A priest-cum-organic farming advocate...from page 13

The ORIG system uses some feed ingredients that are naturally resource based like various forages and other fast-growing plants that are readily-available. Photos obtained from Father Ian Trillanes' powerpoint presentation titled, "Organic Agriculture Best Practices"

*The ORIG system stands for **O**rganic, **R**ecyclable, **I**nnovative, and **G**uarantee system. It is anchored on the natural and organic way of raising pigs which has no foul odor, no bath, no commercial feeds, no chemicals, and no artificial growth hormones used.*

benefits. The system, Fr. Trillanes said, guarantees the farmers of good income and the consumer of safe and delicious meat. "This is a win-win system that benefits the farmer, the consumer, the environment, and the neighborhood," he said.

"Presently, there are almost 100 heads of swine both native and high breed. They have a thousand free range chickens, one hectare for vegetables, fruits, and herbs production. Currently, they are giving and conducting trainings for farmers being sponsored by DA-RFO 5 and other government organizations. The farm is also open for *Lakbay Aral* or farm tourism where patrons can eat and buy organic foods and other products," Fr. Trillanes added.

He has been moving the region proclaiming not only the Gospel, but also the good news of organic farming. His involvement in the advocacy started with his fellow priests and has launched pastoral programs geared towards building Small Christian Communities locally called *Munting Sambayanang Kristiyano* where they actively promote organic farming.

Fr. Trillanes was appointed as one of the members of the National Organic Agriculture Board (NOAB) of the National Organic Agriculture Program (NOAP) representing non-government organizations (NGOs). He was installed by Agriculture Secretary Proceso J. Alcala in 2015.

The NOAP is the government's policy-making body that provides directions and general guidelines for the implementation of the country's organic agriculture program. ###

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2015 GAWAD SAKA outstanding scientist, researcher announced

(L-R) BAR Director Nicomedes P. Eleazar, 2015 Gawad Saka Outstanding Agricultural Researcher Wilhelmina P. Castañeda of DA-RFO 1, 2015 Gawad Saka Outstanding Agricultural Scientist Allan P. Dargantes of CMU, BAR-Institutional Development Division Head Digna L. Sandoval, and BAR staff Jacob Anderson C. Sanchez during the Gawad Saka awarding ceremony.

Also gracing the Gawad Saka awarding ceremony are: Hon. Senator Cynthia A. Villa (1st row, left), DA Secretary Proceso J. Alcala (1st row, right), DA Asst. Secretary for Field Operations and Nat'l Coordinator for Rice and Corn Program Edilberto M. de Luna (2nd row, 3rd from left), and NAFC Executive Director Ariel T. Cayanan (2nd row, right). PHOTOS COURTESY OF JSANCHEZ

Hosted by the Department of Agriculture (DA), the Gawad Saka Award, an annual search for outstanding achievers in agriculture and fisheries, named Dr. Allan P. Dargantes of the Central Mindanao University (CMU) and Ms. Wilhelmina P. Castañeda of DA-Regional Field Office (RFO) 1 as this year's Outstanding Agricultural Scientist (OAS) and Outstanding Agricultural Researcher (OAR), respectively. The awarding ceremony, graced by Hon. Senator Cynthia A. Villar and DA Secretary Proceso J. Alcala, was held on 9 December 2015 at the Philippine International Convention Center in Pasay, Manila.

Dr. Dargantes is the dean of the College of Veterinary Medicine of CMU. His advocacy in utilizing molecular diagnostics for *Surra*, an important disease among large ruminants, resulted in an improved animal health and disease management in Region 10. On the other hand, Ms. Castañeda, supervising agriculturist at DA-RFO 1, promoted the use of recent technologies on garlic production to boost the income of farmers in the region.

During the awarding, Secretary Alcala gave a keynote speech on behalf of President Benigno S. Aquino III. He congratulated the individuals and groups from various regions for emerging as champions in 23 different categories, and challenged them to serve as inspiration to more people. He also announced the possibility of having a 'grand reunion' next year to celebrate the achievements of Gawad Saka for the past 45 years.

The activity was attended by farmers, fishers, and their families from Luzon, Visayas, and Mindanao; municipal and provincial agricultural officers; DA-RFO directors, DA-bureau directors; and DA officials.

BAR Director Nicomedes P. Eleazar, chairperson of the Search for Gawad Saka OAS and OAR, assisted Sec. Alcala in awarding to

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IN THIS ISSUE...

BAR Director addresses BulSU graduates

Dr. Nicomedes P. Eleazar, director of the Bureau of Agricultural Research (BAR), addressed the 253 graduates of the Bulacan State University (BulSU) during their Mid-year Graduation on 12 December 2015. Serving as both commencement speaker and guest of honor to the event, Dr. Eleazar gave greater focus on the responsibility of every Filipino graduate to its country and fellow Filipinos.

In his speech, Dir. Eleazar enjoined the graduates to make valuable use of their education as he shared some personal experiences and struggles on being a fresh graduate and on landing a career that would fulfill his aspirations as a Filipino, which is to serve the nation. He recounted, "For almost three decades now that I have been serving at the Department of Agriculture, I can truly say that I have faced numerous scenarios that have challenged me as a person, as a leader, and as a public servant. But it is in these instances that I remind myself of the very reasons why I have been given an opportunity to be part of the government service—that is to utilize the skills and knowledge that I have to help my country attain its fullest potentials. That is to serve my country toward its growth and development."

He also shared how he has worked his way to the top by pursuing higher learning and education. He shared stories on his struggles as a scholar in the United Kingdom which he finished off with "Fortunately, every sacrifice and effort I made for that scholarship became worth it knowing that when I come home to my country, I can be of better service to my office and my fellow Filipinos," he stressed.

BulSU President Cecilia N. Gascon (left) and BAR Director Nicomedes P. Eleazar (middle) congratulate one the BulSU graduates. PHOTO:MVALDEABELLA

He ended his speech with a challenge to the fresh graduates urging them to hold on to their dreams of a better Philippines and to use it as a goal which can be achieved through them. He urged them to use their brilliant minds, their resources, and their profession toward an end that benefits more people other than themselves.

