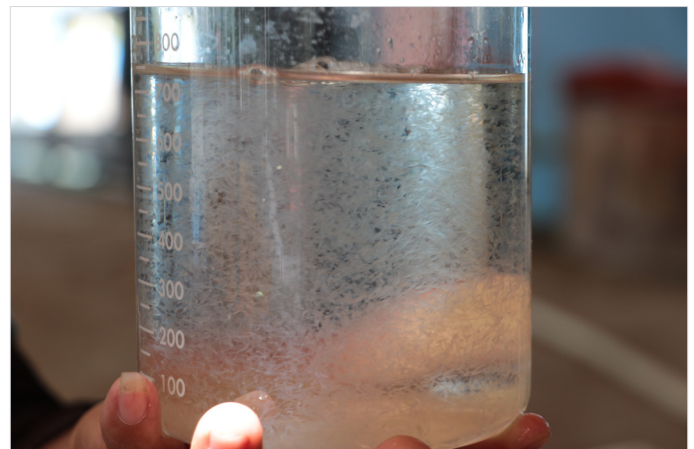
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## Revived hatchery signals major step towards milkfish fry sufficiency

**BATAN, Aklan** - The embattled milkfish industry in the Philippines got a shot in the arm as the first rehabilitated hatchery in Western Visayas, which is expected to produce 5 to 10 million bangus fry every year, started its operations to address the persistent shortage of milkfish seeds in the country.

Located in the province of Aklan, the 1,787 square meter Batan Bangus Satellite Hatchery was launched in February this year under the National Fry Sufficiency Program of the Department of Agriculture's Bureau of Fisheries and Aquatic Resources (DA-BFAR).

The hatchery used to produce shrimp fry in 1983 but outbreaks of diseases in shrimp during the 90s led the hatchery to cease its operations in 1995. Now,



SEAFDEC/AQD donated 1.1 million milkfish larvae to jumpstart the operations of the Bangus Satellite Hatchery in Barangay Songcolan, Batan, Aklan. Under the National Fry Sufficiency Program, the research institute partnered with DA-BFAR to revive hatcheries across Western Visayas. Photo by JF Aldon

it is one of the central hubs that produce quality, locally-produced milkfish fry in Western Visayas.

To jumpstart the hatchery's operations, 1.1 million pieces of milkfish larvae and 30 liters of rotifers—microscopic aquatic

animals that serve as natural food—were donated and turned over by SEAFDEC.

"The revival of the satellite hatchery in Batan is simply the beginning of many yet to come," SEAFDEC/AQD Chief Dan Baliao stated in an interview.

*Continued on next page...*



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Aside from the hatchery in the Municipality of Batan, another satellite hatchery located in the campus of the Northern Iloilo Polytechnic College in Concepcion town is gearing up for its operations.

In southern Iloilo, SEAFDEC/AQD identified 12 hatcheries that were abandoned or are non-operational because of sickness or death of its owner, bankruptcy and lack of finances to continue operations.

Baliao reiterates that by rehabilitating these identified sites, the production of milkfish fry in the country would be maximized to meet the yearly Philippine demand of about 2.5 billion. To meet this massive requirement for fry, farmers have resorted to the importation of fry from neighboring countries.

About half of the 400,000 metric tons of milkfish consumed by Filipinos were sourced as fry from hatcheries in Indonesia and Taiwan before being imported for grow-out in the Philippines, according to industry sources.

"This collaborative undertaking with BFAR, SEAFDEC, and private partners is a step forward to answer the shortage of bangus fry and to curb our dependence on its importation," stated Wilfredo D. De Los Santos, chief of the Fisheries Production Support and Services Division, BFAR Region 6.

The hatchery technicians and staff of the Bangus Satellite Hatchery in Batan town harvested their first batch of milkfish fry last March 2021, which was then stocked in a nearby nursery pond.

As the focal person of the Bangus Sufficiency Program in the region, De Los Santos also further emphasized that the involvement of the agencies and key industry players is a "necessary investment" to achieve fry sufficiency in the country.

### Forging ahead

Since 2018, SEAFDEC/AQD has been working with BFAR-6 in identifying non-operational, abandoned, or damaged hatcheries to ramp up fry production in the province of Iloilo.

The identified facilities in the region were assessed based on the stability of the tanks, accessibility of the area, and ownership rights among other factors.

Once baseline information was established, cost estimates for the repair and improvement of these facilities were shouldered by SEAFDEC/AQD, BFAR, and the private sector.

The research organization has also been involved in formulating the strategies to increase the spawning of milkfish breeders during the colder months of the year. By installing water heaters in a broodstock tank, SEAFDEC/AQD was able to help maintain hatchery productivity during off-season months and was able to provide a continuous supply of seed.

