

Dream turns to reality...from page 15



Mr. Lingao harvests some herbs and spices from his own farm (above) where he sources out his raw materials for his pizzas (inset).



health benefits ng mga karagdagang sangkap,” he said. He incorporated the herbs into the pizza dough.

Hence, unlike the regular pizza dough that is white in color, Mr. Lingao's pizza dough is greenish in color.

The first pizza flavor he released was the “Farm Fresh”, which is a vegetable-loaded pizza. For this introductory creation, he received favorable feedback from the consumers. Then, he joined a municipal-organized agricultural trade fair to sell his pizzas, and again, customers liked his product. After that, a surge of pizza orders started to heap. With that, his resolve to really

put up his dream business hardened.

With pizza orders pouring in, Mr. Lingao was prompted to move his production from the kitchen of his house to a more spacious area. Purchasing a piece of land near the Tagkawayan Municipal Hall, the pizza business grew into a full-blown restaurant named GreenBread.

From a single-flavor pizza, nine new pizza flavors were added to the menu. These are sweet pimiento, chili fresh, ham and cheese, Hawaiian, tomato and basil, barn fresh, nutty beef, overload, and cheese

overload. Mr. Lingao did not stop there as he expanded his business to offer other varieties of food such as pasta, fajitas, and rice meals. One of these which gained huge popularity is the chicken INA-Q, a chicken *inasal* seasoned with selected herbs and spices.

“And since ang gusto nga natin ay healthy ang kinakain ng common Juan, lalo na ang mga bata, ang ginawa ko ay pinasukan ko ng mga gulay iyong menu. Halimbawa, sa shakes, meron dyan na may lahok na kalabasa,” he said. He shared that his greatest critics are his children.

Whenever he has new recipes, he makes sure that his children approve the taste first before he introduces it in the restaurant.

As the GreenBread starts to gain popularity, Mr. Lingao has already acquired a 10-hectare farm in Brgy. Casispalan to be planted with herbs and spices, and vegetables to ensure that there will be a steady supply of the raw ingredients. The plants are organically grown. “Pinapakilala namin na hindi lang tayo pagkain lang, hindi lang kayo basta magbabayad. Kailangan bilang consumer ay isaalang-alang din natin ang kakainin natin,” he added. Additionally, he was able to put up another branch of GreenBread restaurant in Camarines Norte.

As for SLSU-JGE, it still maintains the herbs and spices demonstration farm and GreenBread remains its most ardent client. ###
(Diana Rose A. de Leon)



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BAR Director underscores importance of rubber R&D in symposium

The Makiling Center for Mountain Ecosystems (MCME), a University of the Philippines Los Baños (UPLB)-College of Forestry and Natural Resources (CFNR)-governed academic institution managing the Mount Makiling Forest Reserve (MMFR), held the "Symposium on Science and Management of Rubber Plantation in Mount Makiling Forest Reserve" at TREES Narra Hall, CFNR, UPLB on 30 September 2016. Themed, "Prospects, Opportunities, and Challenges of Rubber Production in the CALABARZON Region," the symposium served as one of the culminating activities of the Bureau of Agricultural Research (DA-BAR)-supported project, "Techno-Demo on Rubber Production and Management."

DA-BAR Director, Dr. Nicomedes P. Eleazar, gave the symposium's keynote address where he recognized the need and importance of investing in rubber research and development (R&D). He said, "With the Philippines as one of the top 10 rubber-producing countries in the world, rubber has always been one of the priority commodities of DA. With rubber's capacity and vast potential in, first, responding to the needs for employment and income, now made real by the rising domestic and international demand for natural rubber as raw material; and, second, enhancing environmental rehabilitation due to its carbon-sequestration abilities, various R&D initiatives and collaborative undertakings on rubber are now being conducted with much vigor by local and international

organizations." He further elaborated on the role that BAR has played in the advancement and development of the Philippine rubber industry with its management of the R&D component of the National Rubber Development Program (NRDP) of the DA.

Dr. Eleazar ended his address with commendations for the organizers saying, "This symposium is one way for rubber researchers to directly disseminate the latest R&D-generated technologies and strategies on rubber production, management, and utilization to those who will find use and benefit from them. It is an opportunity for us too, at BAR, to empower our rubber farmers by equipping them with information on new developments, trends, and strategies in the rubber industry from our end."

From 2005 to the present, BAR has supported a total of thirty-five (35) rubber R&D projects. There are three (3) projects under the Basic and Applied Research Program with the rest falling under BAR's banner programs: the Community-based Participatory Action Research (CPAR) and the National Technology Commercialization Program (NTCP), with four and twenty-eight projects, respectively. Implemented in partnership with DA-Regional Field Offices and state universities and colleges in various rubber-growing areas of the country, the projects focus mainly on performance trials of recommended rubber clones and the development of seedling nurseries and budwood garden demonstrations in areas where there are large tracts of idle lands and denuded hilly lands that are suitable for growing rubber.



In his keynote address, BAR Director Nicomedes Eleazar emphasizes the importance of investing in the country's rubber R&D. PHOTO: MVALDEABELLA

Attending the symposium were rubber researchers, producers, processors, and other stakeholders from government and private institutions from different municipalities of CALABARZON. ###
(Mara Shyn M. Valdeabella)

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PHILIPPINES

Eleazar stresses the value of strengthening agricultural R&D in training workshop for researchers

In partnership with the Department of Agriculture-Bureau of Agricultural Research (DA-BAR), the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) conducted the “Training Workshop on Research Methods and Analytical Techniques in Physical, Natural and Social Sciences” at SEARCA, Los Baños, Laguna on 29 September 2016. Participated in by forty-eight researchers from DA-Regional Field Offices (RFOs) and state universities and colleges, the training workshop was part of the project, “Strengthening Agricultural Research and Development (ARD) towards ASEAN Integration,” supported by DA-BAR through its Project Monitoring and Evaluation Division (PMED).

In delivering the inspirational message, DA-BAR Director Nicomedes P. Eleazar emphasized the importance of the project based on the need “to ensure that our agri-fishery researches would continue to be relevant and responsive to current and projected needs of the sector in the face of the ASEAN integration,” he said. On the purpose of the training, he added that “it is intended to guide each of you [participants] as we revisit the research process that you have learned and have been practicing all your professional lives, to update and upgrade them to the extent possible for everyone, including BAR,

to be on the same page.”