Dr. Cecilia N. Gascon, who is appointed president of BulSU since August 2015, welcomed the guests, parents, and graduates during the event. Known to the bureau as one of the active and diligent partners in the implementation of various research and development activities and projects with the former universities that she headed, Dr. Gascon, through the event, opened the possibility of collaboration between BulSU and BAR, despite the former not having agriculture courses. ### ***(Mara Shyn M. Valdeabella)***

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This publication provides regular updates on DA-BAR's activities as the country's national coordinator for agriculture and fisheries R&D. It also highlights features and news articles concerning NaRDSAF-member institutions.

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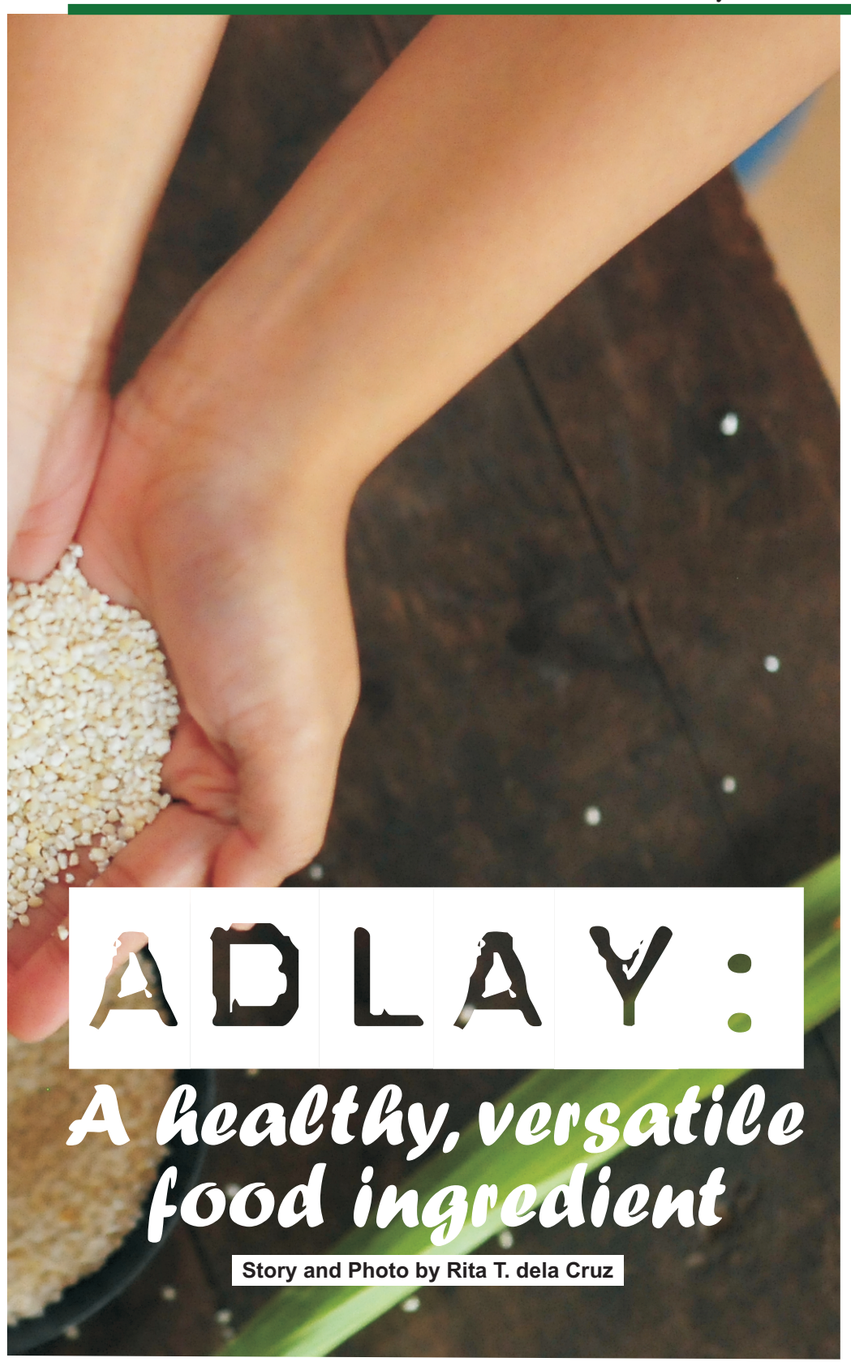

making it a good ingredient in soups and broths. The grain can be ground into flour and used to make breads, pastas, and porridge. Its ground grains can be roasted and turned into coffee or tea and further processed and fermented into wine.

Just like its counterparts, rice and corn, *adlay* is highly nutritious. In a chemical analysis provided by the Food and Nutrition Research Institute (FNRI), a 100-gram serving of *adlay* is rich in carbohydrate (73.9 g), protein (12.8 g), and fat (1.0 g). It is also packed with other minerals including calcium (25 mg), phosphorus (43.5 mg), iron (5 mg), niacin (4.3 mg), thiamine (0.28 mg), and riboflavin (0.19 mg).

Given the crop's potentials, which can complement the long-established major staples such as rice and corn, the Adlay Research and Development (R&D) Program was initiated. The program, which is being led by the Bureau of Agricultural Research (BAR), pushes for the development, utilization, and promotion of *adlay* as an alternative crop to our food staples and as an additional source of income and livelihood in non-traditional corn and rice areas.

The bureau has initiated various activities to introduce the crop to the public and hopefully to champion it as a staple crop along with rice and corn. Adaptability yield trials were initially conducted in the regions, followed by more trials implemented by Department of Agriculture-Regional Field Offices (DA-RFOs), state universities and colleges (SUCs), and now, even the private sector. These yield trials brought about the development of site-specific recommendations for different areas in the country.

With the sufficient supply of *adlay* seeds to expand its production, the DA-RFOs have been developing and creating food products from *adlay*. This is part of promoting the crop to the public, highlighting its versatility as a food ingredient and its nutritive value providing rice-dependent consumers other food source of carbohydrates.