SEAFDEC/AQD also recently completed the construction of a new milkfish broodstock facility and a new milkfish hatchery, both set to be inaugurated and fully-armed for production soon.

Additionally, the research institute will be lending its expertise to those who are planning to put up hatcheries of their own, as the hatchery will also serve as a training and demonstration ground.

Through these partnerships and science-based innovations, Baliao stated that he has "high hopes" for the next steps they will take in the progress of this initiative. "We at SEAFDEC/AQD will continue to dedicate our expertise to the promotion of sustainable aquaculture technologies that would meet our constituents' needs," he stressed.



A hatchery technician packs milkfish fry in oxygenated bags before shipping them out to a buyer. A first batch of fry were harvested from the first run of the Batan Bangus Satellite Hatchery, a rehabilitated hatchery under the National Fry Sufficiency Program. Photo courtesy of Wilfredo D. De Los Santos

At the moment, SEAFDEC/AQD and DA-BFAR are also working on establishing other legislated hatcheries across the country. Once constructed, each

marine hatchery will be able to produce 25 million fry annually to provide for the seed requirements of local fish farmers in their own respective regions. **a**

— JR PAGADOR

## SEAFDEC welcomes DA USEC as new PH Council Director



Photo from USEC Caballero's FB Page

USEC. CHERYL MARIE NATIVIDAD-CABALLERO, Department of Agriculture Undersecretary for Agri-Industrialization and for Fisheries, was appointed as the new SEAFDEC Council Director for the Philippines beginning this 2021.

Natividad-Caballero will be part of the Council that assesses programs and projects conducted by SEAFDEC Departments to ensure that they address the central fisheries and aquaculture issues and concerns of Southeast Asia.

"We wish Usec. Natividad-Caballero the best of luck in her new duties as Council Director for the Philippines. She can be assured that we at SEAFDEC/AQD will be an active partner in attaining the goal of sustainable fisheries and aquaculture production for the country," said SEAFDEC/AQD Chief Dan Baliao. **a**

— JM DE LA CRUZ

# Council commends SEAFDEC/AQD projects during 53CM



[Right to left] Deputy Chief Dr. Sayaka Ito, Chief Dan Baliao, Administration and Finance Division Head Ms. Amelita Subosa, Research Division Head Dr. Leobert de la Peña, and Special Department Coordinator Ms. Joesyl Marie de la Cruz attend the Fifty-third SEAFDEC Council Meeting from 27 to 28 April 2021 via Zoom. Photo by JF Aldon

THE Fifty-third SEAFDEC Council Meeting (53CM) was virtually convened from 27 to 28 April 2021 to discuss the achievements of the Center in 2020 and its plans for 2021.

Council Directors and representatives from the 11 member countries expressed their appreciation to SEAFDEC and its departments for continuing its programs despite the limitations brought about by the COVID-19 pandemic.

Aside from its departmental and regional programs, SEAFDEC Aquaculture Department (AQD) proposed a regional project which will address the major aquatic animal health emergencies in Southeast Asia. The Council supported and approved the project.

“I would like to commend SEAFDEC/AQD for this initiative. The spread of transboundary diseases has become a serious challenge in the

region, and Indonesia is very willing to participate and support this project actively,” said Mr. Antam Novambar, the council director for Indonesia.

The Council also discussed and provided recommendations for policy consideration on important issues in the region, including illegal, unreported, and unregulated (IUU) fishing; stock and risk assessments of neritic tunas; fisheries subsidies; and others. [a](#)

— JM DE LA CRUZ

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## Chief Baliao, SEAFDEC/AQD experts extend help to BFAR 6



Photo by JF Aldon

CHIEF DAN BALIAO, together with SEAFDEC/AQD experts, met with the Bureau of Fisheries and Aquatic Resources 6 (BFAR Region 6) regional director Remia Aparri and staff from the Fisheries Production and Support Services Division for possible assistance on BFAR 6’s implementation of legislated hatcheries and other aquaculture facilities in Western Visayas.

In the meeting held at SEAFDEC/AQD’s main station in Tigbauan, Iloilo on 12 April 2021, Dir. Aparri requested SEAFDEC/AQD to help them conduct the feasibility study for this project. The proposed project is set to start this year with three main core hatcheries and two satellite hatcheries to be constructed in the municipalities of the 5th District of Iloilo such as San Dionisio, Concepcion, Barotac Viejo, and Estancia.

The Director also sought SEAFDEC/AQD’s assistance in assessing the Blue Swimming Crab Hatchery and the newly-finished Seaweed Laboratory that was put up in Nueva Valencia, Guimaras prior to starting its operation.

Memorandum of agreements for these activities are now being prepared for review by both institutions. [a](#)

— RH LEDESMA



# Heated tanks lead to productive milkfish spawning in cold months

SEAFDEC/AQD is promoting a simple technology to address the perennial shortage of milkfish fry that continues to hound fish farmers in the Philippines during the colder months of the year.