He observed how the quality of the project proposals that BAR has been receiving over the past eleven years that he has been the bureau director has improved. This, he emphasized, signifies the dedication and diligence of Filipino agri-fishery researchers to produce technologies that boost the potentials of farmers as producers, processors, or entrepreneurs. He also expressed his appreciation for the efforts of the agri-fishery researchers saying, “Over the years, I have seen how you were able, through the effective implementation of R&D projects, to encourage farmers to take the necessary steps towards their individual progress and competitiveness. I have also seen how each of you has become better at being a researcher, an agriculturist, and as a leader.”

He ended his speech with words of gratitude for SEARCA for organizing the event as he encouraged the participants to “make the most of the training and take home with you



BAR Director Nicomedes Eleazar gives a message, highlighting the need to strengthen agricultural R&D in the face of ASEAN Integration. PHOTO: MVALDEABELLA

the things you will learn here as these will assuredly benefit, not only your office, university, region, or the department, but the entire agriculture sector.”

The training activity involved separate discussions covering Research Methods and Analytical Techniques in the Physical, Natural, and Social Science disciplines which were held simultaneously. Each discipline had four sessions/topics. Resource persons included: Dr. Arthur L. Fajardo and Dr. Victor A. Rodulfo for Physical Science; Dr. Imelda R. Molina, Dr. Marc Jim Mariano, and Dr. Prudenciano G. Gordoncillo for Social Science; and Dr. Jose Nestor M. Garcia and Dr. Consorcia E. Reaño for Natural Science. ###
(Mara Shyn M. Valdeabella)



Mr. Wilfredo Lingao II, founder, co-owner, and chef of GreenBread, shows his specialty pizza loaded with herbs and spices.

of putting up a restaurant that will serve only healthy food. His dream started to materialize when he was tapped to be the agricultural technician of one of the projects implemented by the Southern Luzon State University-Judge Guillermo Eleazar (SLSU-JGE) in 2012.

This project was the “Production, Processing, and Marketing of Herbs and Spices” which was supported by the Bureau of Agricultural Research (BAR) under its National Technology Commercialization Program. The project aimed to reintroduce in Tagkawayan the cultivation of herbs and spices, and to promote their uses through value-adding activities and thus boost the herbs and spices industry in the municipality.

According to SLSU-JGE Instructor Dorris N. Gatus, who is also the project proponent, herbs and spices cultivation is a good start-up business as these plants can be grown in the backyard. They also have many uses in the production of essential oils and medicine, and in food preparation; thus, many value-adding activities and even livelihood can be derived out of growing herbs and spices.

With various herbs and spices already planted in the demonstration farm of SLSU-JGE, Mr. Lingao got the chance to experiment with various combinations of herbs and spices appropriate for the recipes that he planned to create. Among the plants to be found in the demonstration farm are sweet basil, tarragon, rosemary, talinum, Italian oregano, mayana, turmeric, aloe vera, peppermint, citronella grass, ashitaba, asparagus, black pepper, chocolate mint, holy basil, java mint, lavender, lemon basil, malvarosa, purple basil, sage, spearmint, Thai basil, turmeric, and lemon grass.

He started by looking for the right combination of herbs and spices that will complement the pizza dough. “May nadiskubre ako na ang malunggay at tatlo pang klase ng herbs ang tumugma sa gusto kong panlasa at masasabi ko na pwede nating ipanlaban sa mga malalaking players ng pizza. So, hindi lang pizza ang kakainin mo, nandoon din ang

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Dream turns to reality: The story of GreenBread of Tagkawayan, Quezon

Story and photos by Diana Rose A. de Leon

“Gusto ko ay pakainin si common Juan ng masusustansyang pagkain.”

This is the personal advocacy of Mr. Wilfredo Lingao II, founder, co-owner, and chef of GreenBread Pizza, a restaurant based in Tagkawayan, Quezon. GreenBread specializes in pizza-making. But

what is unique to this restaurant is its emphasis on serving its customers with healthy food, thus, Mr. Lingao, as its head chef, develops food recipes that are loaded with herbs and spices, and other vegetables.

A graduate of B.S. Agricultural Technology at Southern Luzon State University (SLSU) in Lucban, Quezon, Mr. Lingao dreamt



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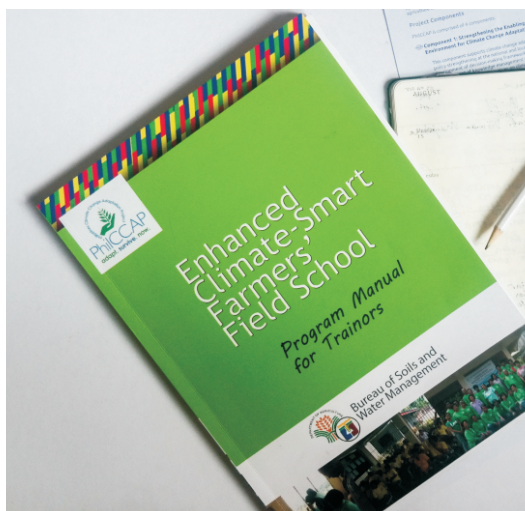
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BAR attends PhilCCAP launching of climate change manual



PhilCCAP's manual on climate change is divided into three courses: (1) climate elements and application to agriculture, (2) climate change adaption technologies and options, and (3) climate change risk management. PHOTO:EGESTUPA

climate change and producing the manual. According to Nilo, climate change calls for the country to adapt, and that one method for adaptation is building a network of partnerships among government entities.

The ECS FFS addresses the lack of appropriate tools that are key to effectively communicating climate change to farmers and fisherfolk, and even to newer generations who are learning about the environment in school. The manual is divided into three courses: (1) climate elements and application to agriculture, (2) climate change adaption technologies and options, and (3) climate change risk management.

The BSWM and ATI came up with the ECS FFS to further realize the goals of PhilCCAP's second component involving the "development and demonstration of adaptation measures in targeted communities with focus on the agriculture and natural resources sectors." Through ECS FFS, extension services across the country are equipped with the tools needed to impart valuable knowledge on farm-level climate risk management. The communities targeted in the manual are Regions 2 (Cagayan), 6 (Iloilo), and 13 (Surigao del Norte).

During her presentation of the PhilCCAP overview, Project Officer Michelle Yu demonstrated how the project's second component, of which the ECS FFS is part of, is key to assimilating the best practices necessary for strengthening the enabling environment for climate change adaptation (component one).

PhilCCAP is an initiative funded by the World Bank. It is a joint effort mainly of the Department of Agriculture through the Agricultural Training Institute, Bureau of Soils and Water Management, Philippine Crop Insurance Corporation, and National Irrigation Administration; and the Department of Science and Technology. ### (Ephraim John J. Gestupa)



The Bureau of Agricultural Research (BAR) enhances its official logo.