Across the regions, various *adlay* products have been developed and are now available to be tapped by the private sector for mainstream market. Among these products include: *adsoy*, Gourmix, champorado, 3-in-1 coffee, nutrimeal, herbal coffee mix, breakfast cereal, wine, *adlay* pop, cracker, cereal bar, and *polvoron*.

These products were developed through the research initiatives of the R&D partners of the bureau with the hope of not only introducing *adlay* as a versatile food ingredients, but more importantly, bringing these products to the awareness of the public and providing them with an alternative aside from the usual staple crops that we eat. ###

Standing tall in the wild, *adlay* (*Coix lacryma-jobi* L.) can be easily overlooked due to its grass-like appearance that blends well with other wild plants. Unlike weeds, the stem of *adlay* could grow from 1 to 3 meters tall (from 3 to nearly 10 feet). It bears tear-like shape grains which become the source of (staple) food of many indigenous people particularly in the highlands.

Adlay belongs to the family *Poaceae* or the grasses, the same family to which wheat, corn, and rice belong. It produces good yield in areas where rice and corn hardly grow like the highlands. *Adlay* can tolerate low pH, poor soil quality, and water logging, and is resistant to pests.

Adlay, as a staple food crop, has a good-eating quality. Its grains, when matured, are harvested, pounded, threshed, and winnowed, can be cooked and served steamed just like rice. As food source, *adlay* is as versatile as rice. It has a pleasant mild flavor

Solsoloy leads inauguration of CLIMATE CHANGE CENTER

OIC-CLSU President Raul D. Divina (left) and BAR Assistant Director Teodoro S. Solsoloy lead the unveiling of the Climate Change Center's marker. PHOTO:JOLIVO

Assistant Director Teodoro S. Solsoloy of the Bureau of Agricultural Research (BAR) led the inauguration of the Climate Change Center (CCC) on 9 December 2015 at the Central Luzon State University (CLSU) Compound, City of Muñoz, Nueva Ecija.

The facility, which was approved in 2014, was funded through BAR's Institutional Development Grant (IDG) with a total amount of PhP 3 million.

The CCC serves as the center for climate change education and environmental disaster risk management of the Institute for Climate Change and Environmental Management (ICCEM) and a venue for the enhancement and development of knowledge and skills of different stakeholders.

It houses e-learning nook, e-library, digital viewing museum, multi-purpose hall, environmental monitoring laboratory and information management, and emergency response nook necessary for the promotion, information, education, communication, training, and capability building for climate change and disaster risk management.

Dr. Solsoloy noted that the building would be the source of new and improved research results and updated technologies along with climate change and environmental management. "We, at BAR, believe that this facility will greatly play its role for the welfare of different stakeholders and the community as a whole," he said.

Highlights of the celebration were blessing of the building, unveiling of the marker, and messages from Dr. Raul D. Divina, OIC-CLSU president, and Dr. Tereso A. Abella, CLSU vice president for academic affairs.

Dr. Fortunato A. Battad, CLSU president emeritus, also delivered a message challenging the listeners by citing Beijing, China as the most polluted city. "The solution to the growing problem of climate change is to plant trees," said Dr. Battad while holding a copy of his book titled "My Passion for Trees". He reiterated, "If I die tomorrow, I still plant a tree today. So, plant a tree and grow with me." ### ***(Jestoni A. Olivo)***

2015 Gawad Saka...from page 1

Dr. Dargantes and Ms. Castañeda the presidential trophies, citations, cash awards, and research grants worth Php 2,000,000 each. The grants are a 100 percent increase from last year's incentive which aimed to encourage more researchers in sharing their matured technologies to farmer or fisher cooperators and be named champions of agriculture R&D.

Winners from other outstanding categories were: Rice Farmer, Reynaldo R. Diaz (Reg. 3); Corn Farmer, Joel A. Cabanayan (Reg. 2); Coconut Farmer, Edgar C. Buhain (Reg. 10); Sugarcane Farmer, Gerlie C. Adug (Region 12); High Value Crops Farmer, Melchor R. Diego (Region 3); Agricultural Entrepreneur, Ricardo A. Tolentino (Reg. 1); Organic Farmer, Valerio P. Ramos (CAR); Small Animal Farmer, Joel Callano (Region 13); Large Animal Farmer, Esperidion A. Acla (Reg. 9); Fisherfolk Capture Fisheries, Jose M. Alburo (Reg. 4B); Fisherfolk Aquaculture Category, Christopher C. Cangco (Reg. 3); and Young Farmer/Fisherfolk, Rovelle P. Mendoza (Reg. 2).

Other winners included: Young Farmer/Fisherfolk Organization, Nature Friendly 4H Club (Reg. 2); Farmer/Fisherfolk Family, Lentija Family (Region 12); Rural Improvement Club, Bagacay RIC (Region 5); Small Farmer/ Fisherfolk Organization, Santiago Amos Credit and Development Coop (Reg. 2); City/Municipal Agriculture and Fisheries Council, Science City of Munoz (Reg. 3); Provincial Agriculture and Fisheries Council, Quirino PAFC (Region 2); Barangay Food Terminal Non-LGU Operated, St. Joseph Multi-Purpose Coop (Region 2); Barangay Food Terminal LGU Operated, Brgy., Baybay Dagat, San Fernando, Masbate (Region 5); and FARMC, BINDOY Negros Oriental (Region 7).

Winners received presidential trophies and citations, as well as cash awards and/or project grants given by the respective bureaus that spearheaded the categories.

Also in attendance were Ms. Digna L. Sandoval, head of the BAR-Institutional Development Division; and BAR staff, Mr. Jacob Anderson C. Sanchez. ### ***(Jacob Anderson C. Sanchez)***

PHOTO: DDELEON

YEAR-ENDER REPORT OF BAR
programs' accomplishments presented

As the year is coming to an end, the Bureau of Agricultural Research (BAR) conducted a briefing for its staff regarding the status of implementation of BAR programs on 18 December 2015 at BAR. Seven major programs of the bureau were presented highlighting their salient accomplishments in 2015 and the plans for 2016. Among the programs presented were: 1) High Value Crops Development Program (HVCDP), 2) Rice, 3) Corn and Cassava, 4) Organic Agriculture, 5) Climate Change, 6) Biofuels, and 7) Philippine Native Animals Development (PNAD).

