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Dar inaugurates 3 R4D facilities at PSAU

Agriculture Secretary William Dar (2nd from left) and Dr. Nicomedes Eleazar (2nd from right), DA assistant secretary for special affairs and DA-BAR director, lead the ribbon-cutting ceremony of the Animal Disease Diagnostic and Research Facility.

Agriculture Secretary William Dar, together with agriculture officials, inaugurated three research for development (R4D) facilities at the Pampanga State Agricultural University (PSAU) in Magalang, Pampanga on 24 January 2020.

In support to the "New Thinking" paradigm of Sec. Dar, the facilities inaugurated were aimed towards a progressive and sustainable agriculture and fisheries through the technologies and innovations generated through research.

Funded by the Department of Agriculture-Bureau of Agricultural Research (DA-BAR) through its Research Facility Development Grant program, the animal disease diagnostic and research facility was furnished with appropriate laboratory equipment for efficient and accurate diagnostics of different pathogenic diseases with priority given to the African swine fever.

"[DA-BAR] believes that this facility, along with the past and ongoing BAR-funded [R4D] projects implemented by PSAU, would intensify research utilization and dissemination toward the realization of *Masaganang Ani at Mataas na Kita* for our farmers and fishers," said Dr. Nicomedes Eleazar, DA assistant secretary for special affairs and DA-BAR director.

The Php 5-million worth facility was aimed at helping researchers and scientists in detecting and diagnosing animal diseases.

The other facilities inaugurated were the "D" ANI KITA radio program DWEE-FM 107.1 MHZ station, which will serve as the primary radio station for Central Luzon, and the "BAI-PSAU Collaborative Program on Beef Cattle for Adopt Barangay Extension Modalities in Pampanga" facility that aims to improve cattle production at the barangay level in Pampanga–the latter was funded by the DA-Bureau of Animal Industry (BAI).

Joining Sec. Dar were Engr. Ariel Cayanan, DA undersecretary for operations and agri-fisheries mechanization; Dr. Nicomedes Eleazar, DA assistant secretary for special affairs; Dr. Honorio Soriano, Jr., PSAU president; Dr. Ronnie Domingo, DA-BAI director and chief science research specialist;

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DA-BAR reviews 2019, plans for 2020

To review accomplishments in 2019 and layout new approaches and strategies for 2020, the Department of Agriculture-Bureau of Agricultural Research (DA-BAR) conducted its annual review and planning workshop on 21 January 2020 in Los Baños, Laguna.

Spearheaded by Dr. Nicomedes Eleazar, DA assistant secretary for special affairs and DA-BAR director, the meeting focused on shifting the bureau's programs into a more inclusive and market-oriented research for development (R4D) in support to the "New Thinking" paradigm of Agriculture Secretary William Dar.

Dr. Eleazar also emphasized the strengthening of agribusiness incubation approaches and programs focusing on mature technologies funded by the bureau.

Agribusiness incubation will be one of the major programs of BAR. It will focus on utilizing the technologies to potential agribusiness enterprises.

As part of his marching orders, Dr. Eleazar stressed the plans for effective project implementation, responsible monitoring of R4D projects and budget allocations.

He also instructed the bureau's communication arm to be proactive on information dissemination utilizing the bureau's social media accounts and to intensify promotion of research-generated technologies.

Salient accomplishments and 2020 first semester targets of each division were laid out by the respective heads and assistant heads.

Meanwhile, Joell Lales, DA-BAR Program Development Division head, led the discussion of the strategies for program setting.

Digna Sandoval, DA-BAR assistant director, closed the meeting by acknowledging everyone's commitment and dedication in implementing the plans and programs of the bureau. She encouraged a stronger performance among the staff to ensure quality service for our farmers and fishers. ***### (Chantale T. Francisco)***

Dr. Nicomedes Eleazar, DA asec. for special affairs and DA-BAR director, gives his marching orders.