“The shortage of milkfish seeds is more pronounced in the Philippines between November to February when the weather becomes too cold for breeders to lay eggs,” said SEAFDEC/AQD Chief Dan Baliao, who further underscored that “thermal manipulation is necessary to help milkfish hatcheries stay productive during the four-month off-season by ensuring a continuous supply of seed.”

He explained that to induce the breeders to spawn, they installed water heaters in a 500-ton tank housing over 100 milkfish breeders, raising the temperature to at least 29 degrees Celsius from November to February.

Data from the SEAFDEC/AQD hatchery show that milkfish breeders normally only spawn between March and October when the weather, and consequently the water, is warmer. From November to February, the hatchery was essentially unproductive due to lower water temperature.

Using “thermal manipulation” in the research center’s demonstration activity, SEAFDEC/AQD collected about 2.9 million good eggs from which almost 1.7 million normal larvae were hatched in a time that is normally considered off-season by milkfish hatcheries from Nov. 2020 to Jan. 2021.

Dir. Remia Aparri of the Department of Agriculture’s Bureau of Fisheries and Aquatic Resources (DA-BFAR) Region 6 expressed her support to the technology



Milkfish broodstock tanks at the Southeast Asian Fisheries Development Center, Aquaculture Department in Tigbauan, Iloilo are being constructed to help augment the supply of milkfish seeds in the Philippines. Photo by JF Aldon

which she said will contribute to fish sufficiency of the country.

“With available milkfish fry all throughout the year, this will encourage bangus growers in fishpond and mariculture areas to increase their capacity to produce more thereby contributing to increasing milkfish production,” Aparri said.

Although designated as the unofficial national fish of the country, about half of the 400,000 metric tons of milkfish served on Filipino dining tables each year are actually born in hatcheries in Indonesia and Taiwan before being imported for grow-out in the Philippines.

## ***Bangus fry sufficiency program***

Baliao added that due to the heated breeder tank, SEAFDEC/AQD was able to donate 1.1 million pieces of milkfish larvae to a satellite hatchery in Batan, Aklan that is being rehabilitated in collaboration with DA-BFAR (story on page 1).

Previously a hatchery that produced shrimp fry, the



Milkfish fry at the hatchery of the Southeast Asian Fisheries Development Center, Aquaculture Department in Tigbauan, Iloilo that are ready to be transported to nurseries and grow-out farms. Photo by JF Aldon

facility is being revived jointly by SEAFDEC/AQD and DA-BFAR to boost the local supply of seeds as part of the latter’s Bangus Fry Sufficiency Program.

DA-BFAR estimates an additional 1.2 billion locally-produced fry are needed every year on top of 1.1 billion current local production. This brings national requirement to 2.5 billion as the expansion of local production is expected to reduce importation by 85 percent.

To further expand local production, SEAFDEC/AQD built a new milkfish broodstock facility and a new

milkfish hatchery, both set to be inaugurated this year.

Baliao also added that SEAFDEC/AQD is willing to assist hatchery operators who plan to incorporate thermal manipulation in their facilities.

SEAFDEC/AQD and DA-BFAR are also working towards the establishment of legislated multi-species hatcheries alongside the repair and rehabilitation of abandoned hatcheries around the country. Upon completion, each of these hatcheries are projected to produce 25 million fry every year. **a**

— RD DIANALA



# Milkfish fry disposal from January to April 2021

**OFF-SEASON NO MORE.** SEAFDEC/AQD can now supply milkfish fry throughout the year by using the simple technology of thermal manipulation. From the beginning of the year up to April, SEAFDEC/AQD has already disposed about 1.5 million milkfish fry to its stakeholders.

| Location           | Quantity (pcs) | Location                                       | Quantity (pcs)   |
|--------------------|----------------|--|------------------|
| Tigbauan, Iloilo   | 9,000          | Guimaras                                       | 60,000           |
| Jaro, Iloilo       | 20,000         | Guimaras                                       | 120,000          |
| Mandurriao, Iloilo | 10,000         | Negros Occidental                              | 100,000          |
| Leganes, Iloilo    | 15,000         | Masbate  | 55,000           |
| Tigbauan, Iloilo   | 20,000         | Ajuy, Iloilo                                   | 40,000           |
| Masbate            | 70,000         | Dumangas, Iloilo                               | 90,000           |
| Balasan, Iloilo    | 25,000         | Guimaras                                       | 40,000           |
| Batan, Aklan       | 30,000         | Masbate  | 40,000           |
| Arevalo, Iloilo    | 20,000         | University of the Philippines Visayas, Miag-ao | 75,000           |
| Dumangas, Iloilo   | 60,000         | Guimaras                                       | 50,000           |
| Leganes, Iloilo    | 40,000         | SEAFDEC/AQD                                    | 30,000           |
| Roxas City, Capiz  | 50,000         | Guimaras                                       | 130,000          |
| Dumangas, Iloilo   | 130,000        | Roxas  | 150,000          |
| Balasan, Iloilo    | 90,000         | Masbate  | 20,000           |
|                    |                | <b>TOTAL</b>                                   | <b>1,589,000</b> |