HVCDP continues to support projects that promote the production, processing, marketing, and distribution of high value crops. There are a total of 71 projects under HVCDP being funded by BAR covering commodities such as coffee, cacao, rubber, mango, banana, garlic, onion, soybean, adlay, apiculture, among others.

The Organic Agriculture program of the bureau is supporting the Department of Agriculture's goal to propagate the practice of organic agriculture in the country. The bureau led a series of intensive consultation workshops for the crafting of the Organic Agriculture Research, Development, and Extension Agenda.

Since the Agri-Pinoy Rice Program started, rice production in the country showed improvement. According to the Philippine Statistics Authority, from 16.27 million metric tons (mt) in 2009, the country posted an 18.97 million mt production in 2014. Research and development (R&D) is contributory to this increase. Some of the initiatives on Rice R&D are the rice crop manager, Philippine Rice Information System Management (PRISM), associated rice production technologies, development of next gen rice varieties, and promotion of heirloom rice, among others.

For corn and cassava, various technologies have already been produced such as the Site Specific Nutrient Management (SSNM) quick guide for yellow corn production, utilization of corn cobs as fertilizer source, and the improved village cornmill for white corn. The SSNM for cassava is a newly-funded project by BAR in 2015.

The conduct of the 2015 Philippine International Biomass Conference, on the other hand, was the highlight of accomplishment for the biofuels program of the bureau. Together with the University of the Philippines Los Baños (UPLB) as co-organizer, the event was attended by more than 300 participants coming from various groups and institutions. There are also four newly-funded projects under biofuels.

One of the salient achievements of the climate change program of the bureau was the conduct of Symposium/ Workshop on Planning a Collaborative RDE among APEC member economies which was attended by eight member economies. It aimed to come up with unified and collective RDE initiatives among member economies in addressing climate change. There was also the crafting of Climate Change Sectoral RDE Agenda for 2016-2022. Lastly, there are five new projects under PNAD which covers native pig, native chicken, and native cattle. ### **(*Diana Rose A. de Leon*)**

A priest-*cum*-organic farming advocate promoting ORIG SYSTEM

Story by Patrick Raymund A. Lesaca

PHOTO: PLESACA

Photos obtained from Father Ian Trillanes' powerpoint presentation titled, "Organic Agriculture Best Practices"

Father Ian S. Trillanes (left) of St. Peter Baptist Parish in Lupi, Camarines Sur is an organic farming advocate. He joined the DA-RFO 5's "*Gulayan sa Simbahan Program*,"and encouraged farmers in the parish to participate in trainings on organic vegetable production.

Father Ian S. Trillanes is not an ordinary priest. Not only is he the shepherd of his own flock, being the parish priest of St. Peter Baptist Parish in Lupi, Camarines Sur, he is also the shepherd of the environment having been a professed organic farming advocate.

His baptism of fire in the field of agriculture started in 2008 when he learned about the Department of Agriculture (DA)'s "*Gulayan sa Simbahan Program*," which was spearheaded by DA-Regional Field Office (RFO) 5. He joined the program and encouraged the farmers in the parish to participate, which aimed to train farmers on organic vegetable production. Soon after, and realizing that organic vegetables are not enough, he decided to integrate organic swine and free-range chicken production.

With the DA-RFO 5's technical support, Fr. Trillanes and the Caritas, Diocese of Libmanan in the province of Camarines Sur, established an organic demonstration farm called Lolo Veriong's Natural Farm where piggery, grazing area for goats, production area for vegetables and herbals plants, free range chicken, fresh water fishpond, and vermiculture production areas were established.

Fr. Trillanes was invited as a resource speaker in a seminar series on organic agriculture (OA) organized by BAR to share his personal experiences and knowledge on how an established organic farm in the province of Camarines Sur are succeeding into organic farming, applying their best practices.

The speaker talked about the ORIG system, which is an acronym for **O**rganic, **R**ecyclable, **I**nnovative, and **G**uarantee. Fr. Trillanes said that, "organic is going back to the original, to the basics, and to the natural." He added that "the natural and organic way of raising pigs has no foul odor, no bath, no commercial feeds, no chemicals, and no artificial growth hormones used. ORIG is going back to the natural and organic way of raising pigs."

His love for nature prompted him to share how things were being done in the farms the ORIG way. According to him, even the raw materials for constructing pigpen can be organically-sourced. The use of indigenous materials such as rice hull, soils, saw dust, coconut husks, dried leaves and rice stalks, among others, can be utilized as well.

Organic feeds and ingredients can easily be sourced since the country is abundant with various forages and other fast-growing plants. The ORIG system also introduced recycling of beddings into organic fertilizers which minimizes the emission of methane gases and ammonia. Through the use of indigenous and effective microorganisms, the pig manure was gradually converted into beneficial beddings.

The proponent developed an innovative and eco-friendly way of raising pigs by making his own organic feeds and using readily-available resources like *flamengia*, *madre de agua*, azolla, duckweed, *rensonii, kangkong*, and other fast-growing plants as silage. The silage reduces the cost of feeds up to 40 percent. The system guarantees and offers economic viability and health

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Part of UPLB's initiative on landscape organic waste management is the acquisition of machineries and equipment that will efficiently manage the wastes needed to be disposed. PHOTOS COURTESY OF UPLB-EL

UPLB recycles landscape waste through newly-acquired technology

It is no doubt that the Los Baños campus of the University of the Philippines (UPLB) is one of the greenest in the country. With more than 14,000 hectares of real-estate holdings, UPLB offers its residents with cool, fresh air, and countless scenic views that serve as an impressive backdrop for students and faculty busy going about their academics.