DA, DOST TO COLLABORATE TECHNOLOGICAL INNOVATIONS. Initial meeting to harmonize and complement the technological innovations of the Department of Agriculture (DA) and Department of Science and Technology (DOST) was conducted on 24 January 2020 in Los Baños, Laguna. Dr. Reynaldo Ebora, DOST-Philippine Council for Agriculture, Aquatic, and Natural Resources Research and Development executive director, presided over the meeting. In attendance were Dr. Liza Battad, DA-Philippine Council for Agriculture and Fisheries executive director; Joell Lales, DA-Bureau of Agricultural Research (BAR) Program Development Division (PDD) head; and Cynthia Remedios de Guia, DA-BAR PDD assistant head.

5 Filipino scientists vie for 1st Newton Prize PH award

Filipino scientists were all smiles as they receive their plaques of participation during the awarding ceremony.

Finalists of the joint collaboration Newton Agham Programme between the Philippines and the United Kingdom (UK) gathered for the Newton Prize Philippines awarding ceremony at the Manila Polo Club, Makati City on 28 January 2020.

The Newton Prize is a one-million-pound fund dedicated to the search for excellent research and innovation that addresses pressing issues on the country's development.

Four finalists, two of whom were supported and funded by the Department of Agriculture-Bureau of Agricultural Research under the DA Biotechnology Program, competed for the reputable award.

Meanwhile, one finalist is set to compete against nominees from China and Indonesia for the prestigious Newton Chair's Prize in London on February.

First of the two nominated projects was the "Low-cost Portable Molecular Diagnostic Platform for Rapid Detection of Poultry Infectious Pathogens (LMDP)" led by Dr. Dennis Umali of the University of the Philippines (UP) Los Baños and Professor Wamadeva Balachandran of the Brunei University London.

The second project was "Using genomics to trace Salmonella transmission and antimicrobial resistance in the poultry & swine food chains in Metropolitan Manila" with Professor Windell Rivera of the Natural Sciences Research Institute, UP Diliman and Professor Taane Clark of the London School of Hygiene and Tropical Medicine as leads.

Aside from the funding from the DA Biotech Program, the two projects also received funding from UK's UKRI Biotechnology and Biological Sciences Research and Council.

Meanwhile, other projects vying for the award were as follows: 1) "Water-Energy-Nutrient Nexus in the Cities of the Future" by Professor Michael Angelo Promentilla of the De La Salle University and Dr. Devendra Saroj of the University of Surrey; 2) "ENSURE: Enhanced surveillance for control and elimination of malaria in the Philippines" by Dr. Fe Espino of the Research Institute for Tropical Medicine and Professor Chris Drakeley of the London School of Hygiene and Tropical Medicine; and 3) "Tissue engineering of bronchi in health and sickness: assessing the effect of matrix stiffening on cellular changes in the airways" by Jopeth Ramis of the Technological Institute of the Philippines and Professor Felicity Rose of the University of Nottingham, the Newton Prize Chair's nominee project.

The Newton Agham Programme commemorates the good relationship between the UK and the Philippines through supporting British and Filipino researchers and institutions to build science and innovation partnerships with partner countries to attain economic development and social welfare.

Through this joint initiative, mutual research and innovation capacity for long-term sustainable and equitable growth were developed with the hopes of achieving various sustainable development goals.

Newton Prize recognizes excellent research and innovation projects since its founding in 2014.
(Jhon Marvin R. Surio)

Sample to smartphone: Field-based poultry disease detector will soon be available in the country

Story by Jhon Marvin R. Surio

During the last quarter of 2019, the growth rate of the agriculture sector was measured by the Philippine Statistics Authority at 0.4 percent, characterized by a notable 5.4 percent expansion of the poultry industry.

With the sudden emergence and outbreak of the African swine fever in the country, consumers instantly shifted to the consumption of poultry (chicken) which resulted to increased production to match heightened demand. As such, poultry accounted for 17 percent of the total agricultural production of the country for the previous year.