SEAFDEC/AQD hatchery technician packs milkfish fry for transport to buyers. Photo by M Biona

# Coastal residents spot turtle hatchlings

SEVENTEEN olive ridley turtle hatchlings were released to the sea at Barangay Buyu-an, Tigbauan, Iloilo on 8 March 2021 after residents reported seeing the turtles wandering into their homes near the beach. Technical staff and volunteers from the nearby FishWorld of SEAFDEC/AQD responded to the scene and facilitated the hatchlings' safe release.

A nesting site filled with unhatched eggs was also found in the area. Representatives from DENR-CENRO Guimbal, LGU-Tigbauan, Bantay Dagat, Coast Guard, and Barangay Buyu-an officials helped locate and secure the site by fencing off the nest to protect against predators. **a** — JR PAGADOR



Olive ridley turtle hatchlings spotted by the residents of Barangay Buyu-an, Tigbauan, Iloilo that were released to the sea on 8 March 2021. Photo by JF Aldon



A SEAFDEC/AQD staff releases the Olive ridley turtle hatchlings to the sea in Barangay Buyu-an, Tigbauan, Iloilo on 8 March 2021. Photo by JF Aldon



# New broodstock facility stocked with hundreds of milkfish breeders

HUNDREDS of milkfish breeders were stocked in SEAFDEC/AQD's newly-constructed broodstock facility, composed of four broodstock tanks with a capacity of 500 tons per tank, at its main station in Tigbauan, Iloilo.

The milkfish breeders, weighing 3.5–5 kilograms apiece, were acquired by SEAFDEC/AQD on 22–23 March 2021 from a farm in Dumangas, Iloilo. More breeders were also stocked on 30 March 2021 after transporting them from SEAFDEC/AQD's fish cages in Guimaras. The goal is to have at least 400 additional milkfish breeders at the Tigbauan facilities, on top of about 300 already stocked in older tanks.

With these new breeders, SEAFDEC/AQD projects to produce an additional 320



A technician holds a milkfish breeder to be released into the new broodstock tanks of SEAFDEC/AQD in Tigbauan, Iloilo on 22 March 2021. Photo by JF Aldon

million milkfish eggs annually to hatch an estimated 256 million larvae that may be supplied to satellite hatcheries and nursery ponds/tanks all over the Philippines. The move is in support of the Bangus Fry Sufficiency Program of the

Department of Agriculture's Bureau of Fisheries and Aquatic Resources.

Currently, SEAFDEC/AQD provides milkfish fry to local fish farmers of Panay Island and other areas where transportation is unhindered

by periodic COVID-19 lockdowns. Deliveries were made to 10 locations in Iloilo, three in Guimaras, and one each in Aklan, Negros Occidental, Capiz, and Masbate (see table on page 5). **a**

— DEVCOM

## IN PHOTOS

**THE FIRST OF MANY.** SEAFDEC/AQD successfully harvested its first batch of milkfish fry from the newly-built multi-species marine hatchery in Tigbauan, Iloilo last 24 April 2021. The batch of fry was then transported to a buyer from Roxas City, Capiz, the following day.

Through the newly-built hatcheries and continued research on effective culture techniques, SEAFDEC/AQD will help produce more fry for more fish farmers. **a**

— JM DE LA CRUZ

Photos by JF Aldon





# Expert presents aquaculture innovations in APFIC webinar

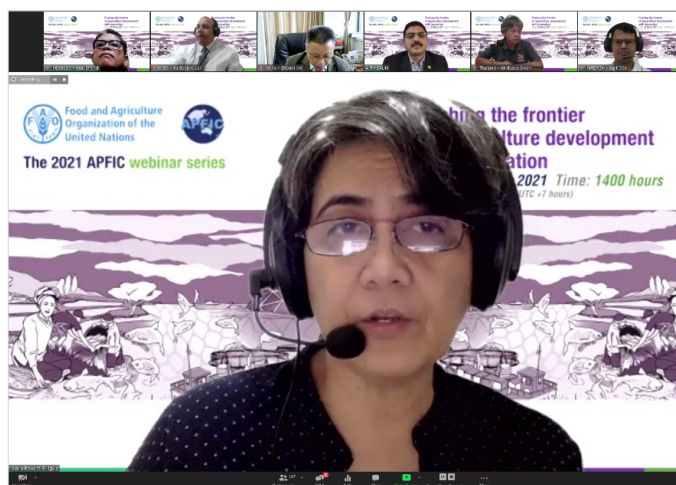
WITH expertise in biotechnological sciences as applied in aquaculture, SEAFDEC/AQD scientist Dr. Maria Rowena Eguia was tapped to present the aquaculture innovations in the Philippines in a webinar on 25 March 2021.

