# Agri techs support Filipinos amidst global health crisis

As part of the national campaign in providing support and promoting preventive measures to combat COVID-19, technologies funded and supported by the Department of Agriculture-Bureau of Agricultural Research (DA-BAR) were provided in some areas in the CALABARZON and Bicol Region during the height of the Enhanced Community Quarantine implemented throughout Luzon.

Local government units of Camarines Sur, Laguna, and Quezon distributed sanitizing products such as native soaps and sanitizers made from underutilized food products and propolis, and food items like native pork longganisa. These were produced through research for development (R4D) projects funded under the bureau's National Technology Commercialization Program (NTCP).

### **Propolis-based sanitizing products** in Camarines Sur

With the strictly regulated supply of sanitizing products in the country in response to the pandemic, the Central Bicol State University of Agriculture, in coordination with the Regional Apiculture Center, reproduced and distributed propolisbased products such as hand sanitizer, throat spray, tincture, soap, and cream to the frontliners of the local government units of Pili, Pasacao, Calabanga, and Sipocot, Camarines Sur on 30 March 2020.

Propolis, one of the viable products produced by stingless

bees, has significantly high clinical value among other bee products. Unlike honey and pollen, propolis has amino acids, sugars, minerals, flavonoids, and Vitamins C, B, and E which makes propolis abundant in anti-fungal, anti-bacterial, anti-viral, and anti-inflammatory properties. In addition, propolis also has phenols and aromatic compounds which make it suitable for making value-added products such as soap, shampoo, creams, and hand sanitizers.

Supported by DA-BAR through NTCP in 2011, the propolis-based products were developed through the project titled "Utilization and Commercialization Production of Stingless Bee and its By-products in the Bicol Region."

### Native soaps from fruit crops in Laguna

Also in line with the reinforced campaign of observing proper health and sanitation measures, particularly proper handwashing, the Quezon Agricultural Research Experiment Station of the DA-CALABARZON and the Office of the Municipal Agriculturist distributed soaps made from underutilized fruit crops such as *duhat*, cacao, *sapinit*, *bignay*, and *lipote* to local consumers of vegetables and agricultural products on 5 April 2020 in Kalayaan, Laguna.

To increase the popularity of these *Pinoy* fruits to the public, DA-BAR has continuously supported projects promoting indigenous

turn to page 7







Native *longganisa*, fruit-based soaps, and stingless bee propolis soap and hand sanitizer are products developed through projects funded by DA-BAR through NTCP.

## Pinoy GOURmix finds way in intensified KaDIWA program

The Pinoy GOURmix, a foodbased technology developed by the Department of Agriculture (DA)-Cagayan Valley Research Center, is continuously being sold at the KaDIWA ni Ani at Kita on-station and on-wheels stores in Ilagan, Isabela since April 2020.

Pinoy GOURmix is a mixture of locally-produced cereals, grains, and grits (milled rice, white corn grits, adlay grits), and enriched with *malunggay* powder, soybean Texturized Vegetable Protein, ground mungbean, and yellow ginger turmeric.

Developed through a project funded by DA-Bureau of Agricultural Research under its National **Technology Commercialization** Program, this instant mix is a complete and smart food with high protein and antioxidant content, and is composed of 53 percent carbohydrates and 22.3



percent crude protein.

This healthy instant mix will also be used for the feeding program of the rural health unit of Luna, Isabela as part of their interventions during the ongoing health crisis.

The KaDIWA program, which stands for "Katuwang sa Diwa at Gawa para sa Masaganang Ani at

Mataas na Kita," is a marketing system that assists the country's farmers and fishers, as well as micro, small, and medium enterprises in bringing and delivering their harvests and goods to markets, and selling their produce at reasonable prices to local consumers.

During this health emergency, DA intensified the KaDIWA program to ensure the availability and sustainability of food supply in the country. Various regions adopted the said program to meet the demand in their respective communities.