UPLB's wide open spaces entail a great deal of maintenance. From the university's forestry right down to its main gate, clean-up has yielded huge loads of landscape waste made up of tree branches, dried leaves, and grass. Prior to the university's acquisition of new machinery, these heaps of debris were left at certain parts at the university to decompose or to be burned. Aside from being inefficient, these practices also disrupt the beautiful atmosphere UPLB is trying to maintain for its constituents. In light of the goal of UPLB Chancellor Fernando C. Sanchez, Jr. to make the campus a highly conducive, green environment for students, the university set out to buy new heavy equipment as efficient solutions to its problem on organic waste management.

UPLB University Researcher and one of the project staff, Ms. Maria Charito E. Balladares, visited the Bureau of Agricultural Research (BAR) on 10 December 2015 to talk about such efforts. Balladares came in to discuss UPLB's project titled, "Technology Utilization of Landscape Organic Waste Materials for Crop Production."

Ms. Maria Charito Balladares of UPLB-Edible Landscaping Team discusses on the project, "Technology Utilization of Landscape Organic Waste Materials for Crop Production," in a BAR Seminar Series for December. PHOTO:ABRION

The project was funded through a partnership between BAR and UPLB.

One of the new machineries acquired for the project was a wood chipper. This yellow piece of machinery reduces wood branches and trunks into more manageable size of a wood chip. UPLB's wood chipper can process branches and trunks up to 12 inches in diameter. The university was also able to acquire a debris loader. This machine works very much like a heavy-duty vacuum that sucks in heaps of dried leaves or cut grass and loads them onto a truck after it processes the waste in an attached shredder. The same goes with the wood-chipper, after the organic waste is processed by the machine, the product is loaded to a truck.

With new waste management practices brought about by the acquisition of heavy machinery, UPLB has also ventured into research as to how landscape organic waste can have extended new uses. Results of initial experiments show that there is great potential for wood chips, when decomposed together with other landscape organic wastes, to be a source of fertilizer and soil conditioner. Another use of wood chips would be as mulching material and the UPLB Edible Landscaping Team has been using the mulching material in their indoor exhibits, including the displays they build in partnership with BAR.

According to Balladares, mulching material lowers the need for plants to be watered as the mulch conserves water in the soil. It also eliminates the need for chemical weed killers or herbicides. Growth is further improved as mulching material can also loosen the soil's density, leaving enough breathing space for air and water to reach the plant. Aside from using woodchips as mulching material, the project was also able to use woodchips as a medium for growing orchids. Balladares discussed the possibilities of woodchips to be an alternative for charcoal, coconut husks, and fern chips used in growing orchids.

Ever since the university acquired their own wood chipper and debris in 2011, they managed to significantly decrease the waste needed to be disposed of and opened doors to relevant research. According to Prof. Norma G. Medina, assistant professor and project staff, further research is still continuing as to how they can fully utilize landscape organic waste materials and on how they can further improve the composting process. ### ***(Ephraim John J. Gestupa)***

PHOTO COURTESY OF BPEDREALBA

Participants of the "AFACI Project Consultation Meeting and Annual Planning Workshop on Plant Genetic Resource Management System"

Phl PGR management systems project assessed

The partnership between the Bureau of Agricultural Research (BAR) and the Asian Food and Agriculture Cooperation Initiative (AFACI) paved for the implementation of a project on the management of plant genetic resources (PGR) in the Philippines titled, "Strengthening PGR Management System: Conserving the Diversity of Priority Vegetables (Solanaceous Crops) Germplasm of the Philippines". To review and assess the status of the project, a consultation meeting and annual planning workshop was held on 9-11 December 2015 in Clark, Pampanga.

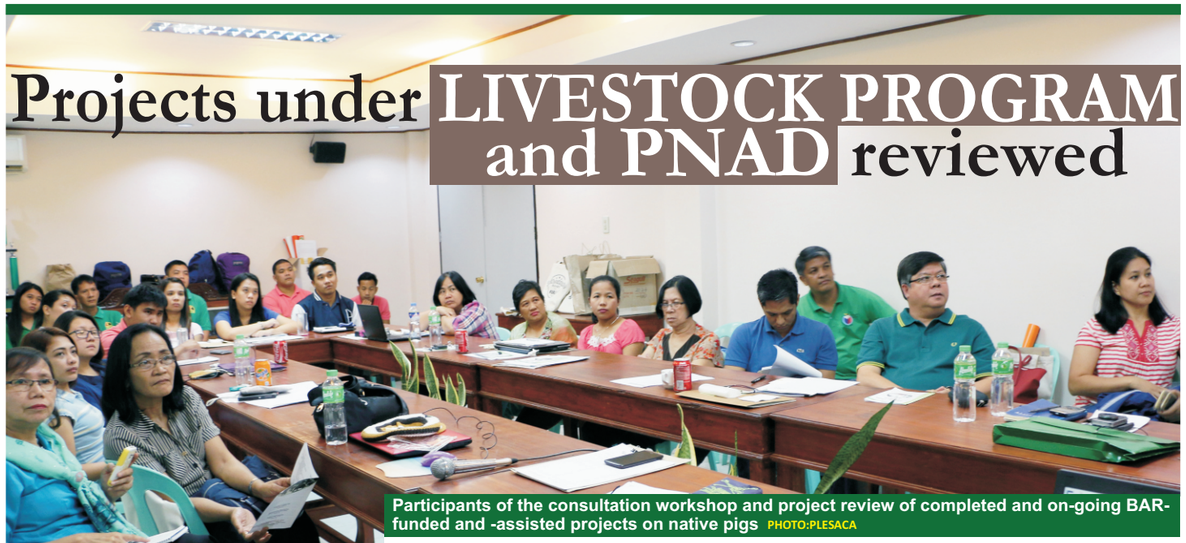
According to BAR-Institutional Development Division Head Digna L. Sandoval, who serves as the AFACI principal investigator, the project focused on the country's management system for plant genetic resources conservation, exploration, collection, characterization, evaluation, distribution, monitoring, and documentation for sustainable use. "It gives priority to conserving the diversity of traditional tomato, eggplant, and sweet and chili pepper germplasm and related species," she explained.