Attached to the Department of Agriculture (DA) logo, the enhanced BAR logo contains the bureau's name curved at the bottom of its circle for easier recognition and recall by its partners and clients.

The main colors represent the three major sub-sectors that contribute to Philippine agriculture: green for crops, blue for aquaculture and fisheries, and brown for livestock and poultry.

The farm family at the center is the highlight of the bureau's logo, recognizing the significant role of each member and of the family as a whole in producing food and augmenting income through the development of family enterprises. It also signifies that the family is the ultimate beneficiary of the efforts of the agriculture and fisheries R&D system.

The white flask formed at the back of the family represents BAR's role in R&D, particularly in its mandate to lead, support, and coordinate national R&D for agriculture and fisheries in the country.

All these elements are enclosed in a circle to represent the dynamic relationship of the agriculture and fisheries sector with research and development activities towards achieving sustainable development.

With the enhanced logo, BAR encourages its partners to affix it to BAR-related communications, official documents, and other printed materials.

For a copy of the enhanced logo, please contact:

Applied Communication Division
Tel. No.: (02) 461-2800/2900
Email: acd@bar.gov.ph

BAR chief keynotes 10th PAPTCB Convention

Bureau of Agricultural Research (BAR) Director, Dr. Nicomedes P. Eleazar, served as one of the keynote speakers during the 10th Scientific Convention of the Philippine Association for Plant Tissue Culture and Biotechnology (PAPTCB) held on 19-24 September 2016 in Laoag City, Ilocos Norte.

As the lead agency for agriculture and fisheries research and development of the Department of Agriculture, BAR recognizes the importance of plant tissue culture and biotechnology in the overall growth and long-term sustainability of the country's agriculture and fisheries sector. The bureau has always been supportive of initiatives under these branches of science that contribute to the country's bid to attain food security and food sufficiency.

In his message, Director Eleazar cited some of the BAR-

funded projects on plant tissue culture and biotechnology, among which are basic and applied researches on Cavendish banana in Davao and the development of micropropagation techniques for taro in Region 5. He also mentioned the support given by

climate change-resilient planting materials.

In closing, he reiterated the bureau's confidence in its partner-researchers in their ability to provide innovations to improve the lives of the Filipinos. He also encouraged the

convention participants to submit proposals to BAR for possible funding under the National Technology Commercialization Program (NTCP) and the Community-based Participatory Action Research (CPAR).

Director Eleazar received plaques of appreciation as keynote speaker and on behalf of the bureau as a major sponsor of the event. Also attending the convention were BAR-

Technology Commercialization Division Head Anthony Obligado, TCD Assistant Head Ma. Elena Garces, and staff members, Mr. Wilbert Newton Pollisco, Ms. Gladys Gammad, and Ms. Ma. Louella Dejel.

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Dr. Nicomedes Eleazar, director of BAR, mentions some of the projects supported by the bureau on plant tissue culture and biotechnology. PHOTO:WPOLLISCO

BAR to the establishment and upgrading of research facilities of DA-Regional Field Offices and state universities and colleges through the bureau's Institutional Development Grant. Director Eleazar expounded on how these technologies empower farmers with the development of more

NTC FINAL DELIBERATION FOR THE 2016 GAWAD SAKA SEARCH FOR OAS, OAR HELD

Shortlisted nominees vying for the 2016 Gawad Saka Outstanding Agricultural Scientist (OAS) and Researcher (OAR) underwent final deliberation by the National Technical Committee (NTC) on 8-10 September 2016 at the University of the Philippines Los Baños (UPLB), College, Laguna.

An annual activity of the Department of Agriculture being coordinated by the Bureau of Agricultural Research (BAR) through the Institutional Development Division, the Gawad Saka Search for OAS and OAR recognizes scientists and researchers who have made outstanding accomplishments in the

fields of agriculture and fisheries.

Prior to the deliberation, a desk evaluation was held in July of this year to assess the nominees' works based on the quality of their scientific/research works. Additionally, each of the nominees' productivity in terms of new knowledge and number of significant technologies developed, research projects conducted, research grants generated, and presentations made in symposia/fora, among others, were likewise noted and reviewed.

Following the desk evaluation was a month-long field validation conducted from August to September. Field validation verified the accuracy of information of the nominees' works

at the field level. The evaluators looked into the creativity of the nominees as to the originality of scientific/research works and methods. More importantly, the impact of new knowledge generated from their research was assessed in the following areas: adoption and utilization of technologies; enhancement of productivity, efficiency, and financial viability of technologies; enhancement of global competitiveness of Philippine agriculture such as contribution to export products; and contribution to sustainable development.

For the OAS, project sites

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3rd quarter research managers' meeting held

To review and refine research and development implementation measures and strategies, the Bureau of Agricultural Research through its Program Monitoring and Evaluation Division (PMED) facilitated the conduct of the 3rd quarter research managers' meeting at the BAR Conference Room, RDMIC Building, Diliman, Quezon City on 28 September 2016.

The whole-day activity discussed various updates on the guidelines and accomplishments of zonal and regional RDE networks, as well as the realignment of the agri-fishery R&D programs alongside the revised mandate of the Department of Agriculture (DA) under the new administration.

Participants included managers of the research divisions of the DA-Regional Field Offices (RFOs) and the Bureau of Fisheries and Aquatic Resources, along with BAR's key officials.

BAR Director, Dr. Nicomedes P. Eleazar, iterated in his opening message the importance of the meeting which the bureau has institutionalized since 2014. "It is through you, our partners, that we are assured of the quality of all R&D projects supported by BAR," said Dr.



Attending the 3rd quarter research managers' meeting are managers and representatives of the research divisions of the DA-Regional Field Offices and Bureau of Fisheries and Aquatic Resources, along with BAR's key officials and focal persons. PHOTO:JPALLER

Eleazar. He also mentioned that the bureau will continue to conduct similar activities as a way of validating while sustaining the effective implementation of all R&D programs it supports.

Re-echoing DA Secretary Emmanuel Piñol's pronouncement on the agriculture sector of the country, BAR's Program Development Division Chief Joell Lales presented the "Philippine Agriculture: Today and Tomorrow," which tells about the DA's mission in providing available

and affordable food for all Filipinos. As the DA's R&D coordinating body, BAR emphasized its role in developing opportunities for farmers and fishers and their communities through research and development efforts.