However, infectious diseases that strike commercial and backyard poultry in the country are still to blame for the obstruction of further expansion by forestalling productivity. With the dawn of globalized trade upon the industry, such threat may cause even more losses to the industry.

This paved way for the opportunity to develop diagnostic systems that can aid poultry raisers to rapidly and accurately detect poultry diseases among their flocks. This plays an integral role in the detection, monitoring, control, and subsequent eradication of infections in the industry. Hence, the project titled "Low-Cost Portable Molecular Diagnostic Platform for Rapid Detection of Poultry Infectious Pathogens (LMDP) in the Philippines."

The project is a collaboration between the Cavite State University, University of Eastern Philippines in Samar, University of the Philippines Los Baños (UPLB), and the Department of Agriculture (DA)-Bureau of Animal Industry which was funded and managed by the DA-Bureau of Agricultural Research under the DA-Biotechnology Program.

Despite the current revolutionary and technological landscape on disease surveillance and outbreak investigation, very limited data were published in the country.

Since understanding of molecular characteristics and epidemiological distribution of poultry pathogens is key to addressing this problem, this research came just about at the right timing.

Effective diagnostic and control strategies may now be developed to combat productivity setbacks caused by infections and outbreaks by means of early detection.

Led by Dr. Dennis Umali of UPLB, the project specifically aims "to develop and translate an easy-to-use low-cost handheld integrated molecular diagnostic test for the rapid detection at point of need for three viral (Newcastle disease, Infectious bursal disease, and infectious bronchitis) and three bacterial (*Escherichia coli*, *Salmonella enterica* serovars and *Mycoplasma gallisepticum*) key chicken pathogens in the country."

According to the team, "the total test time will be under one hour, from sampling to result. The system will consist of sample collection and preparation device, and an instrument which will be wirelessly connected to a smartphone."

"The smartphone app will run the assay and then display the results. Meanwhile, results may also be sent wirelessly to a central store and used for surveillance purposes. Once the system is laboratory validated it will be evaluated in other parts of the Philippines through local collaborators," the team added.

Upon completion, it is expected that a field-based detection solution will be launched in the country for a faster way of detecting poultry infections and diseases which will impact local production and boost

Members of the research team collecting oropharyngeal and cloacal swabs for identification and characterization of select bacterial and viral pathogens.

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Agribusiness dev't project in Mindoro paves way to sustainable banana industry

Story and photo by Jhon Marvin R. Surio

Farmer couple Ka Estong and Ka Glo boasts bountiful harvest

Proper cultural management practices on banana production increased the yield of banana farmers in Bansud, Oriental Mindoro.

Not only did the harvest increase by an average of 43 percent, income of banana farmers also grew as compared to their yield using farmers practice.

Thanks to the project "Community-based Participatory Action Research on Banana Agribusiness Development Project in Bansud, Oriental Mindoro" funded by the Department of Agriculture (DA)-Bureau of Agricultural Research.

Farmer couple, Estelito and Gloria Cruzat, 61 and 55, respectively, attest to the positive impact of the project in their lives.

Estelito or Ka Estong recounted that in 1975 when he first started to plant bananas, his yield every harvest estimates at 2,000 bananas. He sold this at 80 centavos to Php 1 per piece.

With his involvement in the project, he now has an estimated yield of 7,000 bananas, sold at Php 1.40 up to Php 2.50 per piece, depending on the size and quality of produce.

From an income of Php 1,600-2,000, they now earn from Php 9,800 to Php 17,500 per harvest.

Ka Estong and his wife Gloria or Ka Glo supply bananas to markets in Parañaque and Bulacan.

Their banana plantation enabled them to support their five children's education, four of which have already finished college.

According to project leader Carmen Honrade of the DA-MIMAROPA Research Division, their farmer-cooperators continue to reap the fruits of the project even after its termination.

With the introduced technologies and farming practices of the project, decline in the annual yield of banana farmers, mainly due to improper practices and "wait-and-see" attitude, was combatted.

