# Agri chief leads MOA signing on animal disease mgmt R4D proj



Agriculture Secretary William Dar (seated, left) and PSAU President Honorio Soriano (seated, right) sign the MOA for the animal disease management R4D project.

To provide the agri-fishery sector access to cutting-edge technologies that can accurately detect and effectively manage, control, and contain emerging animal diseases, the Department of Agriculture (DA), through its Bureau of Agricultural Research (BAR), signed a memorandum of agreement (MOA) with the Pampanga State Agricultural University (PSAU) in Magalang, Pampanga on 8 August 2020.

"The launch of this project is both timely and relevant as it marks a new milestone in our efforts to boost our capacity to accurately detect and effectively manage emerging animal diseases, including that of transboundary diseases, here in Central Luzon and nearby regions," said Agriculture Secretary William Dar who led the MOA signing.

"This is the time to support projects that can help in a big

way in the future. Let us tap the best of molecular science and all biotechnology tools available for the problems we have in the country with regard to these dreadful diseases of animals and fish, including that of transboundary animal diseases. Let us not waste time," the DA chief added.

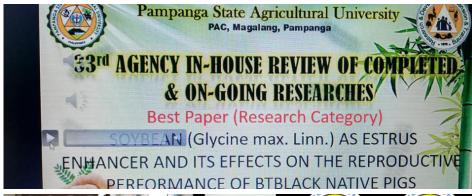
With PhP 6.4-million funding coming from DA-BAR, the project titled, "DNA Analysis for Accurate Diagnosis of Emerging Deadly Viruses among Agri-fisheries of Central Luzon," is expected to provide information that can be used by drug manufacturing industries to build custom design vaccines that specifically target viral strains present in a locale. Using real-time reverse transcription-polymerase chain reaction and DNA sequencing, the project will determine the true-to-type species or genotypes on the causative agent of emerging deadly viruses including African swine fever (ASF), Newcastle disease, avian flu, tilapia lake virus, and white spot syndrome virus; measure disease occurrence, reduction, and severity, as well as analyze their transmission.

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## BAR-supported soybean proj bags 3 awards





Dr. Honorio M. Soriano Jr., PSAU president (top left), spearheads the in-house review of completed and ongoing researches. **PHOTO COURTESY OF PSAU** 

Focused on utilizing soybean to enhance the growth, health, and reproductivity of native pigs, the Department of Agriculture-Bureau of Agricultural Research (BAR)-supported project bagged three awards in the Pampanga State Agricultural University (PSAU) 33rd Agency In-house Review of Completed and Ongoing Researches on 5-6 August 2020 in Magalang, Pampanga via video conferencing.

Dr. Geraldine C. Sanchez, project leader and PSAU director for

extension, training, and mentoring, received 'Best Paper' and 'Best Poster' awards, and for herself, the 'Best Presenter' award.

Funded by BAR in 2018, the project "Utilization of Soybean (*Glycine max* L.) to Enhance Growth, Health, and Estrus among Native Pigs in Pampanga," reported the following findings: an increase in blood estrogen level of native pigs at 60 days post-treatment, as well as improvement on their weight at first estrus; enhanced sexual receptivity

that resulted in 100 percent fertility rate; shortened estrus cycle and gestation length; and differences as regards to litter size and weight at birth, among others.

According to the project, native pigs exhibit low levels of sexual receptivity as they are silent heaters. By prolonging the incidences for when native pig goes in heat, growers then have a longer window for achieving successful breeding. With result showing that fermented and non-fermented whole soybean can enhance the estrus in native pigs, technologies generated from this study will be verified and compared with the practice of the region's farmers and native pig raisers.

The review was conducted to recognize generated technologies for dissemination or commercialization, and identify significant results for development planning and policy formulation — which was led by PSAU officials spearheaded by Dr. Honorio M. Soriano Jr., university president; Dr. Emelita C. Kempis, vice-president for Research, Extension, and Training; and Dr. Mary Grace B. Gatan, cluster director for Research and Development.