A highlight of the meeting was the presentation of zonal RDE network updates from the 3 major islands, Luzon, Visayas, and Mindanao rendered by Ms. Lovelyn Gaspar, Engr. Leonarda Londina, and Ms. Lorena Duna, respectively. The activity enabled BAR and its partner agencies in the regions to keep track of various R&D accomplishments in the field and action points in light of the DA's pronouncements.

Likewise, program updates were presented by BAR's program/division heads to keep all program implementation on the same track in accordance with the varying needs of the bureau's clientele. A mini workshop on the proposed structure of the research division for the DA-RFOs was also facilitated to improve project implementation efficiency as dictated by constant changes made on the mandated tasks of the agri-fishery RDE network.

In closing, BAR Assistant Director, Dr. Teodoro S. Solsoloy, thanked the participants for their continued support to the R&D undertakings of the bureau. ### (Daryl Lou A. Battad)

in the conduct of the convention. In Dr. Franco's message, she shared MMSU's own endeavors in tissue culture and biotechnology conducted by its College of Agriculture, Food, and Sustainable Development.

Convention activities included plenary sessions, oral paper presentations, business meetings, and seminars. The scientific congress was made possible by the co-sponsorship of BAR, University of the Philippines Los Baños, and Philippine Council for Agriculture and Aquatic Resources Research and Development, with the provincial government of Ilocos Norte and MMSU. ### (Wilbert Newton T. Pollisco)

BAR chief keynotes...from page 3

During the opening ceremonies, welcome remarks were given by PAPTCB Vice President Villaluz Acedo and the opening remarks were rendered by PAPTCB President Cristeta Cueto—both of whom expressed gratitude to the local government units in Ilocos Norte for the support given to the scientific community. Likewise present were former City Councilor Francis Dacuycuy, representing Laoag City Mayor Chevylle Fariñas, and Batac City Mayor Albert Chua.

The Mariano Marcos State University (MMSU), which formed the event's Local Organizing Committee, through OIC-President Dr. Prima Franco, expressed its thanks for being tapped as a partner

BAR celebrates 29th anniversary



BAR's accomplishments are among the highlights of Director Nicomedes Eleazar's message for the bureau's 29th anniversary celebration. PHOTO:PLESACA

Anniversaries are special occasions held upon reaching milestones or for conveying a sense of purpose. It is also a testament to many years of achievements, and marks new beginnings for new goals to pursue and the hope for better things to come.

In this light, the Department of Agriculture-Bureau of Agricultural Research (DA-BAR) held a simple anniversary celebration on 2 September 2016, as it added another year to its almost three decades of client-oriented service in managing the country's agriculture and fisheries research and development (R&D).

BAR Director, Dr. Nicomedes P. Eleazar, in his anniversary message, recognized the accomplishments

achieved by the bureau through the delivery of effective and efficient R&D services to its clientele. Dr. Eleazar also emphasized the importance of being happy together as a family and of working together towards common goals. "The celebration of our anniversary is also a way to enjoy the company of one another", he said. The bureau chief encouraged everyone to count all the blessings and to continue to work hard for the betterment of the agency. He likewise rallied all of the staff to support the new leadership of the DA.

Capping off the activity were song and dance numbers presented by the different divisions and units of the bureau. ### (Patrick Raymund A. Lesaca)

Earthquake drill for BAR staff conducted

As part of the "Third Quarter Nationwide Simultaneous Earthquake Drill (NSED)" led by the National Disaster Risk Reduction and Management Council, the Bureau of Agricultural Research (BAR) conducted an earthquake drill for its staff on 29 September 2016. The activity aimed to prepare the general public for the possible occurrence of a 7.2-magnitude earthquake that may strike in no definite time and affect Metro Manila and nearby provinces.

BAR's Disaster Management Committee, composed of a team of BAR employees, facilitated the conduct of the drill. Spearheaded by overall coordinator, Mr. Roberto S. Quing, Jr. as head of the Administrative and Finance Division, the committee led the employees to do the "Duck, Cover, and Hold" position and

guided them to the exit routes leading to the evacuation area.

This year's drill was held in compliance with Memorandum Circular No. 07 series of 2016 enjoining all government agencies and instrumentalities to participate in the conduct of the NSED. An important point emphasized in the drill was the priority given to pregnant women, people with disabilities (PWDs), and senior citizens in evacuating the building.

In July 2015, BAR also held a similar drill where BAR employees carried out what they learned during a two-hour orientation that equipped them on earthquake preparedness—what to do before, during, and after an earthquake.

A 7.2-magnitude earthquake, according to the Philippine Institute of Volcanology and Seismology (PHIVOCs) Earthquake Intensity Scale, is

considered destructive. Scenarios may include people finding difficulty to stand in upper floors, heavy objects and furniture overturning or toppling, old or poorly-built structures suffering considerable damages, and trees shaking strongly, among others. As one cannot prevent the occurrence of the earthquake, experts see preparedness as key to risk reduction and survival. ### (Anne Camille B. Brion)



BAR staff participate in the conduct of the "Third Quarter Nationwide Simultaneous Earthquake Drill (NSED)". PHOTO:ABRION

BAR graces 43rd DA-AMRES anniv, R&D facility inauguration

The Department of Agriculture-Bureau of Agricultural Research (DA-BAR) joined the DA-Amas Research and Experiment Station (AMRES) in its 43rd Foundation Anniversary celebration held on 23 September 2016 at Amas, Kidapawan City.

Part of the celebration was the inauguration of the newly-constructed AMRES Guest House, one of the components of the BAR-supported project, "Rehabilitation of DA-Central Mindanao Integrated Agricultural Research Center (CEMIARC) Research and Development Facilities". This was funded through BAR's Institutional Development Grant Program. Representing BAR Director Nicomedes Eleazar in the activity was BAR-Institutional Development Division Head Digna

Sandoval who led the ribbon-cutting and unveiling of marker together with DA-AMRES Station Manager, Dr. Loreto Pagarigan.

With the two-storey facility, CEMIARC now has as a workplace where it can more efficiently conduct R&D trainings and seminars towards enhancing the capability of different stakeholders including farmers and fisherfolk. It will help the station to effectively implement its R&D programs and services and make them more responsive to the needs of the agriculture sector.