Agriculture Secretary William D. Dar hoped to ensure food availability, sustainability, and accessibility through the provision of affordable agricultural and fishery products to Filipino households throughout the pandemic while still adhering to and observing proper health measures and protocols. ### (Jireh Alodia R. Laxamana)

## **Urban agri promoted for food security in pandemic**

To address the ongoing health crisis, the Department of Agriculture (DA) launched the Plant, Plant, Plant Program or the "Ahon Lahat, Pagkaing Sapat (ALPAS) Laban sa COVID-19" as one of its strategies to ensure food availability, sustainability, accessibility, and affordability while some parts of the country remain under enhanced community quarantine.

DA, in collaboration with DA-Bureau of Plant Industry, had already started distributing planting materials and vegetable seeds to interested households nationwide. In line with this, the DA-Bureau of Agricultural Research (BAR) continuously intensifies its promotion of urban agriculture which would allow households to grow their own food in their gardens.

One of the projects funded by DA-BAR is the edible landscaping

project of the University of the Philippines Los Baños (UPLB). The program encourages homebased organic vegetable planting to enhance the environment and ensure food security. Through this project, vegetable seedlings were given out to help and empower stranded UPLB students and dormers on 6 April 2020 in Los Baños, Laguna.

Meanwhile, in order to make the public aware of the existing research-generated technologies that can be adopted and practiced, the DA-Cagavan Valley released an online information material featuring the process of assembling a homemade hydroponic system using materials such as coconut coir dust. used styrofoam and cups, nutrient solution, and seeds of leafy or fruiting vegetable. ### (Jireh Alodia R.

Laxamana)

BAR CHRONICLE highlights the bureau's activities as the country's national coordinating agency for agriculture and fisheries R4D, and provides updates on NaRDSAF-member institutions.

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# Free seeds distributed in support to DA's ALPAS Laban sa COVID-19



To address the looming threat posed by the COVID-19 pandemic to the country's food security, the Department of Agriculture (DA) launched the "Ahon Lahat, Pagkaing Sapat (ALPAS) Laban sa COVID-19" program also dubbed as the "Plant, Plant, Plant Program" (PPPP) that enables Filipinos, especially in urban areas, to have access to agriculture. Under the said program, DA distributed free seeds and planting materials nationwide.

According to Agriculture Secretary William Dar, the PPPP encompasses the goal to increase crop productivity of different commodities and ensure food productivity, affordability, accessibility, and availability in the agriculture and fisheries sector.

"With the program, we hope to provide households, especially in metropolitan areas, the opportunity to produce fresh and healthy food from their backyards for their tables. This way, we can help them attain food security even beyond the enhanced community quarantine period in Luzon," Dar added.

Following this initiative, the

DA-Bureau of Plant Industry (BPI)-Los Baños National Crop Research, Development, and Production Support Center utilized its project titled "Promotion and Commercialization of Grafting Technology for Selected Fruit-Vegetables (Tomato, Sweet Pepper, and Bitter Gourd)" funded by DA-Bureau of Agricultural Research and distributed free grafted seedlings and planting materials to local consumers on 22 April 2020 in Cavite and Batangas.

As a practicing farmer on grafting, Arnold Rogador, one of the technology adopters of the project, also distributed seedlings of tomato and eggplant to further help in promoting home gardening with DA and BPI in nearby communities.

DA-BPI has also distributed various other seeds and planting materials which include eggplant, tomato, *upo*, sitao, *okra*, upland *kangkong*, mustard, *pechay*, *alugbati*, *saluyot*, and onion seedlings.

Meanwhile, the DA regional offices have also been conducting initiatives in support to PPPP, specifically on seed distribution, in their respective provinces.

DA-Western Visayas has provided over 9,000 packets of assorted vegetable seeds in the region through its High Value Crops Development Program since 2 April 2020. While, DA-CALABARZON distributed corn seeds instead of vegetable seeds to farmers in select Batangas and Quezon areas, based on available location evaluation and crop productivity data. Glutinous corn seeds will also be handed out to farmers in Balayan, Padre Garcia, San Juan, Rosario, Batangas City, and Gumaca while white flint corn seeds will be allocated to the 3rd and 4th districts of Quezon.