Dr. Emily A. Soriano and Dr. Irene M. Adion of DA-Central Luzon; Dr. Sofronio P. Kalaw, Dr. Jonathan L. Galindez, and Dr. Marvin M. Cinense of Central Luzon State University served as evaluators of the 92 papers presented for assessment and evaluation during the said review. ### (Jireh Alodia R. Laxamana)

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

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# DA-Cagayan Valley turns over goat livelihood to 27 CPAR farmer-partners

To augment their income, the Department of Agriculture (DA)-Cagayan Valley turned over three goats (one buck and two does) to 27 Community-based Participatory Action Research (CPAR) farmerpartners in Brgy. Dassun and Brgy. Malacabibi, Solana, Cagayan on 6 August 2020.

Brgys. Dassun and Malacabibi, which replaced Bauan West, were the project sites of the CPAR on Cornbased Integrated Farming System in Solana, Cagayan. Funded by DABureau of Agricultural Research, the project introduced various interventions.

These include planting of glutinous corn, integration of mungbean during dry season and peanut during wet season, use of jabber in planting, use of soil laboratory analysis recommendation, and silage production.

Hence, as part of the harmonization activities in the region, the members of the CPAR partner associations were recommended as recipients of the goat livelihood module.

The distribution of goat livelihood module along with the previous interventions and

technologies introduced through CPAR provided timely help to the members of Dassun Dairy Producers and Farmers Cooperative, CPAR partner-cooperative.

"Kayong mga magsasaka ang nagpapakain sa tao. Kayo ang kasangga ng DA para mapanatili ang sapat na pagkain sa bansa. Kung wala kayo, wala rin kami dito ngayon," said Rose Mary Aquino, DA-Cagayan Valley regional technical director for research and regulations.

She added, "Sana'y alagaan at maparami ninyo pa ang ibibigay naming tulong sa inyo na mga alagang kambing. Inaasahan naming hindi lang kayo basta magsasaka kundi isa na ring business entrepreneur."

Demetrio Gumiran, regional livestock banner program coordinator, discussed the guidelines of the module, in particular, the required low-cost housing and silage feeding. He also explained that recipients will repay the stocks for turn-over to the next beneficiaries who could be their neighbor or willing raiser in the same barangay.

"Silage production provided a ready source of roughage for their existing carabaos and distributed goats, especially during dry season when surrounding forages and grasses are almost dried. It also lessens the effort of farmers in pasturing their livestock which is advantageous during this pandemic," explained Lovelyn Gaspar, DA-Cagayan Valley Research Division chief and CPAR project leader.

Since silage is available throughout the year, it could lessen the occurrence of diseases brought by parasite present in the pasture areas during the rainy months. Farmerpartners could sell the silage to other livestock raisers which could provide additional income.

"Through this, we are slowly making the CPAR interventions more holistic by trying to address all the activities within the value chain," Gaspar said.

CPAR, one of the banner programs of the bureau, ensures the transfer and adoption of technologies from research to farmers' utilization. It is designed to emphasize the involvement of the community toward a dynamic, responsive, and inclusive agriculture and fishery research for development. ### (DA-Cagayan Valley press release and Rena S. Hermoso)

### VCO production strengthened amid pandemic

As part of the continuous support and promotion of preventive measures to fight COVID-19 through research for development-generated agricultural technologies, the Department of Agriculture-CALABARZON once again contributed to this initiative through distributing virgin coconut oils (VCOs) for free to various frontliners in the region on 13 August 2020.

The Philippines is the world's leading producer and supplier of coconuts and traditional coconut products with Quezon province having the largest coconut plantation. This industry continuously yields productive and profitable opportunities to around 3.5 million coconut farmers nationwide and about 25 million Filipinos who depend on coconuts for their livelihood.

Among the traditional coconut products, VCO is the most profitable due to its variety of uses from food, cosmetics, and hygiene products with markets in the United States, Canada, Turkey, Germany, and Finland. Nurtured with lauric acid, the VCO helps to maintain weight and helps fight yeasts through ingestion. Apart from disinfecting characteristics, the VCO was also discovered to have anti-microbial,

antidiabetic, anticancer, and anticaries properties. Furthermore, the oil was found effective against bacteria, fungi, and lipid-coated viruses such as Human Immunodeficiency Virus and Hepatitis C according to a book chapter published by Dumancas et al. (2016)<sup>[1]</sup>.