Other highlights of the activity included the sharing of the history of DA-AMRES by Dr. Pagarigan, the inspirational message given by Ms. Sandoval on behalf of Director Eleazar, and keynote address given by OIC-Regional Executive Director Carlene Collado that



BAR-Institutional Development Division Head Digna Sandoval (right) and DA-AMRES Station Manager Loreto Pagarigan (left) lead the unveiling of marker of the AMRES Guest House. PHOTO:URIVERA

drew attention to the many achievements of DA-AMRES in the past 43 years. ### (Upjohn DG. Rivera)

HS teachers assisted on agri-related projects



Mr. Victoriano B. Guiam (middle) of BAR's Applied Communication Division poses for a photo opportunity with the participants and members of the PSYSC. PHOTO COURTESY OF PSYSC

On referral by Department of Agriculture Undersecretary for Administration and Finance Bernadette Romulo-Puyat, the Bureau of Agricultural Research (BAR) helped out the Philippine Society of Youth Science Clubs (PSYSC) in one of its advocacies which is to give fresh inputs to high school teachers to make them more effective in their vocation.

On 17 September 2016, the PSYSC sponsored a seminar-workshop, "I Teach Science Seminar (ITSS)", a two-day activity that is designed to benefit science teachers of their affiliated high schools. This is part of the annual set of activities that

the PSYSC conducts every September (declared as National Science Club Month through Presidential Proclamation 264) to encourage the youth to actively participate in the science clubbing movement for which the proper preparation of their science teachers is crucial. This was held at the meeting hall of the Philippine Institute of Volcanology and Seismology (PHIVOLCS) located along C.P. Garcia Avenue in the UP Diliman campus in Quezon City.

For this year, 2016, the PSYSC thought of breaking off from the usual science club engagements and chose to focus on agriculture. Still under the

need to address issues of science, technology, and the environment, the Society sought to present practical applications of agriculture in the world of the high school students.

The ITSS gives ways on how high school science teachers can make science teaching both fun and interactive. With agriculture as the focus, BAR sent one of its staff, Mr. Victoriano Guiam, to the seminar to deliver BAR Director Nicomedes P. Eleazar's message of encouragement and to serve as a resource person.

The teachers appeared to be conversant with agriculture, needing only a short question-and-answer session in which the teachers clarified certain points on topics such as hydroponics and edible landscaping, and the BAR scholarships on agriculture.

After the seminar, Mr. Guiam distributed kits containing BAR publications that can help the high school teachers devise initiatives in teaching science that will now include agriculture. The teachers and the seminar organizers expressed their gratitude to BAR for providing the information materials and resource person. ### (Victoriano B. Guiam)

DIRECTOR ELEAZAR VISITS PROJECTS IN REGION I

A team from the Bureau of Agricultural Research (BAR), led by Director Nicomedes P. Eleazar, visited selected BAR-supported projects in Region 1 on 21 September 2016. Among these were projects implemented by the Department of Agriculture-Regional Field Office (DA-RFO) 1-Ilocos Integrated Agricultural Research Center that include Community-based Participatory Action Research (CPAR) projects on rice-mungbean plus cattle fattening and rice-corn plus cattle fattening.

The group met with members of the Sail Farmers Multi-Purpose Cooperative, Inc., who are farmer-cooperators of the CPAR project on rice-mungbean plus cattle fattening in Laoag, Ilocos Norte. The cooperators had committed about a hectare each of their landholdings for the project's implementation. According to Mr. Ariel Agresor, DA-RFO 1 staff and CPAR project

coordinator, the response of the farmer cooperators is noteworthy as the intervention has remained sustainable even after the project had been turned over to the local farmers' cooperative. He likewise highlighted the accreditation of seed growers as seed sources for their improved variety of legumes which was supported by BAR and other agencies such as the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development. Another site in Batac, Ilocos Norte was also visited that showcased rice-corn plus cattle production system.

Also included in the visit was Mariano Marcos State University (MMSU) where Officer-in-Charge



BAR team meet with the members of the Sail Farmers MPC, Inc., farmer-cooperators of the CPAR project in Laoag, Ilocos Norte. PHOTO:WPOLLISCO

Prima Fe Franco discussed with Director Eleazar the achievements of an on-going project supported under BAR's National Technology Commercialization Program (NTCP), on the production, postharvest technology, and utilization of garlic in the region. In addition, an onion and garlic hanger storage facility was visited which is now being utilized

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NTC final deliberation...from page 3



The National Technical Committee for this year's Gawad Saka Search for Outstanding Agricultural Researcher (left) and Outstanding Agricultural Scientist (right) during the deliberation. PHOTOS:ABRION

validated were those of Dr. Nelly Aggangan from UPLB, Dr. Lucia Borines from the Visayas State University, and Dr. Onofre Corpuz from the Cotabato Foundation College of Science and Technology.

On the other hand, for the OAR, the projects looked into were those of Dr. Sailila Abdula, formerly from the Philippine Rice Research Institute (PhilRice)-Midsayap and now Acting Executive Director of PhilRice; Ms. Rose Mary Aquino from the Department of Agriculture-Regional Field Office (DA-RFO) 2-Cagayan

Valley Research Center; Ms. Alicia Bulawan from DA-RFO 8; and Dr. Riza Abilgos-Ramos from PhilRice-Muñoz.

For the final deliberation, the NTC composed of experts in agriculture-related fields, comprehensively evaluated the shortlisted nominees for each category based on the above-mentioned criteria as to who will qualify for endorsement to the Board of Judges (BOJ).

Serving in this year's NTC for OAS as Chairperson is Dr.

Nicomedes Eleazar (BAR); as Vice Chairperson, Dr. Teodoro Solsoloy (BAR); and as Members, Ms. Digna Sandoval (BAR), Dr. Roberto Rañola (UPLB), Dr. Edralina Serrano (UPLB), and Dr. Jonar Yago (Nueva Vizcaya State University).

Meanwhile, this year's NTC for OAR are:

Dr. Nicomedes Eleazar (BAR), Chairperson; Dr. Teodoro Solsoloy (BAR), Vice Chairperson; and, as Members, Ms. Digna Sandoval (BAR), Dr. Enrico Supangco (UPLB), Dr. Jose Hernandez (UPLB), and Dr. Elda Esguerra (UPLB).

Joining them were coordinators and secretariat from BAR: Ms. Marjorie Mosende and Mr. Ronnel Pasion for OAR; and Ms. France Gayzel Caceres, Mr. Jude Ray Laguna, and Ms. Anne Camille Brion for OAS. ### (Anne Camille B. Brion)

New PhilFIDA Executive Director visits BAR

Newly-appointed Executive Director Victor B. Prodigio of the Philippine Fiber Industry Development Authority (PhilFIDA) visited the Bureau of Agricultural Research (BAR) on 2 September 2016. Welcoming him were BAR Director Nicomedes P. Eleazar, along with BAR-Technology Commercialization Division (TCD) Head Anthony B. Obligado, TCD Assistant Head Maria Elena M. Garces and Technical Staff, Ma. Eloisa H. Aquino and Leoveliza C. Fontanil.

