



## DA together with BAR to empower farmers and fishers through ACEF

PHOTO: CFRANCISCO



Agriculture Secretary William D. Dar, together with Dr. Nicomedes P. Eleazar, DA assistant secretary for special affairs and BAR director; Atty. Jane C. Bacayo, ACEF Program director; and SUC presidents and other key officials during the activity

TO increase the productivity, profitability, and competitiveness of farmers and fisherfolk, the Department of Agriculture (DA) together with the Bureau of Agricultural Research (BAR), held

a Memorandum of Agreement signing event for the Agricultural Competitiveness Enhancement Fund (ACEF) R&D Grants in Diliman, Quezon City on 23 September 2019.

Led by DA Secretary William

Dar, 33 projects that were approved during the screening in 2018 were officially funded in coordination with 17 state university and college (SUC) presidents who were able

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## DA launches *KADIWA ni Ani at Kita* program

FOLLOWING Acting Agriculture Secretary William Dar's working principle, "*Masaganang Ani at Mataas na Kita*," the Department of Agriculture (DA) launched the *KADIWA ni Ani at Kita* program which aimed to link small-scale producers of agricultural commodities to consumers while helping the poor have access to substantially cheaper commodities.

*KADIWA ni Ani at Kita* was made possible through the partnership between DA, Department of Local and Interior Government (DILG), and Food Terminal Inc. (FTI), a government-owned and controlled corporation.

The project will directly connect

farmers to consumers by establishing *KADIWA* market hubs. It is one of DA's strategies to increasing farmer's income while also assisting consumers in coping with the increasing prices of agricultural commodities in the market.

"We will connect the provincial governments *dito sa Luzon*. 'Yong produce *nila, mga bigas, at mga produkto ng kanilang* agribusiness *ay ikokonekta natin lahat sa KADIWA ni Ani at Kita dito sa Metro Manila*. *At hindi lang bigas, kasama na rin ang mga gulay, prutas, at iba pang value-added products na galing sa agrikultura*," says Secretary Dar.

He further emphasized the need to build a network that will directly

connect farmers and fishers based in rural areas to consumers who reside in the cities. He said that 60 to 70 percent of the country's rural population is either directly or

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DA launches KADIWA...from page 1



In his message, Agriculture Secretary William Dar says that the Department of Agriculture has done the groundwork collaborating with local government units in connecting the food producers from the rural areas directly to the consumers in the city.

PHOTO: EJGESTUPA

indirectly involved in agriculture practices.

Aside from KADIWA, DA aims to further ensure inclusive growth for the agriculture and fisheries sector through what Secretary Dar calls as Big Brother, Small Brother approach.

*“Hihikayatin natin ang mga malalaking nagne-negosyo na isama na rin nila sa kanilang mga negosyo ang mga maliliit na magsasaka at mangangisda....angt lahat. ‘Yan po ang pakay ng ating gobyerno,”* Secretary Dar said.

During the launch of the project that took place at the FTI Complex,

Taguig City on 13 September 2019, Secretary Dar announced former National Meat Inspection Service Executive Director Ernesto Gonzalez as DA undersecretary for consumer affairs.

“We have to pay attention to the consuming public because we need to maintain affordable, safe, and nutritious food,” added Secretary Dar.

Present during the launch were Taguig Mayor Lino Cayetano; FTI President Ariel Buenaventura; DA Assistant Secretary for Agribusiness and Marketing Kristine Evangelista; and DILG Assistant Secretary for

Mindanao Affairs and Special Concerns Marjorie Jalusjos.

Secretary Dar assigned Asec. Evangelista and Usec. Gonzalez to implement the establishment of KADIWA first in cities across Metro Manila and eventually to other major cities in Visayas and Mindanao.

In-charge of funding researches aimed at developing and commercializing various agricultural products, the Bureau of Agricultural Research also adopted a market-oriented approach in further realizing Secretary Dar’s *Ani at Kita* principle. **### (Ephraim John J. Gestupa)**



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# 14 member countries, IRRI attend AFACI workshop

FOURTEEN member countries together with the International Rice Research Institute (IRRI) attended the 2019 Asian Food and Agriculture Cooperation Initiative (AFACI) workshop on horticulture, extension, and food crops in Phnom Penh, Cambodia on 2-6 September 2019.

Member countries were Bangladesh, Bhutan, Cambodia, Indonesia, Kyrgyzstan, South Korea, Laos, Mongolia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, and Vietnam. Further, IRRI is one of the six partner institutions of AFACI.

Thirteen projects under the Agricultural Technology Information Network in Asia (ATIN) funded by AFACI and implemented by its member countries were presented and evaluated during the workshop.

Further, participants also visited

the Vegetables Research Station in Kien Svay District, the Safe Vegetable Distribution and Vegetable Quality Inspection Center in Ta Khamo Town, and the Vegetable Collecting Center in Phnom Penh Thmey.

Awarding of the Most Outstanding Principal Investigators (PIs) for 2018 was also held during the opening ceremony. Julia Lapitan, head of the Bureau of Agricultural Research-Applied Communication Division, was one of the recipients of the said award.

Lapitan is the PI of the ATIN project in the Philippines. She also serves as the national contact person of AFACI to the Philippines.

Cheatto Prak, national representative and deputy general director of the General Directorate of

Agriculture (GDA) of Cambodia; and Dr. Hongjae Park, director of Food Crop Industry Technology Service Division of the Rural Development Administration of South Korea welcomed the participants.