With initiatives to look into the possible benefits of VCO on COVID-19 patients being conducted by various research institutions such as the Department of Science and Technology, the DA-Quezon Agricultural Research Experiment Station (QARES), one of the research centers of the DA-CALABARZON, focuses on the production, commercialization, and promotion of VCOs in CALABARZON.

Implemented by DA-QARES through funding support from DA-Bureau of Agricultural Research (BAR), the project titled, "Enhancing Women's Livelihood: Commercialization of Virgin Coconut Oil (VCO) in Quezon Province," aims to upscale the production, processing, and showcasing of VCOs in the region. Research partners and stakeholders include the CABAYAN RIC, a rural improvement club group composed of women who have active roles in various livelihood projects in the rural households of Barangay

Cabay in the municipality of Tiaong, Quezon.

Not only does the project give opportunities to the women sector, the VCOs produced were also distributed to various frontliners. Almost 200 health workers, firefighters, police officers, and members of the Municipal Disaster Risk Reduction Management Office in Tiaong, Quezon received VCOs from the project.

As the volume of the produce continuously increases in the present, the project aims to serve more Filipinos through the distribution of VCOs to other nearby areas to expand its reach. With the CABAYAN RIC to train the next chosen beneficiary group engaged in coconut processing fibers and production of VCOs so supply local markets and exporters, the initiative promises great outcome to the other sectoral groups in the localities in CALABARZON.

Funded by DA-BAR in July 2020, the VCO project was one of the initiatives under the bureau's Resiliency Response Research for Development Program, specifically on Upscaling and Diversifying Food Products/Technology in support to the DA-Ahon Lahat, Pagkaing Sapat Kontra COVID-19 Program. ### (Clarisse Mae N. Abao)

<sup>[1]</sup> Dumancas, G. G. et al. (2016). Chapter 6. Health benefits of virgin coconut oil. Vegetable Oil: Properties, Uses, and Benefits. In Holt, B. (2016). Vegetable oil: properties, uses, and benefits. Chemistry research and applications series. Hauppauge, New York: Nova Science Publishers, Inc.



## CPAR project in Tuguegarao City continues to prove beneficial for farmers amidst pandemic

Story by Jhon Marvin R. Surio



A project funded under the Community-based Participatory Action Research (CPAR), banner program of the Department of Agriculture-Bureau of Agricultural Research (BAR), continues to prove beneficial to farmers in Barangay Namabbalan Norte, Tuguegarao City, Cagayan even at the height of the ongoing health crisis.

Titled "CPAR on Rainfed Rice-based Areas in Namabbalan Norte, Tuguegarao City, Cagayan," the project introduced technology on rice-rice-mungbean cropping system and rice-corn/mungbean with the use of open pollinated varieties glutinous corn (harvested as green corn for boiling purposes) and package of technology for its transfer and adoption.

Rose Mary Aquino, DA-Cagayan Valley regional technical director (RTD) for Research, recently paid a visit to the project's pilot site and shared how surprised she was of the progress of farmer-cooperators. Aquino bragged the positive impact

of the promoted technology and intervention as attested by farmers themselves.

"Itong rice area na ito sa
Namabbalan, Tuguegarao City ay dati
once a year lang natatamnan at walang
planting calendar na sinusunod dahil
sa kakulangan ng patubig at nagaaway mga farmers dahil sa unahan sa
paggamit ng mahinang daloy ng tubig
sa CIS [community irrigation system]
ngunit ngayon nasolusyonan ng CPAR
team ng Cagayan Valley Research
Center [CVRC] by using Cagayan
river na malapit lang sa lugar as a
water source," Aquino said sharing the
documentation of their visit to the area.

Aquino visited the pilot farms in August and inspected the established pump site on the banks of Cagayan river where farmers now source irrigation water for their farms. She recounted how farmers used to rely heavily on rainwater as an "old-age problem" in the area, primarily hindering them from maximizing the potentials of their lands. With the CPAR project, she happily shared that the problem was solved.