Director Eleazar shared to Director Prodigio the BAR-PhilFIDA project, “Enhancing the Productivity of Abaca Farms in the Bicol Region through Integrated Farming Systems or the Abakayamanan Program,” which was assisted by BAR and the National Agriculture and Fisheries Council (NAFC) with funds sourced from the Japan Official Development Assistance's (ODA)-KR2 Program Grant Assistance for Underprivileged Farmers. The said project enhanced the productivity of abaca farmers in the

Bicol region through the promotion of abaca-based integrated farming systems (IFS) and value-adding activities. Another noteworthy fiber project was the Queen Pineapple initiatives in the Bicol Region that revived the tradition of using fibers extracted from pineapple leaves to produce piña cloth.

In turn, Director Prodigio shared his plans to intensify and increase the production of abaca in the various growing regions. He mentioned that some of his own researches had been on abaca.

In the R&D Technology Commercialization Center, the PhilFIDA Director was delighted to see examples of various products and



BAR Director Nicomedes Eleazar and staff show to PhilFIDA Executive Director Victor Prodigio (leftmost) some of the abaca products found at BAR's R&D Tech Com Center. PHOTO: MEAQUINO

technologies developed under projects of R&D institutions that the bureau has supported under its National Technology Commercialization Program. He was also given copies of the Research and Development, Extension Agenda and Programs (RDEAP) 2016-2022 and Climate Change RDEAP 2016-2022 developed by BAR and its R&D partners. ### (Ma. Eloisa H. Aquino)

FAO reps discuss agriculture-sourced renewable energy with BAR



BAR and FAO representatives discuss on some of the renewable energy-related initiatives in the country. PHOTO: MEAQUINO

Representatives from the Food and Agriculture Organization (FAO) of the United Nations visited the Bureau of Agricultural Research (BAR) on 1 September 2016 for a discussion on rice husk gasification and photovoltaic rice milling technologies. This is part of their mission titled, “An enabling environment to foster investments in sustainable energy intervention in the agrifood sector.”

Alessandro Flammini, natural resource officer (Climate &

Energy) of the Investment Centre Division, Technical Cooperation Programme, Management Department; and Stefania Bracco, expert in Energy-Smart Food, Climate and Environment Division were welcomed by BAR-Technology Commercialization Division Head Anthony B. Obligado and Technical Staff, Ethcel Princess P. Libang and Ma. Eloisa H. Aquino.

Mr. Obligado discussed the Department of Agriculture, more so BAR's initiatives and support to the development of renewable energy. He also mentioned that the Philippines has already set up its first commercial power generation plant in the country that uses biomass as feedstock – the San Jose City I Power (SJC I Power) Corporation in San Jose City, Nueva Ecija. The plant specifically uses 100 percent rice husks for fuel and needs at least 12-14 tons of the material per hour

to operate.

The said plant was visited by participants of the “2015 Philippine International Biomass Conference” held in the country on 18 June 2015 organized by Interdisciplinary Biofuels Research Studies Center (IBRSC) of the University of the Philippines, in partnership with DA-BAR. The conference served as a venue for information sharing on the status and market potentials of biomass in the country, as well as innovative technologies that are commercially-competitive and financially-sustainable in the conversion to bio-based fuels and energy of agricultural and forestry crops and residues and municipal solid wastes.

The FAO representatives also visited other government and research institutions during their stay in the country. ### (Ma. Eloisa H. Aquino)

Organic agriculture, lotus products featured in BAR seminar series



The topics, organic agriculture and lotus products, highlighted the monthly in-house seminar series of the Bureau of Agricultural Research (BAR) held on 27 September 2016 at BAR.

Discussing soil quality and food safety of conventionally- and organically-grown crops was Dr. Lorele Trinidad of the National Institute of Molecular Biology and Biotechnology (BIOTECH)-University of the Philippines Los Baños. “The conventional way of producing food relies heavily on inorganic fertilizers and synthetic pesticides. With organic farming, we hope to increase farm productivity while reducing environmental degradation and preventing the depletion of natural resources, at the same time, helping cut expenses on imported farm inputs,” she said.

In her presentation, Dr. Trinidad talked about the BAR-supported project she embarked on that assessed the soil quality, as well as the food safety of conventionally-grown and organically-grown crops, specifically in terms of chemical contaminants and incidence of microbial pathogens.

According to Dr. Trinidad, “While it is highly encouraging to go organic, it is very important that we ensure that the process we employ in our practices conform to the specified requirements or standards of organic

farming principles. Otherwise, we cannot be sure if our organic produce is really safe. We have to remember that our food is safe only if it is free from chemical residues and microbial pathogens,” she said.

Meanwhile, Dr. Estrella Zabala and Mr. Emmanuel Pangilinan of Pampanga State Agricultural University, described the lotus plant and the numerous health benefits that come with it. According to Dr. Zabala, lotus is considered an important traditional herb because all of its parts can be used in traditional medicine. Citing relevant literature, Dr. Zabala said that the lotus plant exhibits anti-diabetic, anti-inflammatory, and anti-obesity attributes, among many others. “In many Asian states, the seeds are used as an antidepressant and are known to inhibit inflammation. The seed extracts have also shown hepatoprotective and free radical scavenging effects,” she added. Dr. Zabala also mentioned the health benefits of drinking lotus tea as the plant harbors a number of antioxidants. She said that it may help ease the discomfort due to diarrhea, managing cramping, and relieving the pain associated with hemorrhoids.

Dr. Zabala and Mr. Pangilinan also explained the potential uses of lotus in the development of effective plant-based health products. Under the BAR-supported project, “Lotus R&D for Region 3: Production Technology

Generation for Food and Non-food Products, Aesthetic and Medicinal Purposes,” different products have been developed. These include anti-inflammatory, anti-microbial, and wound-healing lotus ointment; anti-bacterial, wound-healing, skin-renewing, and moisturizing lotus-enriched-with-honey soap; and moisturizing and anti-bacterial lotus shower gel; among others.

The products will still require further testing and evaluation, as Dr. Zabala mentioned, but the present stage of development of

technology for the production of natural products from lotus already promote product diversification. “With this, lotus may offer bigger production opportunities for farmers and generate employment to family members,” she said.