In his message, BAR Director Nicomedes P. Eleazar said that in view of further enhancing PGR research and development, the bureau supports the establishment of PGR facilities in pilot regions. This led to the "Establishment of PGR Laboratory and Training Center" at the Central Bicol State University of Agriculture (CBSUA) through a signing of a Memorandum of Agreement in May 2015 with CBSUA President Georgina Bordado and Vice President for Research and Development Josephine Cruz. He likewise enjoined the regional PGR focal persons to expand R&D initiatives involving genetic identity conservation of indigenous and other important crops.

During the three-day activity, focal persons presented their respective project accomplishments. Mid-year plans for future PGR activities and strategic plans for the continuous implementation of PGR management systems in the country were discussed in the planning workshop. Part of this is the second phase of the project being implemented in partnership with the University of the Philippines Los Baños that focuses on conserving the diversity of *Vigna* species (cowpea, mungbean) and pigeon pea germplasm. ### ***(Anne Camille B. Brion)***

> The project gives priority to conserving the diversity of traditional tomato, eggplant, and sweet and chili pepper germplasm and related species.

Projects under LIVESTOCK PROGRAM and PNAD reviewed



Participants of the consultation workshop and project review of completed and on-going BAR-funded and -assisted projects on native pigs PHOTO:PLESACA

To ensure the harmonization of the Department of Agriculture (DA)'s efforts in strengthening the conservation, protection, and production of native pigs across the country, the Bureau of Agricultural Research (BAR), in partnership with other government agencies, conducted a consultation workshop and project review of completed and on-going BAR-funded and -assisted projects on native pigs. Projects that were subjected for review were those under the DA's Livestock Program and the Philippine Native Animals Development (PNAD) Program of the Bureau of Animal Industry. The activity was held on 7-8 December 2015 at the National Swine Poultry Research and Development Center (NSPRDC), Barangay Lagalag, Tiaong, Quezon.

The objectives of the review were to determine the impacts and sustainability of native pig projects with emphasis on technology commercialization, as well as to ascertain the R&D gaps in native pig production. Furthermore, the activity ran consistent with Administrative Order 15, Series of 2010, which is the establishment of a program for the conservation and utilization of domesticated native animals as regular table food for the Filipinos, on which the PNAD was created.

Review and workshop proper

Ms. Evelyn Juanillo, DA-BAR PNAD focal person, provided the activity overview and served as moderator. Dr. Rene Santiago, NSPRDC center chief, welcomed participants and provided a background on how the center was established. He also reported the status of the completed project, "Conservation, Evaluation, and Commercialization of the Philippine Native Pigs," and shared strategies on how to effectively campaign for the conservation of native animals.

Dr. Virgie Callo-Etis from the University of Rizal Systems, talked on "Developing the Potential of Native Pigs for Organic Meat Production," while Ms. Veronica Aurea Rufo of the Southern Luzon State University-Judge Guillermo Eleazar (SLSU-JGE), provided updates on the project "Promotion of Native Swine Production in Tagkawayan, Quezon".

Dr. Marivic De Vera from NSPRDC, reported on the progress of the project "Demonstration and Commercialization of Native Swine Production Technologies in Selected Areas in the Philippines," while Ms. Ma. Joy Malabayabas of the Conservation and Development Specialist Foundation, Inc., talked about the "Demonstration and Commercialization of Native Swine Production Technologies in Selected Areas in the Philippines".

Mr. John Emmanuel Oliva of the Center for Environmental Law and Policy Advocacy (CELPA), Inc. presented the projects, namely: 1) "Establishment of an Information System for the PNAD Program in Support to Commercialization of Native Animals"; and 2) "Strengthening and Promotion of the PNAD Program Information System," while Ms. Dona Alborida, also from CELPA, reported on the importance of value chain under the project "Value Chain Analysis of Native Lechon in Luzon, Philippines".

Dr. Mary Jean Bulatao of the University of the Philippines Los Baños Foundation, Inc., reported the project milestones of the completed project on "Native Swine for Lechon de Leche Production: Improving Feed Availability through Integration of Sakwa as Forage Feed in Coconut-based Production System" and updates on the on-going project on "Agricultural Systems Approach to Commercialization of Native Swine in Quezon". Ms. Nenita Estante of BAI's Animal Products Development Center discussed the recipes developed from native pig under the project "Improvement of Processing Technologies for Meat and Skin from Black Tiaong Strain of Native Pig".

Ms. Juanillo, together with BAR Technical Adviser Ms. Virginia Agcopra, served as project evaluators. Quezon Provincial Veterinary Officer, Dr. Flomella Caguicla was likewise invited to

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Potential of MEDICINAL PLANTS in IP communities studied

Different methods of preparing traditional medicinal plants being practiced by the IP communities in the SOCSARGEN region
PHOTOS COURTESY OF MSU-GSC/MLCABRERA

Traditional medicine is being practiced as part of the culture of many indigenous groups in the Philippines. As defined by the World Health Organization, traditional medicine is the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness.

In this regard, a group of researchers from the Mindanao State University led by Ms. Maria Luisa Cabrera studied ethno-pharmacological plants used by indigenous people communities in the SOCSARGEN region. The topic was discussed by Ms. Cabrera in a seminar series held at the Bureau of Agricultural Research (BAR) on 10 December 2015.

According to Ms. Cabrera, traditional medicine continues to persist especially among IP communities because of their belief that there is spirituality in the efficacy of floral resources as medicine. "Aside from that, it is because of easier accessibility to and availability of resources, high cost of medicines, and limited access to health care," she added.

Supported by BAR, the study aimed at documenting the ethno-medicinal knowledge, practices, and resource assessment in the three IP groups, Blaan's, Tboli's, and Obo's in SOCSARGEN, particularly in General Santos City, South Cotabato, and Sarangani Province; and prospecting for bioactive components from the traditional medicinal plants being used by the IP groups through ethno-botanical approach.

In the study, ethno-medicinal practices of the IP communities were described in terms of the kinds of diseases that are mostly being treated, method of preparation and application, and plant parts used. These ethno-medicinal claims were validated using appropriate analysis of the plant components, resulting to identification of phytochemical profiles and pharmaco-toxicological properties.