Aside from the irrigation system established with the implementation of the project, intercropping was also introduced to the community.

In a recent field visit conducted following RTD Aquino's stop-over, Regional Executive Director (RED) Narciso Edillo tagged along with DA-Cagayan Valley Research Division Head Lovelyn Gaspar, DA-CVRC Center Chief Rolando Pedro, and RTD Rose Mary Aquino to personally witness the success of the 21 active farmer-cooperators of Namabbalan.

DA-Cagayan Valley and the bureau have also provided the community with a mechanical transplanter through DA's Rice Competitiveness Enhancement Fund, to supplement trainings received by community farmers on proper fertilization using Rice Crop Manager, choice of rice variety, and mechanized transplanting.

Moreover, DA-Cagayan Valley has supplied the community their preferred NSIC Rc480 (GSR rice

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## Ang pagbatu sang batuan, the lesser-known fruit

Story by Chantale T. Francisco



Batuan
PHOTO: LFONTANIL





The *batuan sinigang* mix is an instant souring ingredient that can be used as substitute for tamarind. Meanwhile, this thick-jellied *batuan* jam is popular among technology adopters owing to its long shelf life. It is best used as filling in pastries. **PHOTOS COURTESY SEARCA** 

If you have tasted *sinigang* and loved it because of its flavor and acidity, you might have known in Filipino kitchen standards that one of the ingredients that makes it the *sinigang* is sampaloc or tamarind. But do you know that apart from this famous souring ingredient, there is a unique fruit that rivals its taste experience?

Widely used in Western Visayas, binucao, or better known by the locals as *batuan* is the fruit that can take tamarind out of the picture. Aside from the flavor it gives, this lesser-known fruit can be processed into pickles and, medicinal-wise, can be used to treat mild stomach inflammations.

Considering these, batuan has indeed a lot of potentials. But due to its unpopularity and limited researches of the fruit, it remained underutilized. To those who have harvested it first-hand, batuan is said to have a short shelf life which means it is susceptible to spoilage. A lot goes to waste. This, therefore, led to an erratic price of batuan from PhP 30 per kilo during its peak season to PhP 300 per kilo on lean months. So to prevent unwanted surplus and avoid price hikes, processing the fruit into different by-products can lengthen and maximize its storage and at the same time, increase its profitability.

This is one of the goals forwarded by the Department of Agriculture-

Western Visayas Agricultural Research Center (DA-WESVIARC). With funding from DA-Bureau of Agricultural Research (BAR), their project titled, "Production and Technology Promotion of *Batuan* in Region 6," was conducted to produce *batuan* products and further test it in the market for financial viability. This project was done for two years and during its duration, a lot of products were made, and afterward, a lot more lives changed.

Six palatable *batuan* products were materialized by the project implementers: *batuan* powder, jam, puree, pickles, pastillas, and dried *batuan*. The first four mentioned were formulated with the help of the University of the Philippines Los Baños-Institute of Food Science and Technology and was then modified by DA-WESVIARC following its own standards.

From there, through tests and time literally, these products have gone through exhibits, forums, local markets, and exhibitions which paved the way for its growing popularity in the market. Take the Flavors of Western Visayas expo, for example. Graced by popular chefs and connoisseurs, *batuan* products, specifically the jelly and jam, was used by Chef Boy Logro, Chef Rafael Cristobal, and Chef John Foncesca as main ingredients in their dishes during their cooking show-off.

Apart from that, *batuan* products were present in DA-BAR's technology forum and product exhibit in 2018 in SM Megamall, and the same year, in the National Livestock Expo and the Agri-Aqua Investment Forum in Iloilo as well. Several processors then expressed interest in these products; thus, DA-WESVIARC conducted a series of training in 2018 which was participated in by a total of 30 processor-participants from Capiz, Guimaras, Aklan, Antique, Iloilo, and Negros Occidental.