Incidentally, Oriental Mindoro contributes the most in the overall production of bananas in MIMAROPA, earning it the recognition as the "banana king of Region IV."

From 2010 to 2017, the province sustained the highest yield among the other provinces in MIMAROPA, averaging at approximately 125,025 metric tons, according to the Philippine Statistics Authority.

Honrade, as a resident of Oriental Mindoro, said that she is happy to have contributed to the banana industry in their province. ###

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DA through BAR seeks partnership with USDA, USAID

To strengthen partnership between the Philippines and the United States of America (USA) in upscaling the agriculture and fisheries sector, the Department of Agriculture (DA) through its Bureau of Agricultural Research (BAR) conducted a series of meetings with the United States Department of Agriculture (USDA) and United States Agency for International Development (USAID) on 17 and 31 January 2020 in Pasay and Quezon City, respectively.

House Majority Leader Ferdinand Martin Romualdez facilitated the initial meeting which levelled-off the expectations of the participating institutions.

Attending the meeting were Philippine Agriculture Secretary William Dar; Dr. Nicomedes Eleazar, DA assistant secretary for special affairs and DA-BAR director; USAID Deputy Mission Director Patrick Wesner; and Morgan Haas, USDA-Foreign Agricultural Service agricultural counselor.

They were joined by Ronnie Coffman, Cornell University-College of Agriculture and Life Sciences director of international programs and Dr. Ruben Villareal, former chancellor of the University of the Philippines Los Baños.

Upscaling and value-adding of technologies—particularly rice, corn, and coconut as staple crops of the Philippines—to meet the preference of global consumers for export, and capacity building through exploring human resources development opportunities of the agriculture and fisheries research for development were some of the ways that USAID and USDA could provide support to DA.

Agriculture Secretary William Dar highlighted the potential support of the US agencies to DA's goal of agro-industrialization through the "big brother, small brother" initiative which engages the private sector to support the upscaling of commodities—now termed as 'industries.'

"We want more rural industries in the countryside invested by the private sector, and with that we want to look at newer opportunities for our farmers and fishers to agribusinessize," stressed Agriculture Secretary Dar.

As a follow through, another meeting was facilitated by DA-BAR to discuss the Agribusiness Incubation (ABI) Program and capacity building opportunities for smaller agricultural groups where possible services of USAID can be considered as potential areas for collaboration.

One of which is the USAID-funded GROW-COOP that focuses on the mainstream commodities with established markets such as cassava, coco sugar, cacao, coconut, and rice.

The said program looks into the 'big brother-small brother' partnership set up as a complementary follow through support to the DA-BAR ABI and as a viable mechanism to effectively accelerate linking start-ups from DA-BAR ABI integrating them into the value chain.

Secretary Dar tasked DA-BAR to lead the coordination with USDA, USAID, and other institutions that will support the initiative and build potential partnership. ***### (Clarisse Mae N. Abao)***

Agriculture Secretary William Dar (3rd from left) and DA Asec. for Special Affairs Nicomedes Eleazar (2nd from left) attend the meeting with USDA and USAID officials on 17 January 2020 in Pasay City.

In-house seminar highlights cacao prod'n, market opportunities

OPTIONS Managing Director Josephine Ramos explains the 13 NSIC-registered varieties of cacao and the preferences of industrial and chocolate processors.

Josephine V. Ramos, managing director of Organization for Partnerships, Teamwork & Initiatives on Opportunities for Nature Steward, (OPTIONS) Inc., talked about cacao production and market opportunities during the in-house seminar of the Department of Agriculture-Bureau of Agricultural Research on 23 January 2020.

Ramos started the discussion by providing an overview of the cacao industry in the country. She shared that one of the key drivers of the cacao industry will be the premiumization of chocolates. This encompasses production and processing of quality cacao beans and chocolates.

After discussing cacao production, Ramos proceeded with the livelihood opportunities of the industry.