The seminar attendees were composed of representatives from the Department of Agriculture agencies, faculty of state universities and colleges, students, and interested individuals from the private sector. ### (Anne Camille B. Brion)



Dr. Lorele Trinidad of UPLB (top) talks about food safety of conventionally- and organically-grown crops, while Dr. Estrella Zabala and Mr. Emmanuel Pangilinan (below) of PSAU explain the potentials of lotus in the development of effective plant-based health products. PHOTOS: ABRION



BAR's R&D Technology Commercialization Center is located at the BAR lobby. PHOTOS: MEAQUINO

Tech Com Center of BAR displays products from R&D

Launched on 7 August 2009, the Research and Development (R&D) Technology Commercialization Center of the Bureau of Agricultural Research (BAR), serves as a showroom where one can see more than a hundred products and technologies generated from the bureau's two banner programs: Community-based Participatory Action Research (CPAR) and National Technology Commercialization Program (NTCP).

Years of productive research have blessed the center with a continuing supply of new products to display. Presently, the products on display include **wines** from mango, bignay, duhat, pineapple, tamarind, oregano, ubi, sweet potato, sweet sorghum, cashew, zurriel, guayabano, blueberry, citrus, yacon, ybanag, rambutan, abiu, lipote, banaba, arius, adlay, tamarind, batuan, macopa, cacao, and santol; **oregano** (wine, juice, jam, vinegar, and soap); **sweet sorghum** (vinegar, wine, noodles, cookies, coffee, flour, jaggery, and syrup); **seaweeds** (marmalade, jam, chips, pickles, candies, noodles, torones, and dips); **canned tuna and bangus**; **woven products** (basket, native flower vase, and pandan bag from abaca and pineapple); **cosmetic products** like soaps, creams, and oils from sweet tamarind, lotus, okra and saluyot, virgin

coconut oil, turmeric, avocado, ginger, acapulco, papaya, and sweet sorghum (hand sanitizer, and spray); **soybean** (3-in-1 and brewed coffee, veggie noodles, spreads); **tea** (chickpea, yacon, banana, miracle leaf, turmeric, oregano, native ginger, sweet basil, and sambong); **coffee** (sweet sorghum, pigeon pea, cacao, mungbean, marang, and soybean); **coco sap sugar and nipa palm sugar**; **mango** (dried mangoes, marmalade, pickles, huani mango, and vinaigrette); **sapinit** (juice, wine, and jam); **macapuno** (biscotti and string); **citrus** (cider, conserve jam, wine, and soap); **capiz** (lampshade and other products); **adlay** (crunch, nutri-meal, beauty soap, and breakfast cereal); **batuan** (sinigang powder, concentrate, candy, and powder); **arrowroot** powder and cookies; **bee** (honey, soap, propolis, and dishwashing liquid); **malunggay** powder and polvoron; **cacao** (chocolate kisses, tablea tops, and soap); **chevon**; and **cereal preparations** like Gourmix.

Located at the lobby of the BAR building, it has been a functioning hub for visitors looking to acquire further knowledge on innovative products including the latest information and technologies generated from agriculture and fisheries R&D. As such, the facility also serves as a one-stop-shop for technology guides, and

other information, education, and communication materials. This greatly helps in disseminating new and reliable information regarding better ways of doing agriculture. Visitors, who are mainly farmers, researchers, government employees, private and public individuals, and students, have visited the center for packages of technology (POT) for different priority commodities, feasibility studies and reports such as market studies and financial viability studies for different commodities, or to inquire about crops in demand such as rice, rubber, soybean, cacao, and coffee, including the contact details of researchers who have conducted particular studies, among others. Just for this year, from January to August 2016, the R&D Tech Com Center served a total of 1,200 visitors and received more than 1,800 phone inquiries from different clienteles.

A masterlist of products on display, producers, technology generators, partner institutions, and other relevant information has been put together at the Tech Com Showroom to facilitate linkages among those interested in venturing into agribusiness. ### (Ma. Eloisa H. Aquino)

Indian soybean processors signify interest in Phil soybean R&D



Focal persons from the Philippines' Department of Agriculture-National Soybean Program attend to the queries of the soybean processors from India, which focused on the country's undertakings regarding soybean production and processing. PHOTO: PLESACA

A contingent from the Soybean Processors Association (SOPA) of India, headed by SOPA Chairperson Davish Jain, visited the Bureau of Agricultural Research (BAR) on 23 September 2016. Dr. Jain expressed the association's interest in learning more about the Philippine government's soybean research and development program, particularly the country's efforts on soybean production and processing.

Dr. Jain made a presentation about India's soybean production, as well as the

private sector's role in soybean processing. On the part of the Philippine Department of Agriculture (DA), Bureau of Plant Industry Assistant Director and DA-High Value Crops Development Program National Coordinator Jennifer Remoquillo discussed the Department's thrusts on soybean. She added that the visit and mutual exchanges of information about the versatility of the crop will be beneficial to both countries in their efforts to produce and promote soybean.

Attending the meeting were Ms.

Rose Mary G. Aquino, chairperson of the National Soybean Technical Working Group (TWG); Mr. Elmer E. Enicola, vice chairperson of the TWG; Ms. Felecitas Macam and Vivian Dorajo from the DA-Agribusiness and Marketing Assistance Services; and Ms. Jennilyn Castañeto, soybean R&D focal person of BAR.

With Dr. Jain were D.N. Pathak, executive director of SOPA; Ramesh Jain, director of India-based PRESTIGE Feed Mill Ltd.; and Mr. Sanjeev Lumar of Indiasia Minerals.

SOPA is a national level body in India representing soybean processors, exporters, farmers, and input providers. The Association was established in 1979 with its headquarters located in Indore, in the state of Madhya Pradesh which is the main soybean-growing region of India. ### (Patrick Raymund A. Lesaca)

Director Eleazar visits...from page 5

for the storage of planting materials for the next season. Director Eleazar encouraged MMSU representatives to strengthen their tissue culture- and biotechnology-related resources for garlic production, as well as the improvement of the commodity's marketing through a socioeconomic-based research project.

The team also made a courtesy call to Batac Mayor Albert Chua and discussed possible R&D interventions for banana and rootcrops, emphasizing the projects that will maximize the utilization of idle lands and therefore provide additional livelihood for Batac farmers. Director Eleazar explained BAR's

two banner programs, NTCP and CPAR, which can be tapped for financial support for proposals on such interventions. He also encouraged collaboration between DA-RFO 1 and the local government unit of Batac.