The study revealed that six ethno-medicinal plants utilized by the IP groups exhibit potential sources of novel antibiotic and anti-aging drug constituents. These were *Canarium strictum* (simbolo), *Cinnamomum mindanaense* (kaningel), *Schefflera orodata Blanco* (tamlang), *Mentha suaveolens* (bulok-bukay), *Acmella grandifolia* (bulek lumenge/toothache plant) and *Diplodiscus paniculatus* (blobo). Most of the plants were found to have alkaloids, steroids, and flavonoids, and majority of them have active antioxidants and antibacterial properties. "While the plants have presented remarkable single or multiple pharmaco-toxicological profiles in congruence with the IP claims, further pre-clinical screenings and testing are still needed for the development of drugs and natural products from these plant sources," Ms. Cabrera said.

Through the Indigenous Plants for Health and Wellness Program, BAR supports initiatives that encourage Philippine biodiversity, including studies that involve health promoting values of various plant species, as well as better appreciation and utilization of plant resources to ensure plant conservation. ### ***(Anne Camille B. Brion)***

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Antibiotic found effective against cassava witches' broom disease

Yellowing of leaves is one manifestation of a cassava plant infected with witches' broom disease. PHOTO COURTESY OF CIAT

A water-soluble antibiotic called *Streptomycin Sulfate* was found effective against witches' broom disease which is causing great threat among cassava plantations in the country. The witches' broom is a disease caused by phytoplasmas, which are specialized bacteria that cause deformity in cassava plant, changing its natural structure. Infected cassava plants exhibit short nodes with dense clumping of stunted leaves, resembling a witch's broom. It also attacks different parts of the cassava plant making it difficult to control. One of its alarming effects is that the disease reduces cassava root starch content, reducing the yield value and farmers' income.

Aside from cassava, the witches' broom also affects other economically-important agricultural crops like coconut, sugarcane, and cacao. It is prevalent in tropical and subtropical countries including the Philippines. Experts explained that the disease requires a vector to be transmitted from plant to plant, and will normally take the form of sap-sucking insects in which they are also able to survive and replicate.

Through the study titled, "Management of Cassava Phytoplasma Disease: Survey, Diagnosis, Characterization and Control" implemented by the Philippine Root Crop Research and Training Center (PhilRootcrops), experts were able to determine the pathogen and looked into control measures. This initiative is funded by the Bureau of Agricultural Research (BAR) under the Cassava R&D Program of the Department of Agriculture (DA).

In a recent review of cassava projects, Ms. Apolonia Mendoza, BAR corn and cassava focal person, presented cassava significant findings/technologies developed–one of which is the PhilRootcrops study showing the effectiveness of *Streptomycin Sulfate* against witches' broom.

The study showed the effectiveness of *Streptomycin Sulfate* against witches' broom.

"According to the study, the antibiotic appeared the most effective for cassava witches' broom providing control for two croppings. It can increase yield by 50-64 percent and starch content by 33-61 percent for the first cropping," Mendoza explained.

She added that the antibiotic is also the easiest and most practical in commercial production while there are no equally effective control measures available at the moment. "The report also showed that the pre-planting treatment with *Streptomcyin Sulfate* for the immediate control should be done under restricted condition and supervision in rescuing infected germplasm, production of quality planting materials and commercial-scale cassava," she said.

Since the disease has been detected, DA has intensified measures to control the spread of witches' broom, which can be a threat to the growing cassava industry in the country.

BAR, as the lead agency for Cassava R&D Program, supports various research initiatives that focus not only on varietal development production, but also on pest and disease management.

To date, BAR is funding 9 cassava projects from which 3 are on production research, 3 on post-production/processing, and 3 on socio-economic and benchmarking studies. From the 3 production-related R&D initiatives, 2 projects are PhilRootcrops studies that focused on the cassava witches' broom disease. These are: 1) "Screening and Evaluation of 47 NSIC Registered Varieties for Cassava Phytoplasma Disease (CPD) and Varietal Reaction to Pre-planting" and 2) "Biochemical Alteration and Yield Loss in Cassava Infected with Phytoplasma". ### ***(Rita T. dela Cruz)***

BAR's GAD plans and budgets reviewed

BAR GAD focals participate in the GAD plans and budgets workshop. PHOTO COURTESY OF DDELEON

Mainstreaming Gender and Development (GAD) into government policies, plans, programs, projects, and activities has been the goal of the Philippine Commission on Women (PCW) when it released Memorandum Circular No. 2015-04 advising all government offices to prepare and submit their respective GAD Plans and Budgets (GPB) and accomplishment reports. In response, the Bureau of Agricultural Research (BAR) conducted a workshop to comply with the circular on 1-4 December 2015 in Tagaytay City.

In his message, BAR Director Nicomedes P. Eleazar emphasized the accomplishments of the bureau in terms of mainstreaming and implementing GAD. These include several capacity-building activities such as trainings on gender sensitivity and gender mainstreaming, seminars on the development and promotion of women-friendly technologies, and support to degree, non-degree, and undergraduate scholarship assistance. "Through these initiatives, we have proven that not only are we compliant to the law as well as the directives of the department and oversight agencies, but also responsive to the demands and needs of the society that we are a part of. We have made clear how dedicated we are toward fulfilling the goals of GAD through our office for our partners and our clients," he said.

Dir. Eleazar was also appreciative of the effort of Ms. Lorenza Umali, former deputy director of PCW and BAR GAD consultant, on guiding the bureau in the implementation of its GAD program. Ms. Umali served as the lecturer and facilitator of the workshop. She discussed important GAD planning and budgeting mandates such as the Magna Carta of Women Institutional Mechanism Provision, PCW-NEDA-DBM Joint Circular No. 2012-01, Commission of Audit Circular No. 2014-001, and PCW MC 2015-04.

After the lectures, the workshop proper started with the preparation of 2015 GAD accomplishment report. It was followed by the review and finalization of the FY 2016 GPB and the drafting of FY 2017 GPB.