Aside from seed distribution, other projects that will also be funded under PPPP include additional *palay* procurement fund of the National Food Authority; social amelioration program for farmers and farm workers; upscaling of KaDIWA ni Ani at Kita direct marketing program; integrated livestock and corn resiliency project; expanded small ruminants and poultry project; fisheries resiliency project; revitalized urban agriculture and *gulayan* project. ### (Chantale T. Francisco)

# The resurfacing of the vanishing silver perch

Story by Chantale T. Francisco

In line with the initiatives of the Department of Agriculture (DA) in ensuring the country's food security in the midst of the COVID-19 crisis, the DA-Bureau of Fisheries and Aquatic Resources (BFAR)-CALABARZON with the aid of Batangas Inland Fisheries Technology Outreach Station restocked 10,000 ayungin fingerlings in Taal Lake as part of its rehabilitation project to support the fishing community who experienced drastic loss due to the recent Taal Volcano eruption on January 2020.

Silver perch, locally known as *ayungin*, is a tiny freshwater fish native to the Philippines. Known for its tiny size yet significant value, the quality of these "little fighters" has been growing over the years in local and commercial markets.

Because of its popularity, it has a relatively expensive selling price which ranges from Php 200 to Php 800, regardless if processed or fresh. It gained so much attention that even with its relatively high value on the market, ayungin still holds a strong demand from the consumers. This, therefore, led to a huge regression in ayungin wild stocks. Other factors that also contributed to its decline was overexploitation, habitat degradation, and the growth of invasive species that directly affected its survival rate.

The University of the Philippines Los Baños (UPLB) Limnological Station in collaboration with DA-BFAR-National Inland Fisheries Technology Center implemented a project to establish a sustainable hatchery that can facilitate and expand the fingerlings of *biyang puti* and *ayungin* in Laguna and Rizal.

Funded by the DA-Bureau of Agricultural Research (BAR), the study started by using hormone-induced spawning, larval rearing, artificial feeding, and system tanks directly to *ayungin* hatchlings caught from the wild during the first stage or component of the project.

From the success of the study, following this grow-out method made *ayungin*-raising a viable livelihood for the fishing community in the area. With its quality and competitive price in the market, farmers will indeed increase their income as long as favorable conditions will be maintained.

With the support of DA-BAR for the hatchery of UPLB and the contribution of DA-BFAR for the grow-out techniques, the project was a big success for the fishing industry. Dr. Ocampo and his team developed an aquaculture breakthrough that helped the revival of the species. Apart from that, this also gave the fishing communities a chance to boost their income and their region's economic status.

It has been five years since the inception of the project. Sufficient volume of *ayungin* fingerlings is now used for restocking. This just means that the project created a long-lasting impact that rippled even after years. The then vanishing pearl has resurfaced again. ###

## CPAR proj to farmers

With the implementation of the enhanced community quarantine due to the COVID-19 pandemic, our farmers, fishers, and rural agriculture workers are undeniably, by far, the most distressed in this ill-fated situation. Luckily, with the Department of Agriculture (DA) focused on bringing prosperity to farmers and fishers, programs like the Community-based Participatory Action Research (CPAR) got their backs.

For more than two decades now, the DA-Bureau of Agricultural Research (BAR) has been continuously dedicated to the development and improvement of the implementation of CPAR as a program which merges the efforts of farmer- and fisher-cooperators and researchers.

CPAR aims to empower and prepare thousands of farmers and fishers across the country by capacitating them in various different agricultural techniques tailored based on their locations, resources, and needs that can enable them to increase their yields and profits.

A remarkable example would be the story of barangays Gov. E. Jaro and Bagong Silang in Babatngon, Leyte.

The two are primarily agricultural barangays; hence, communities rely heavily on agriculture for income. However, they used to suffer from low income and productivity issues because of monocropping (rice only), high cost of production inputs and labor, and lack of interest in venturing to value-adding options.

Thus, a CPAR project was conceptualized in collaboration with DA-Eastern Visayas. The project mainly looked at the intensification and diversification of farming systems of the communities.