Joining Director Eleazar were Technology Commercialization Division Head Anthony Obligado, Assistant Head Ma. Elena Garces, and other staff



BAR team also visits one of its partners in Region 1, Mariano Marcos State University, to monitor some of the BAR-supported projects in the university. PHOTO: WPOLLISCO

members. The said visits were conducted in coordination with DA-RFO 1 Research Manager, Dr. Jovita Datuin. ### (Wilbert Newton T. Pollisco)

“TILAPIA ICE CREAM” breaks ground for new business ventures

After successfully bagging the Gold Medal as an Innovation–World Winner Awardee during the *Salon International de l'Agroalimentaire* (SIAL) ASEAN Manila 2016, and going viral over the internet, new business opportunities now await the trend-setting *tilapia* ice cream.

Developed by the Central Luzon State University (CLSU) and packaged as *Daerrys tilapia* ice cream, this will soon be available in Ka Tunying's Café in Quezon City which is owned by known news anchor, Anthony Taberna. Professor Dana G. Vera Cruz, project leader and chair of the CLSU-Department of Hospitality Management, excitedly shared that by November of this year, the *tilapia* ice cream will also be sold alongside established ice cream product lines that may be found in a supermarket at FisherMall in Quezon City.

“We are overwhelmed with the positive feedbacks regarding our *tilapia* products. We are happy sharing such innovative technologies and putting a twist to the conventional way of preparing *tilapia*,” Prof. Vera Cruz shared. She is also delighted that the *tilapia* ice cream will be providing additional income to fisherfolk in the Central Luzon region with the additional volume of raw materials that will be needed to meet the expected demand for *tilapia* ice cream.

Prof. Vera Cruz attributes a major part of *tilapia* ice cream's success to the Bureau of Agricultural Research (BAR) of the Department of Agriculture



CLSU's “tilapia” ice cream PHOTO:MEAQUINO

(DA) which provided funding support through the project, “Technology Enhancement and Commercialization of Tilapia Ice Cream.” According to her, “It is really BAR who supported the commercialization of *tilapia* products under our R&D activities that started way back in 2002, continuing until now with the development of more product lines,” she added.

Funded under BAR's National Technology Commercialization Program, CLSU was able to develop various *tilapia* products including *tilapia* ice cream with *tilapia* praline, *tilapia* ice cream *sans rival*, and *tilapia* ice cream with *tilapia* cookies. There are also thin plain *tilapia* cookies, *tilapia* cookies with tomato jam, and *tilapia* hermits dipped in lemongrass-pandan chocolate.

Currently, CLSU is producing 5,000 units (cups and

other variants) of *tilapia* ice cream per month. “Hopefully, in the months ahead, its commercialization will emerge so more and more Filipinos will be able to taste it,” the project leader said. With success in hand, Prof. Vera Cruz wishes to encourage researchers and other individuals who want to venture into the business of agricultural products. “Being innovative also means you have to take the risk and, at the same time, believe in your product. Surround yourself with creative people. *Daerrys tilapia* ice cream would not be successful without the help of the whole R&D team, from the proponents led by CLSU President, Dr. Tereso A. Abella, down to the laborers and, of course, to funding agencies like DA-BAR who helped us along the way. May this also be the start where we Filipino researchers would be known as innovative and creative, and our Philippine products become recognized and competitive in the local and international markets,” she said.

SIAL ASEAN Manila 2016 was held on 31 May–2 June 2016 at the World Trade Center in the City of Manila in which 350 exhibitors from 25 countries around the world participated. Part of Prof. Vera Cruz' privilege as a winner is their team's upcoming participation in SIAL Paris 2016 Food Exhibit in October 2016 on top of using the SIAL logo in their product labels. ### (Ma. Eloisa H. Aquino)

“It is really BAR who supported the commercialization of *tilapia* products under our R&D activities... continuing until now with the development of more product lines.”

BAR extols the virtues of **NATIVE PIGS** with research initiatives



Native pigs from Quezon PHOTO:PLESACA

In 2005, the Bureau of Agricultural Research (BAR) and the National Swine and Poultry Research and Development Center (NSPRDC) of the Bureau of Animal Industry (BAI) collaborated with other livestock agencies on projects that will beef up the promotion, conservation, characterization, and commercialization of potential strains of native pigs. This led to the gradual development of Philippine native swine, particularly in its conservation, promotion, and commercialization.

The BAR-NSPRDC collaborative projects, “Development and Commercialization of Selected Strains of Philippine Native Pigs” and “Commercialization, Evaluation, and Commercialization of Philippine Native Pig,” were funded under the National Technology Commercialization Program (NTCP), one of BAR's banner programs. Dr. Rene C. Santiago, center chief of the NSPRDC and the project proponent, partnered the center with the local government units (LGUs) of Quezon and selected farmer cooperators in Laguna and Quezon to facilitate the promotion of native swine.

The projects covered the establishment of baseline data for native pigs; recommending proper feeding rations; generation of information on the existing native pig

gene pool, breeding management, and production, and selected strains of native pigs; and the development of processing technologies for meat and skins from selected strains. These also sought to strengthen the sector and, more importantly, to empower the farmers to be locally and internationally competitive.

Production of native pigs can be a viable alternative for swine producers who cannot afford the costly input requirements of commercial swine, and those who do not have enough capital for housing and feeding. These native pigs can be raised without the use of chemical inputs. And, being a desirable breed for *lechon* and for its low-fat meat, native pigs have high market potentials for those planning to engage in organic swine production. In addition, native pigs are very rich sources of genetic materials for local breed development and improvement programs, hence the necessity to conserve and preserve such breed.

Government support is an essential component for the native animal's production to

become sustainable for the farmers. BAR supports the Department of Agriculture (DA) in ensuring the conservation of native animals in the country through the provision of proper information and technologies generated through research and development (R&D).

As it continues to support the livestock program and the Philippine Native Animals Development (PNAD) program of the DA and BAI, the bureau has and funded, as of September 2016, a total of 21 livestock- and poultry-related projects for the generation of reliable technologies on livestock production, management, and post-production in collaboration with various project proponents and farmers' organizations. Included to these is the bureau's support to the center's R&D facilities such as the upgrading of grower pens and acquisition of audio-visual equipment. BAR also funded the establishment of the PNAD Information System and Showroom through assistance provided by the Center for Environmental Law and Policy Advocacy (CELPA), Inc.

BAR is mandated as the national agriculture and fishery R&D coordinating agency of the DA, while the NSPRDC is under BAI's Farm Operation Group dedicated to the development of the swine and poultry industries. The station is located in Tiaong, Quezon. ### (Patrick Raymund A. Lesaca)



BAR-supported PNAD Information System and Showroom at NSPRDC that provides relevant information on native animal production and management PHOTO:PLESACA