One of the opportunities is the bean-to-bar concept which involves "different methods of production, packaging, and direct shipping or sales to high-end outlets."

It enables a small number of producers to add significant amount of value to their cocoa production," explained Ramos.

She further said that, "this value addition for cocoa producers is mainly done through quality branding and packaging, and by offering superior cacao qualities."

The production of planting materials which also provides another livelihood opportunity was also discussed.

She capped off the seminar by explaining how long will it take for investments to return in the cacao production.

"Definitely *kikita ka kung tama ang pag-aalalaga natin. Wala kasing lugi sa paghahalaman kung tama ang pag-aalaga*," ended Ramos.

Attended by 84 participants, the seminar is one of the initiatives of the bureau implemented through its Applied Communication Division to further promote and disseminate research-generated technologies to the public. ### ***(Rena S. Hermoso)***

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The January 2020 **BAR CHRONICLE** is the first issue of the restructured monthly publication of Department of Agriculture-Bureau of Agricultural Research. This is in line with the rebranding of its corporate image conforming to the revised branding playbook of the Department of Agriculture.

Starting this year, you may also opt to avail the e-copy of our monthly newsletter. If interested to be a part of our subscription list, please send a request to our official email: **kmr4d.dabar@gmail.com**.

ABARE inducts newly-elected officers

DA-BAR Director Nicomedes Eleazar (2nd from left) together with DA-BAR Asst. Director Digna Sandoval (left) presides the oath taking of new set of ABARE officers.

Newly-elected officers of the Association of Bureau of Agricultural Research Employees (ABARE) was inducted into office on 21 January 2020 in Los Baños, Laguna.

Dr. Nicomedes Eleazar, Department of Agriculture (DA) assistant secretary for special affairs and DA-Bureau of Agricultural Research (BAR) director, presided the oath-taking.

Kris Thea Marie Hernandez of the Program Monitoring Division (PMED) was re-elected as the ABARE president. Marjorie Mosende of the Institutional Development Division and Maria Elena Garces of the Technology Commercialization Division were elected as vice president for internal affairs and vice president for external affairs, respectively.

Joining them were Wilson Viloria II of PMED as secretary; Juan Nikolas Paller of PMED as assistant secretary/ marshal; Amavel Velasco of PMED as treasurer; Raymond Patrick Cabrera of the Program Development Division (PDD) as business manager; Jude Ray Laguna of PDD as auditor; and Gretel Rivera of the Administrative Division as press relations officer.

The elected officers will serve for from 2020-2022.

ABARE is composed of 45 regular members and 37 affiliate members. It is the sole representative of the rank-and-file employees of the bureau.

The association is recognized by the Department of Labor and Employment-Civil Service Commission under Certificate of Registration No. 655 on 22 December 2017. ### ***(Chantale T. Francisco)***

Dar inaugurates...from page 1

and Dr. Geraldine Sanchez, PSAU director for extension, training, and mentoring.

The inauguration was one of the activities held in celebration of the university's 5th anniversary, with the theme, "Positioning PSAU as an Innovator in Agricultural Productivity and Entrepreneurship." ### ***(Jireh Alodia R. Laxamana)***

Sample to smartphone...from page 4

economic benefit of raisers in the country.

Recently, the project was shortlisted by Newton Prize, an initiative by the United Kingdom (UK) dedicated to finding excellent research and innovation that addresses pressing societal issues, as one of the five finalists which will be awarded as the first ever Newton Prize Philippines winner.

The research also received funding support from the UK Research and Innovation Biotechnology and Biological Sciences Research Council as part of the initiative.

According to Newton Fund, the team estimated that the total cost of the device is 95 percent lower than commercially available ones while maintaining equivalent standard.

The project will come full circle in 2021, when hopefully, the country will finally pioneer its own rapid and accurate molecular diagnosis mechanism and prevent further losses because of "disease and infection outbreaks, and spill-over of pathogens from broilers to other poultry sectors and avian species and vice versa." ###

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