Rice-duck integration was first

# provides abundant harvest during pandemic Story by Jhon Marvin R. Surio



Edible landscaping was one of the interventions introduced through the CPAR project in Babatngon, Leyte. With this, farmer-cooperators have enough food for their families during this pandemic. Photo COURTESY OF RGULA/DA-EASTERN VISAYAS

introduced to the barangays as it was then gaining popularity in climate change adaptation and mitigation. Ducks were grown along with rice to promote an environment where the soil is aerated, weeds and controlled, and pests are eradicated.

Ducks act as yield-enhancing agents which, at the same time, reduces production technology for both. This makes it a sustainable enterprise because additional income can be derived from duck meat, egg, and other by-products.

For the rice-duck integration alone, significant increases were recorded. Bagong Silang reached 3.80 t/ha from 2.54 t/ha, and 2.78 t/ha from 2.76 t/ha during the wet and dry season, respectively. On the other hand, Gov. E. Jaro reached 3.99 t/ha from 3.62 t/ha, and 4.16 t/ha from 3.88 t/ha during the wet and dry season, respectively.

Meanwhile, duck eggs provided up to Php 2,000 of additional income to farmers monthly.

Edible landscaping was also introduced to 40 farmer-cooperators. Farmers planted various vegetable crops such as eggplant, *okra*, lettuce, upland *kangkong*, *patola*, bitter gourd, pechay, bottle gourd, bell pepper, tomato, pole sitao, *alugbati*, and squash. Container gardening using recycled materials like empty bottles of soft drinks, cans, plastic bags, used water jugs, and used sacks were among the encouraged materials to promote environmental conservation and management in the process.

Moreover, members underwent various training, including climatesmart agriculture, organic agriculture, edible landscaping, vermicomposting, mushroom culture, business planning, and enterprise development.

Two years after the intervention, the initiative continues to thrive and gain attention among members of the community.

This proved true for farmercooperators when their rice-duckvegetable farming system cum edible landscaping provided the communities with abundant harvest with what better timing than during the height of the pandemic crisis.

"Our ongoing CPAR project in Babatngon came out to be the perfect solution in this time of crisis. We are glad that our 40 farmer-cooperators have enough food for their families and more to share with their neighbors," Rufelie Gula, project leader, shared.

With success stories from both cooperators and partnerimplementers, CPAR has proven to be an effective way of addressing food security, availability, affordability, and sustainability, especially for farmer- and fisher-cooperators.

CPAR is one of the banner programs of the DA-BAR which focuses on the enhancement of the role of research for development in the process of hastening the transfer of various technologies to farmers and fishers in the field. ###

# DA-Bicol Region, Phl Army unveil historic KM facility

The Department of Agriculture (DA)-Bicol Region, in partnership with the 565 Engineering Construction Battalion of the Philippine Army, inaugurated the historic Knowledge Management Facility as part of the 2028 Army Transformation Roadmap on 25 February 2020 in Camp Weene Martillana, Pili, Camarines Sur.

The facility was the brainchild of Luz Marcelino, then DA-Bicol Region Research Division superintendent and now the regional technical director for operations and extension, and was built through the collaboration between DA and the Philippine Army—the first in the country.

RTD for Operations and Extension Marcelino shared that the collaboration was inspired by the DA-Bureau of Agricultural Research's (DA-BAR) introduction of knowledge management through Julia Lapitan, DA-BAR Applied Communication Division (ACD) head.

"I forged this partnership because I felt the need [to do so]. I thought that if we are into reaching out the less privileged and other areas, kailangan naming makipagtulungan

sa isang institution na malapit or nandoon din ang mandato," Marcelino shared on the founding of DA-Bicol Region's partnership with the Philippine Army.

"Ang mandate nila [Philippine Army] is protecting the land, ang sa DA naman ay food security. However, maraming mga productive areas natin ay hindi natin ma-till because there are a lot of conflicts in it. That is why minabuti ko pong makipagtulungan sa Army," Marcelino added.

Marcelino also underscored that the partnership is a good one because "it is a mean to concretize all of the previous experiences and success stories of DA-Bicol Region by utilizing a strategic platform that is, knowledge management. Areas that DA cannot penetrate will be reached through the Army, as their clients are also interested in agriculture. That is where the two agencies converge."