In her presentation, Dr. Eguia discussed about the status and trends in Philippine aquaculture as well as the recent researches and innovations for commodities such as mangrove crab, mussel, seaweed, and milkfish.

During her talk, she introduced several technology innovations like the crabifier that is a mobile phone application which can identify the different

crab species using image analysis based on frontal lobe differences and DNA barcode data. Another one is the Aquabiz application developed by a feed company in the Philippines that includes features such as computation of the daily feed requirement, growth rate, and feed conversion ratio.

The webinar, titled “Pushing the frontier of aquaculture development with innovation,” was organized to feature country reports on aquaculture innovations in Southeast Asia. It is part of the 2021 Asia-Pacific Fishery Commission (APFIC) webinar series organized by INFOFISH, Food and Agriculture Organization



A screenshot of SEAFDEC/AQD Scientist Dr. Maria Rowena Eguia presenting her report on the aquaculture innovations in the Philippines. (Courtesy of INFOFISH)

(FAO), and Asian Institute of Technology. The virtual meeting was conducted via Zoom and was hosted by INFOFISH in Malaysia.

The country reports presented during this seminar will also be published as part of a FAO Technical Report series. [a](#)

— RH LEDESMA

# SEAFDEC/AQD staff upgrades skills, learns basic video editing

SEAFDEC/AQD organized a training-workshop on basic video shooting and editing for its staff involved in training and information dissemination activities to help meet the increasing need for digital content in training courses and information dissemination programs.

The two-day workshop was conducted by Mr. Ritz Meir Hornada, a cinematographer and video

editor, who has over a decade of experience in creating media for multiple platforms. Mr. Hornada covered topics on basic camera settings, shooting angles, camera movements, proper lighting, shoot conceptualization, video project management, video editing, among others. The 17 participating SEAFDEC/AQD staff also discussed with him other concerns specific to the needs of SEAFDEC/AQD.

The workshop was held at SEAFDEC/AQD's station in Tigbauan, Iloilo on 22–23 March 2021. Other participants from AQD's Binangonan Freshwater Station in Rizal attended the workshop through Zoom. [a](#)

— RH LEDESMA



Mr. Ritz Meir Hornada (right) receives a Certificate of Appreciation from Dr. Edgar Amar, Training and Information Division Head, for conducting the training-workshop on basic video shooting and editing on 22-23 March 2021. Photo by JF Aldon



Mr. Ritz Meir Hornada (left) teaches AQD staff how to use Adobe Premiere in editing videos during the Training-Workshop on Basic Video Shooting and Editing held 22–23 March 2021 in Tigbauan, Iloilo. Photos by JF Aldon



# Newly-hired Employees

## January-March 2021



**JOSE MARIA ANGELO L. APURA**  
Dispatcher/Warehouse Aide  
Engineering Section  
Administration and  
Finance Division



**MARVIN A. BIONA**  
Technical Assistant  
Integrated Hatchery  
Technology Verification and  
Extension Division



**NOMAE JOYLYN T. CASTOR**  
Research Technician  
Breeding and Seed  
Production Section  
Research Division



**KNESSA LOUIE G. DATO-ON**  
Sr. Research Technician  
Breeding and Seed  
Production Section  
Research Division



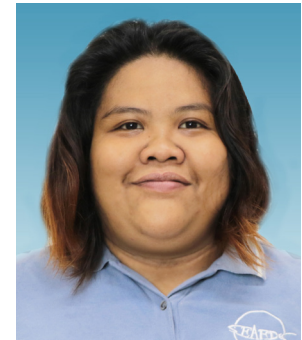
**MARY GOLD R. DAVID**  
Technical Assistant  
Breeding and Seed  
Production Section  
Research Division



**MARWIN B. DELA CRUZ**  
Associate Researcher  
Technology Verification and  
Extension Division



**FRANK S. DE LOS REYES**  
Technical Assistant  
Integrated Hatchery  
Technology Verification and  
Extension Division



**NIKKA O. FAILAMAN**  
Technical Assistant  
Shrimp Hatchery  
Technology Verification  
and Extension Division



**THERESE MARIE M. GEANGA**  
Technical Assistant  
*Macrobrachium* Hatchery  
Technology Verification and  
Extension Division