The said exposures and training did not only prove the delectability and versatility of *batuan*. Rather it also endowed knowledge to the processors and showcased its

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CPAR project in...from page 5 variety) and NSIC Rc402 during the said field visit. As of writing, more support for the community is on the way as DA-Cagayan Valley plans to procure other materials and equipment such as bigger water pipes and water pumps.

With the many interventions introduced by the project to cooperators, RED Edillo hopes that the community can now "have more yield for this year's planting cycle."

"You now have a mechanical transplanter. One hectare can be planted in less than three hours now. Plenty of empowered women are also involved in this project. It is one way of strengthening your organization," RED Edillo said to the beneficiaries of the project during the said field visit.

"We are encouraging farmers to improve their farming practices by intercropping. From a monocrop planting, they can intercrop it with mungbean or improved corn varieties to increase production and income," he suggested.

"This inter-cropping is piloted here in Namabbalan. Pagbutihin po natin at magbuklod-buklod tayo," ended RED Edillo.

RTD Aguino reveals that plans for expansion in the community are also being set out as vegetables are eyed to be included in their bucket list. According to her, "an increase in yield will be taken from their crops in summer since water supply is no longer a problem. They [community] can be accredited as seed growers of the rice variety we have introduced."

Among the technologies introduced to farmers by DA-Cagayan Valley were crop diversification, use of appropriate and improved rice varieties, utilization of organic fertilizers, implementation of Integrated Nutrient Management, and other cultural management practices.

Other lined-up activities are the conduct of Training for Seed Production, Business Enterprise, and Capability Building; and other Technology Training on Vermi-composting and Mushroom

Production to be scheduled in batches in consideration of community quarantine guidelines specifically on physical distancing as a measure to combat the spread of the coronavirus.

Through CPAR, farmers now benefit from increased farm productivity with a sustainable farming and production system amidst the pandemic.

CPAR is one of the banner programs of the bureau that serves as extension modality that uses a community-based participatory approach where members are actively involved in testing and applying new and improved farming technologies and practices derived from research initiatives. ###

For more information: Vanessa Joy F. Calderon Agriculturist II Department of Agriculture -Cagayan Valley Research Center San Felipe, City of Ilagan, Isabela

vanj\_fortin@yahoo.com

### Ang pagbatu sang...from page 6 financial viability especially for small entrepreneurs who would like to start on local product spin-offs to be

marketed in their own brand.

Needing only a small capital on processing and equipment, one technology adopter is Gracelyn Berte from Igbarawan, Antique. Under their trade name, Graciana, Berte has been selling batuan puree, jam, and batuan pickles in their locality. Similarly, couple Rogelio and Cristeta Montehermoso from Miag-ao, Iloilo also adopted the batuan technology and proceeded on selling batuan jams and pickles through their local brand name VG Power Herbal Products Trading.

From these adapters, one can see the trend that batuan jam is one of the highly-adopted products by our local entrepreneurs. This is because batuan jams are shelf-stable products and can be sold or consumed up to six months.

Moreover, according to the technology and investment profile released by the Southeast Asian Regional Center for Graduate

Study and Research in Agriculture, batuan jam and jelly has a return on investment (ROI) of 80.46 percent. This means that it is highly profitable because an ROI higher than 50 percent connotes a high return.

True enough that another couple entrepreneur has been successful in sustaining their venture on this sweet batuan jam. Gina Salviejo, together with her husband Francis, produced batuan jam in their own formulation through the help of a seminar launched by DA-BAR on batuan by-products. With its success, Francis said through an interview with Manila Bulletin that they now acquire usually 10-20 kilos every harvest season of batuan for the processing of two kilos of batuan jam.

The Salviejos were overseas Filipino workers before they decided to invest in agriculture and farming. In an interview, they stated that this started as a hobby until they realized that agriculture and farming is a good investment. With their minds set on this new endeavor, they established their own local business named MFK

Agri Products and Technology in

Salviejo further discussed that one of the reasons why they considered processing batuan into consumables is that apart from their exquisite taste, they can also be healthier alternatives for commercial products in the market. This is because the fruit itself is known to reduce cholesterol, risk of hypertension, and diabetes. It also has antioxidants that can help build up your body's immunity.