Through the years, the 565
Engineering Construction Battalion
has been a partner of DA-Bicol
Region in implementing projects
such as the DA-BAR funded program
Community-based Participatory
Action Research, and the
Palayamanan.

Dr. Mary Grace Rodriguez (4<sup>th</sup> from left), DA-Field Operations Division OIC-chief; Brig. Gen. Emmanuel Anthony Ramos (6<sup>th</sup> from left), Armed Forces of the Philippines; Julia Lapitan (center), DA-BAR ACD head; and Arlene de Asis (6<sup>th</sup> from right), DA-Bicol Region Food Laboratory Division head, with some of the members of the 565 Engineering Construction Battalion in a photo opportunity PHOTO: JMSURIO

Gracing the event were Brigadier General Emmanuel Anthony Ramos of the Armed Forces of the Philippines; Dr. Mary Grace Rodriguez, DA-Field Operations Division OIC-chief representing RTD Marcelino; and Julia Lapitan, DA-BAR ACD chief who represented Dr. Nicomedes Eleazar, DA assistant secretary for special affairs and DA-BAR director.

In her message, Lapitan highlighted how the two agencies can work together towards the direction of DA with Agriculture Secretary William Dar's "New Thinking" paradigm for agriculture, "Masaganang Ani at Mataas na Kita."

"Malaking bagay po ito dahil kayo po [Philippine Army] ang may cover ng sovereignty ng land at kami naman po ang may sagot sa poverty alleviation [sa pamamagitan ng agriculture]," she said.

Meanwhile, Brig. Gen. Ramos gave his utmost thanks and support to DA, on behalf of the Philippine Army, by acknowledging that DA has been a very staunch supporter tested through the years.

The knowledge management facility features projects accomplished through the partnership between DA-Bicol Region and the Philippine Army, including those funded and supported by DA-BAR. Information, education, and communication materials from DA-BAR were also showcased in the said facility.

As part of its mandate in pushing forward the agriculture and fisheries sector of the country, DA-BAR has been implementing programs, projects, and initiatives utilizing various knowledge management strategies to ensure maximum adoption of research-generated information and technology. ### (Jhon Marvin R. Surio)

## DA, IRRI launch Rice Crop Manager offline mobile app

The Department of Agriculture (DA) and International Rice Research Institute (IRRI) launched the working offline version of the Rice Crop Manager (RCM) Philippines mobile application on 18 March 2020.

"The [DA] in close collaboration with [IRRI] is pleased to provide our national RCM friends and partners with the much-awaited 'offline' version of the Rice Crop Manager (RCM) via the RCM Android App," said Engr. Roy M. Abaya, DA Field Operations Service Director.

He added, "We hope that with the availability of this latest app, we can expand our RCM coverage even more, and share the impact for 'Masaganang Ani at Mataas na Kita' to our Filipino rice farmers."

The development of the offline version of RCM aims to provide Filipino farmers with personalized recommendations on nutrient and crop management.

RCM is one of the tools included under the RCM Advisory Service (RAS) for the Philippines. RAS is a digital agriculture information service that provides farmers with information to improve grain yield and profitability of rice farming through targeted, integrated crop management.

RCM can generate recommendations without an Internet connection. It provides irrigated and rainfed lowland rice farmers with field-specific nutrient and crop management recommendations tailored to a farmer and their farm lot conditions, through a one-page print out and/or text message.

The app uses a farmer's answers to questions on their rice

farming practices to automatically generate a rice management guideline aimed at increasing the farmer's net income. It was designed in a modular format that allows the user to review and revise inputs, without the need to complete the whole interview.

RCM recommendations, if followed by farmers, can increase rice yields on average by 0.4 t/ha per season, and provide added net income of Php 5,900 per hectare per season compared to farmer's practice, based on evaluation trials in farmers' fields conducted by PhilRice and IRRI from 2013-2018.

Since 2014-2019, RCM has generated two million recommendations across the 16 regions in the country and has been continuously used in rice extension works. Based on the monitoring, evaluation, and learning results done of RCM dissemination for the dry season 2016-2017, farmers expressed positive attitude towards the adoption of RCM recommendations.