**JANICE T. GENILZA**  
Technical Assistant  
Shrimp Hatchery  
Technology Verification and  
Extension Division



**RONEL JUDD B. MANUCAN**  
Research Technician  
Breeding and Seed  
Production Section  
Research Division



**HANNAH MAE E. PASAQUIAN**  
Technical Assistant  
Mangrove Crab Hatchery  
Technology Verification and  
Extension Division



# Newly-hired Employees



**SUNDROH V. RAMOS**  
Sr. Research Technician  
Shrimp Hatchery  
Technology Verification and  
Extension Division



**MARJORIE N. ROCAMORA**  
Technical Assistant  
Integrated Hatchery  
Technology Verification and  
Extension Division



**MELANDRO C. SAAYO**  
Technical Assistant  
Big Hatchery  
Technology Verification and  
Extension Division



**JOEMAR I. SALAZAR**  
Technical Assistant  
Mangrove Crab Hatchery  
Technology Verification and  
Extension Division



**JERNET ZYCA P. SILORIO**  
Technical Assistant  
Technology Verification and  
Extension Division  
*assigned at Training Section*



**RONALD S. SOMBLINGO**  
Pond Aide  
Dumangas Brackishwater Station  
Technology Verification and  
Extension Division



**MARK GLORIAN D.  
VICENCIO**  
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Shrimp Hatchery  
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Extension Division



## **aqd matters**

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# BFS adapts to the 'new normal,' converts hands-on trainings to online courses

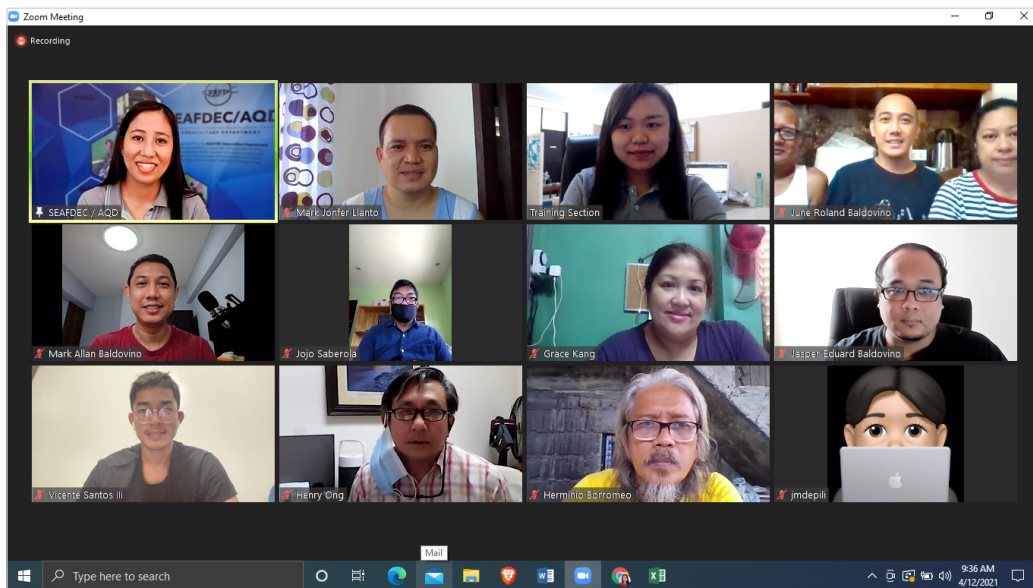
**BINANGONAN, Rizal**

– To continue serving its stakeholders amidst the pandemic, SEAFDEC/AQD's Binangonan Freshwater Station (BFS) shifted from its hands-on training courses to online courses.

The first online training course conducted by BFS was on freshwater prawn hatchery and grow-out operations held 13-15 April 2021 via Zoom. The course had a series of lectures including topics on the freshwater prawn industry, biology, broodstock management, hatchery and nursery operations, natural food production, feed preparation, cost and returns analysis, and investment analysis.

In lieu of the practical sessions performed during hands-on trainings, video presentations on the determination of water quality, hatchery operations, and feed preparation were shown to the participants.

During the virtual closing ceremony on 15 April 2021, Training and Information Division Head Dr. Edgar Amar expressed to the 12 participants his hope that the



A screenshot of the participants of the Online Training Course on Freshwater Prawn Hatchery and Grow-out Operations with SEAFDEC/AQD staff who were in-charge of the training course. Screenshot courtesy of MH Stinson

knowledge gained by them will be put into good use.

“I hope that you can put to good use the things that you learned from this course so that you can contribute in your own little way to the socioeconomic well-being of the country,” said Dr. Amar.