In Hiligaynon, batuan ta sang batuan (Let's fight them off with batuan), am I right?

Batuan might be a lesser-known fruit now but with these emerging researches and testimonials, it will only take a little more time before it gets the recognition it deserves. ###

For more information: Dr. Peter S. Sobrevega Project Leader **DA-WESVIARC** Jaro, Iloilo City (033) 329 0956 darfu6@yahoo.com

### DA-BAR marks 33<sup>rd</sup> anniversary

As the lead coordinating agency for agriculture and fishery research for development (R4D) at the national level, the Bureau of Agricultural Research (BAR) marked its 33 years in service as one of the staff bureaus of the Department of Agriculture (DA) in August 2020.

Established in 1987 by virtue of Executive Order 116, the bureau, through generated and commercialized technologies, persists on transforming the landscape of agri-fishery R4D toward a technology-empowered agriculture and fishery sector contributory to inclusive growth.

"Through the years, the bureau has matured and modified to address the emerging needs of the sector. As the needs and demands of our stakeholders shift and transform, DA-BAR continues to find more effective ways to improve and stay responsive. Our stories are testaments of how the bureau, in the face of changes and challenges, will continue to hold fast to its vision and mission, all in the service of the country's agriculture and fishery sector," said DA-BAR Director Nicomedes P. Eleazar, the longestserving director of the bureau, in his anniversary message.

As the bureau welcomes the years ahead, Director Eleazar sees the resilience of the agency despite the uncertainties and realities the country is facing, especially with the ongoing pandemic.

"We took on the challenge to respond to the call to refocus, re-strategize, and re-think how to be more responsive to the sector through the work that we do," he added.

Also, he valued the support of partner agencies in remaining relevant and responsive in addressing the needs of the sector. He extended his gratefulness to all the staff of the bureau for their hard work, professionalism, and commitment, not only in continually improving the delivery of services in the R4D sector but more importantly, in looking after the agency.

In celebration of its anniversary, DA-BAR facilitated a week-long online seminar series on 3-7 August 2020. These include: 1) Milkfish Production and Polyculture by Dr. Diony Cahilig and Generoso Delos Santos of Capiz State University; 2) Sapinit Production and Commercialization by Dennis Bihis of DA-Quezon Agricultural Experiment Station; 3) Cacao Product Generation by Dr. Perlita Raymundo of Isabela State University; 4) Market Potential for Jute Sacks by Dr. Remedios Abgona of DA-Philippine Fiber Industry Development Authority; and 5) Rubber Production Technology by Engr. Roger Bagaforo of DA-Zamboanga Peninsula.

Line-up seminars came from the previously featured seminar series conducted monthly by the bureau. ### (Ma. Eloisa H. Aquino)

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#### Agri chief leads...from page 1

Citing the value of providing scientists with the necessary equipment and tools to address the problems that the agri-fishery sector is facing, the agriculture secretary instructed DA-BAR and PSAU to re-assess if the completed DA-BAR funded Animal Disease Diagnostics Research Facility in PSAU has a minimum set of equipment that researchers and scientists of the university can use to attain its goal of addressing the diseases not only in livestock, but also in fisheries.

Commending the university's significant contribution in managing the problem in ASF in Central Luzon, he also challenged the university to continually develop and enhance its capacities.

"Enhance your capacity through this existing facility because we need to start working now for that potential pandemic that may come from zoonotic animal diseases. If you have the best minds, the younger generation who has the right training, then you are ready and we shall be able to solve any problems along those issues of transboundary animal diseases," he said.

Secretary Dar also highlighted in his message the strong partnership between the university and the department, through BAR. From 2002 to present, the bureau has funded 21 completed projects amounting to PhP 41.3 million and six ongoing projects amounting to PhP 30.5 million.

Following the event,
Secretary Dar visited the Central
Luzon Integrated Agricultural
Research Center (CLIARC) for
Upland Development in Sto.
Niño, Magalang. He instructed
DA-BAR, PSAU, and CLIARC to
work together toward enhancing
and strengthening the capacities of
the station through modernization,
infrastructure development, and
market development. ### (Mara
Shyn M. Valdeabella)