The DA National Rice
Program, through the DA-Bureau
of Agricultural Research, funded
and supported the research and
development component of the said
app, particularly the sustainable
upgrading and maintenance of the
optimized and interoperable RAS
software and databases that can link
and integrate DA-supported projects
towards precision rice farming.

RCM app can be downloaded from the Google Playstore using Android smartphones with operating system 4.4 and above. The mobility and accessibility of information generated through this app will greatly help rice farmers. ### (IRRI press release/Rena S. Hermoso)

Agri techs support...from page 7 fruits which are nutritious and have promising processing values, product development, and other economic opportunities such as in native soap industry.

The soaps were made through the projects "Technology Commercialization for Cacao in the Province of Quezon," "Commercialization of Developed **Production and Processing** Technologies for the Island Municipalities of Quezon Province," "Commercializing Kamias (Averrhoa bilimbi Linn.) Production and Utilization for the Women Group 'Kumare' of Real, Quezon," and "Sustainable Use and Commercialization of Selected Underutilized Fruit Crops in Quezon Province" funded and supported by DA-BAR through NTCP in 2014.

### Native Pork Longganisa in Quezon

Support to frontliners in the municipality of Tagkawayan, Quezon also poured out through the Southern Luzon State University-Judge Guillermo Eleazar (SLSU-JGE) which provided native pork *longganisa* through the Local Government Unit of Tagkawayan on 6 April 2020.

As one of the value-added products from native pig production in Quezon, the JGE Bounty native pork *longganisa* developed by SLSU-JGE is one of DA-BAR's initiatives in providing support to ensure effective implementation of R4D projects and activities for the conservation, production, and marketing of native animals, as well as promoting their by-products to the Filipino families and entrepreneurs through the Philippine Native Animal Development Program.

The JGE Bounty native pork longganisa was developed through the project titled "Market Exploration and Commercialization of Native Pig Products in Selected Municipalities in Quezon Province," which was supported by DA-BAR through NTCP in 2017. ### (Clarisse Mae Abao)

### DA-BAR launches #WomenMakeChange exhibit

In celebration of the National Women's Month (NWM), the Department of Agriculture-Bureau of Agricultural Research (DA-BAR) launched the #WomenMakeChange exhibit on 9 March 2020 in Diliman, Quezon City.

Dr. Nicomedes P. Eleazar, DA assistant secretary for special affairs and DA-BAR director, formally opened the exhibit showcasing photo and painting entries previously submitted by the staff of the bureau during its photography and collaborative painting contest.

"The entries we have for this particular exhibit aims to give prominence to the invaluable contribution of women in further realizing the development of our country," explained Dr. Eleazar.

"To emphasize, we do not highlight women's contribution because they are better; we do because they have long been relegated to the sidelines—a mere woman behind some man's success. We highlight women's achievements because we value their contribution as active members of their respective communities. Because, they are in themselves, agents of change," Dr. Eleazar added.

Aside from the launching of the exhibit, the bureau initially facilitated and sponsored a film screening of Owl Butterfly through its Gender and Development Focal Point System on 2 March 2020 at the DA Central Office in Quezon City.

Owl Butterfly is an advocacy film which tackles the issue of sexual abuse aimed to encourage abuse survivors to speak up and seek help, advocate for recovery process, and show family members how they can express unconditional love to support survivors in their lifelong recovery.

Glenda Resurreccion, Anastasia Film Productions chief executive officer, served as the resource speaker of the activity and provided the synthesis of the film.

The NWM celebration is held every March as part of the worldwide observance of



The #WomenMakeChange exhibit showcases the photo and painting entries submitted in the past Women's Month celebrations. PHOTO: RHERMOSO



Glenda Resurreccion, CEO of Anastasia Film Productions, serves as resource speaker of the activity and provides a synthesis of the film. PHOTO: JMSURIO

the International Women's Day which falls on 8 March. The said celebration is in compliance with Presidential Proclamation nos. 224 and 227 series of 1988 and Republic Act no. 6469, declaring the month of March as the national observation to recognize the role and contributions of women to the society. ### (Rena S. Hermoso)

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