This online course on freshwater prawn is scheduled to have a second session this coming June 2021. [a](#)

— RH LEDESMA



Trainees attend the online session of the training course on freshwater prawn hatchery and grow-out operations. Photos courtesy of J Decolongan and V Santos III

## Eye wellness in focus

To promote eye health among SEAFDEC/AQD employees, the Human Resources and Management Section and the Medical Unit organized an on-site free eye checkup in partnership with Ideal Vision Center Iloilo.

Fifty-five employees and five dependents availed of the free eye checkup performed by Dr. Ma. Esperanza Alvarez, eye specialist of Ideal Vision Center Iloilo. The checkups were held at the SEAFDEC/AQD Multi-Purpose Hall in Tigbauan, Iloilo on 7 April 2021. [a](#)

— RH LEDESMA



Dr. Ma. Esperanza Alvarez, an eye specialist of Ideal Vision Center Iloilo, checks the eyes of the daughter of a SEAFDEC/AQD employee (left photo) and an employee tests the prescribed lens by looking through the reading test card (right). Photos by N Tumale





# Youth called to engage in aquaculture to secure fish supply

THE African swine fever threatening the protein supplies of the Philippines which is still grappling with the COVID-19 pandemic prompted the SEAFDEC/AQD Chief to call for more youth to be involved in aquaculture.

“Now, more than ever, is the time for our youth to engage in the efficient production of healthy protein through aquaculture,” said Chief Dan Baliao.

He also said fish is more efficient to produce than even poultry, taking as little as 1 kilogram of feeds to produce 1 kilogram of fish. Yet, there are not enough skilled personnel to competently build and run fish farms in the country.

Data from the Commission on Higher Education (CHED) showed that there are only 26,259 graduates from the agriculture, forestry, and fisheries disciplines from 2018 to 2019, comprising only three percent of all Philippine graduates in higher education.

Meanwhile, results from the 2019 Fisheries Technologist board exams released by the Professional Regulation Commission (PRC) also show that only 731 fisheries technologists passed and gained their license out of 2,101 takers across the whole country.

Baliao revealed that a highly-skilled workforce is critical in the coming years as SEAFDEC/AQD is helping the Department of Agriculture – Bureau of Fisheries and Aquatic Resources (DA-BFAR) build legislated multi-species hatcheries in at least 15 sites around the country.

“We should invest not only in infrastructure and technologies, but also in the building up the workforce that

will run these critical government hatcheries and the grow-out farms that will receive the seeds,” he added.

Lea Cadapan, Aquaculturist II and Legislated Hatchery Project Coordinator of DA-BFAR, expressed her support of the training of fisheries graduates, citing the need for more competent aquaculturists.

“Aquaculturists should be kept abreast of the recent developments in the aquaculture industry to be more confident, more efficient, and boost their passion for serving the Filipino fish farmers in contributing to the attainment of the country’s goal of fish sufficiency towards food security,” she said.

## *A new generation of aquaculturists*

Baliao shared that to jumpstart a new generation of aquaculturists, SEAFDEC/AQD piloted the intensive selection of fisheries graduates, who were then given hands-on training on seed production, fish health management, and grow-out operations at SEAFDEC/AQD stations in Iloilo, Guimaras, and Rizal.

“We were looking at competent applicants upon recommendation from their respective college deans, shared Caryl Vincent Genzola, officer-in-charge of SEAFDEC/AQD’s Training Section, who added that the endorsed graduates ideally had to be among the top of their class.

According to Genzola, the first batch of graduates from



Milkfish fry are packed for transport by youth graduates of the training program of the Southeast Asian Fisheries Development Center Aquaculture Department (SEAFDEC/AQD).  
Photo by SEAFDEC/AQD

fisheries schools in Western Visayas was screened in 2018 and given experience in actual production of freshwater and marine fish and crustaceans.

Upon completion of the training program, some trainees were deployed to upstart the multi-species hatchery operations of the DA-BFAR hatchery in Sagnay, Camarines Sur, which soon took off and produced 467,000 milkfish fry on its first run.

Genzola shared that other trainees were deployed to SEAFDEC/AQD projects, while some were recommended to government and non-government offices, including private farms.

“Having been trained intensively in an international organization by experts on different aquaculture fields widened my perspective of aquaculture. I was also able to apply the theoretical knowledge from my degree to more hands-on fieldwork,” shared Janice Genilza, one of the SEAFDEC/AQD trainees after she graduated from the University of the Philippines Visayas (UPV).

“I always learned something new every day during those three months, which I am grateful for. Practicals, in particular, gave me a feel for what I would encounter in the field,” said Therese Geanga, also a trainee from UPV.

“I became well-rounded as an aquaculture technologist because the training equipped me with different skills regarding husbandry and management of various commodities. It reassured me that I can apply my knowledge and skills regardless of where I will be assigned,” said Jernet Zyca Silorio, who hailed from the Iloilo State College of Fisheries (ISCOF).