According to PCW-NEDA-DBM Joint Circular No. 2012-01 or "Guidelines for the Preparation of Annual GAD Plans and Budgets and Accomplishment Reports to Implement the Magna Carta of Women," all government agencies should set aside at least five percent of their total budget appropriations authorized under the annual General Appropriations Act for GAD activities. ### **(*Diana Rose A. de Leon*)**

Projects under Livestock...from page 6

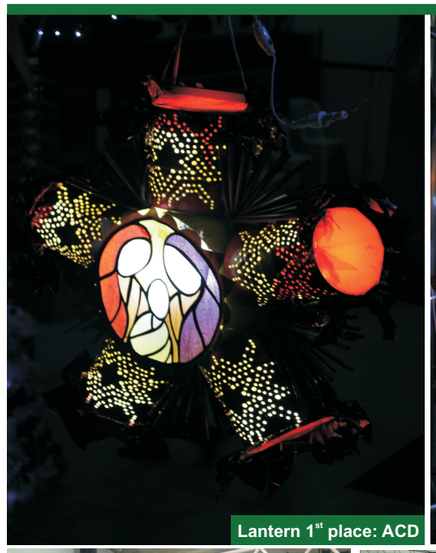
share her expertise on the matter and to be guided on the provinces' directions with regard to native pigs. There were 11 projects reviewed, of which, six have already been completed and five are still on-going.

R&D directions

BAR Director Nicomedes P. Eleazar, who graced and closed the event, acknowledged and commended the participation of agencies involved, and articulated on judiciously continuing the program to ensure the harmonization of the DA's livestock agenda. To further strengthen the program, the holding of the National Native Pig R&D Consultation and Planning Workshop during the first quarter of 2016 was proposed. Dr. Eleazar added that the Native Pigs R&D Program is one of the earliest projects supported and assisted by BAR since 2005. The bureau chief also visited the BAR-funded and -assisted refurbished PNAD Information System, which housed the Audio-Video and Training Rooms.

The group also set the directions for the Native Pig R&D 2016-2022 as inputs to the BAR Research and Development Extension Agenda and Programs (RDEAP) through the planning and workshop activity conducted. Among the identified researchable areas include: establishment of breeder and multiplier farms outside the NSPRDC; establishment of nutrient requirement for different stages including costs of feeds standard nutrient recommendation for the developed native pig strains; improvement of genetics using new breeding technologies and improved strain of native pigs for commercialization; and profiling of different diseases of native pigs and evaluation of alternative and affordable animal health care.

BAR is the lead coordinator for R&D and member of the PNAD's Technical Working Group. ### ***(Patrick Raymund A. Lesaca)***



Lantern 1st place: ACD

Lantern 2nd place: PPDD

Lantern 3rd place: IMU

Dance 1st place: IMU/OAD

Dance 2nd place: ACD

Dance 3rd place: PPDD

BAR celebrates Christmas with lanterns and dances

It's the usual sight you see only once a year at the top floor of the Bureau of Agricultural Research (BAR). Confetti was scattered all over the floor and everybody was waiting in anticipation of the announcement of this year's batch of winners for the lantern-making contest and best holiday performance. On 18 December 2015, with the Technology Commercialization Division (TCD) spearheading the activity, the bureau celebrated a fun-filled and highly entertaining Christmas Party.

In his brief speech, BAR Director Nicomedes Eleazar enjoined everyone to be in a celebratory mood as a well-deserved break from all the office work. He also thanked the panel of judges for accepting the invitation and for their continued partnership with BAR over the years. The judges included Ms. Maria Charito E. Balladares of the University of the Philippines Los Baños–Edible Landscaping Team, Ms. Lorna Daffon of PTV 4's *Mag-Agri Tayo*, and Mr. Armando Cortez of the Department of Agriculture-Regional Field Office 3.

From Santa's reindeers to Santa's elves, Silent Night to Twerk It Like Miley, falling snow to falling confetti, matching headbands to matching t-shirts, human pyramids to human puppets, this year's batch of performances were one to remember and revisit all throughout the year.

The Planning and Program Development Division (PPDD), who went with a cool varsity look with their matching gray and blue jackets, took home the third prize with their polished break-dancing routine to a medley of remixed holiday songs. Second and first prize, on the other hand, was reminiscent of the results last 2014 Christmas party. The Applied Communication Division (ACD) took home the second prize with their heartfelt performance titled, "Pasko, Pag-ibig, Pamilya," where they incorporated a wide range props such as oversized photo frames and travel bags to go with their routine. And once again, the Information Management Unit (IMU) this time having a tie-up with the Office of the Assistant Director (OAD), were declared champions. IMU and OAD's routine featured a different style to dancing wherein the boys strapped their wrists to their ankles using garters that gave an illusion of dancing puppets. They also incorporated gift-wrapped boxes in their dance.

The same divisions that took the top three spots of the Christmas performances were also those that won the top spots for the lantern-making contest. This year's lanterns displayed new and contemporary ways of shaping a lantern that gave everyone who entered the BAR building just the right fix for some classic Filipino Christmas cheer.

PPDD's second place masterpiece featured three cube-shaped lanterns, of which symbols for agriculture's major commodities, crops, livestock, and fisheries, were inscribed on to each box. IMU, on the other hand, brought back the wonder and magic of Christmas with their third place Ferris wheel-inspired lantern made up of glass jars and used bamboo platters. ACD's first place lantern was constructed in the form of a star, with its center featuring a stained glass image of Mary, Joseph, and baby Jesus, and bright lights coming out of the star's five sides made up of recycled tin cans that were meticulously poked with holes that made the lantern look like it was covered in twilight. Aside from spreading Christmas cheer, the lantern-making contest was also an effort to promote using recycled materials in making such beautiful lanterns.

Assistant Director Teodoro S. Solsoloy concluded the Christmas party by reminding that as everyone goes on about the holiday season, one should not forget to celebrate the true reason for the season–which is the Love of God embodied through his Son Jesus Christ born that one silent night. ###

(Ephraim John J. Gestupa)