Baliao revealed that they are planning to train more fisheries graduates from the Bicol Region and Mindanao, where most legislated hatcheries will be built, as soon as measures are in place to navigate COVID-19 restrictions. **a**

— JR PAGADOR



# Going beyond ManDev

WHEN asked why she traded in her literature degree to shift to a fisheries program during her undergraduate years, Janice Genilza, 24, said that her childhood fascination with the sea influenced her decision.

“During the first semester of college, I found myself gravitating towards scientific journals and features more than fictional stories, so I decided to process my documents to shift to the fisheries program and I stayed until I graduated in 2018,” Genilza stated in an interview.

Now, Genilza works as a technical assistant at the Shrimp Hatchery Complex of SEAFDEC/AQD. Under the institution’s *Oplan Balik Sugpo* program, Genilza — also the daughter of a farmer and a housewife — assists in the production of high-quality and disease-free *Penaeus monodon* shrimp fry that are used for SEAFDEC/AQD’s research programs.

On the other hand, Therese Geanga’s venture into fisheries was through an unlikely second chance. When she failed to get into her two preferred degree programs in university, an invitation letter from the dean of the College of Fisheries and Ocean Sciences (CFOS) at the University of the Philippines Visayas (UPV) gave her the opportunity to pursue fisheries.

“I live near the sea so I saw that there was no reason not to pursue a fisheries [degree]. To my surprise, I learned to love my major in the long run and graduated,” she explained, citing that it was her electives on aquaculture and marine fisheries that fueled her interest further in the field.

Geanga, 24, is also currently working for SEAFDEC/AQD as a technical assistant under its Technology Verification and Extension Division (TVED). She is involved in the division’s production of giant freshwater prawn, locally known as *ulang*, where she monitors the species’ growth and development for potential buyers.

Meanwhile, for 24-year-old Jernet Zyca Silorio, her opportunity to delve into her degree was backed by a scholarship offer from the Bureau of Fisheries and Aquatic Resources (BFAR). While the degree wasn’t her first choice to pursue in college, she built an interest after taking her fish health and fish post-processing subjects.

“At first I just wanted to try and see if I had the potential to pursue fisheries. When I failed to make it to the dean’s list at the end of the first semester, I wanted to challenge myself further in the course and enjoyed it then completed it,” she said.

At present, Silorio works as an information assistant at SEAFDEC/AQD’s Training Section. She helps manage and coordinate the department’s training courses along with OJT (on-the-job training) and internship activities. Silorio also produces video lectures for training courses as the section transitioned to digital platforms in the wake of the COVID-19 pandemic.

## Fruits of their labor

Geanga, Genilza, and Silorio are only a few of the graduates of the Manpower Development Program hosted by SEAFDEC/AQD.

Launched in 2018, the program screened graduates from fisheries schools in Western Visayas who were then given rigorous training on seed production, fish health management, and grow-out operations across SEAFDEC/AQD’s stations in Iloilo, Guimaras, and Rizal to produce a new breed of aquaculturists in the country.

As trainees, Geanga, Genilza, and Silorio, shared that they also had their own share of challenges to overcome during the training program. Pond preparation and other practical sessions were new territory, as they were mostly only armed with theoretical knowledge upon graduation.



Therese Marie Geanga (right) assists on-the-job trainees in practical work at one of SEAFDEC/AQD’s hatcheries. She is also a graduate of the department’s Manpower Development program. Photo by SEAFDEC/AQD



Manpower development training graduate Janice Genilza assists in the packing of shrimp fry inside oxygenated bags at SEAFDEC/AQD’s Shrimp Hatchery Complex. Photo by SEAFDEC/AQD



Jernet Zyca Silorio, a Manpower Development graduate, facilitates an online training course held by the Training Section at SEAFDEC/AQD. Photo by JF Aldon

Their training schedule also often required them to stay up all night at their assigned areas to ensure that the commodities are properly looked after. They had to endure hours under the heat of the sun while doing pond preparation as well as brave deep waters for practicals held at Igang Marine Station.

Despite these challenges, however, Geanga, Genilza, and Silorio stated that the knowledge they earned outweighed the difficulties they experienced.

“Working at the hatchery was tiring yet fulfilling, but when we can finally harvest our cultured species, we can get to see the fruits of our hardships and appreciate the work of technicians and staff assigned to those areas,” stated Genilza.

“Being in this field made me realize how important our role is in producing food not only for our own families but for every Filipino. As a fisheries technologist armed with these skills, I realized that I can do more,” said Geanga.

“The intensive training came with its own set of pressures, but it just made me more determined to know what I can do better while I’m in this field. Every day is a learning moment and it reassured me that I am equipped with the proper skills regardless of where I will be assigned,” shared Silorio. ■

— JR PAGADOR