Meanwhile, Dr. Yong Hwan Kim, director of Korean Program on International Agriculture-Cambodia Center, expressed his gratitude toward the GDA-Ministry of Agriculture, Forestry and Fisheries for hosting and coordinating activity.

Established 2009, AFACI is an international cooperation body that promotes sustainable agriculture and enhancement of extension service of Asian countries by sharing knowledge and information on agricultural technology. ### (**Rena S. Hermoso and Juan Nikolas A. Paller**)



Delegates visit the Vegetables Research Station of KBAL Koh in Kien Svay District. PHOTO: JNPALLER

# DZMM TeleRadyo's *Sa Kabukiran* invites BAR



(L-R) *Sa Kabukiran* program co-anchor Cheche Masicat; Tata Lino Boa; Ka Bernie Dizon; BAR-PDD Head Joell Lales; and Ka Jerry Balmeo during the program. PHOTO: JMSURIO

TO introduce the bureau and discuss its mandate as the lead research-coordinating arm of the Department of Agriculture (DA), the Bureau of Agricultural Research (BAR) was invited to appear as guest in DZMM TeleRadyo's *Sa Kabukiran* program on 7 September 2019.

Joell H. Lales, BAR-Program Development Division head, attended the interview to represent BAR Director Nicomedes P. Eleazar. The program dedicated a segment for

BAR's live interview.

Rod Izon, *Sa Kabukiran* program anchor, started the interview by asking Lales what BAR is and its mandate as a government agency under DA. In his response, Lales introduced BAR as a funding agency aimed at supporting agriculture and fisheries research and development. He also mentioned that the bureau supports various value-adding initiatives to promote and ensure higher income for stakeholders.

Interested about the bureau's functions, Izon further asked Lales how the public can coordinate and communicate with BAR, assuming that they are interested to request for funding support in related researches, projects, and programs.

Lales then highlighted the significance of coordinating with regional field offices of DA, which can help process requests and provide assistance to anyone who

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*DA together with BAR...from page 1*

to attend the MoA signing. Also joining the aforementioned were DA Assistant Secretary for Special Affairs and BAR Director Dr. Nicomedes Eleazar; ACEF Program Director Atty. Jane Bacayo; and Atty. Joycell Panlilio in behalf of the Undersecretary of High Value Crops and Rural Credit Evelyn Laviña.

From the 33 projects approved, eight are under the Technology Commercialization Grant and 25 are encompassed by the Research Facilities Development Grant.

ACEF was first launched last 2018 and BAR leads the screening and evaluation of these R&D grants. In essence, the ACEF R&D Grants is a funding facility coordinated by BAR aimed to improve the

productivity and competitiveness of farmers and fishers through the services and technologies offered by the SUCs. SUCs, as collaborators, bring-out the technology-generated information to the stakeholders.

With its technology commercialization grant, ACEF aims to further support the adoption, promotion, and utilization of technologies developed by academic institutions. This empowers stakeholders by introducing new business and economic opportunities that they can venture on to improve their quality of life. Furthermore, these initiatives are part of the upscaling of technologies in lieu of Senator Cynthia Villar's call to popularize the product of these researches in the mainstream market.

Meanwhile, ACEF's research

facilities development grant focuses on the establishment and upgrading of research facilities. This provides more advanced tools and equipment in laboratories and test sites. Hence, the program also aids in skills development through the implementation and management of R&D programs and activity.

Apart from the R&D component, ACEF is also comprised of loan and scholarship grants. Additionally, ACEF also functions as credit facility insurance (or economic security) of the farmers and fishers which allow them to file for loans without collateral through the assistance of Land Bank of the Philippines and Agricultural Credit Policy Council.

### (Chantale T. Francisco and Clarisse Mae N. Abao)

# DaCARS R&D Center inaugurated



Dr. Angelina S. Pancho, regional technical director for research and regulations of DA-RFO 11, and Wilson G. Vilorio, senior agriculturist of BAR, lead the ribbon-cutting ceremony of DaCARS R&D center. PHOTOS: RJOGAO-OGAO

TO strengthen its research and development (R&D) initiatives, the Department of Agriculture-Regional Field Office (DA-RFO) 11 inaugurated the Davao Commercial Agriculture Research Station (DaCARS) R&D Center in Mati City, Davao Oriental on 13 September 2019.

Funded by the Bureau of Agricultural Research (BAR) through its Institutional Development Grant, the DaCARS R&D Center is comprised of a training facility, technology showroom, and office.

Dr. Angelina S. Pancho, regional technical director for research and regulations of DA-RFO 11, said that the facility is an excellent opportunity to boost the capabilities of DaCARS in developing appropriate technologies for their stakeholders.

She also extended her heartfelt gratitude towards BAR and acknowledged the hard work of her

colleagues especially their regional executive director, Engr. Ricardo M. Oñate.

Wilson G. Vilorio II, senior agriculturist of BAR, represented BAR OIC-Assistant Director Digna L. Sandoval during the activity.

Vilorio emphasized in his message that the ultimate purpose of the facility is to help our farmers and fishers through technologies and interventions.

He challenged the research team of DA-RFO 11 to have at least one Community-based Participatory Action Research project progress into technology commercialization.

The inauguration was held in line with the celebration of the 32<sup>nd</sup> anniversary of DA-RFO 11's Research Integrated Agricultural Research Center.

Other activities include technology demonstration and forum, Farmers' Field Day, inauguration of

the Technology Commercialization Center, groundbreaking of Davao Regional Research and Development, Extension Network Center, and showcase of various food products developed through the projects implemented by the region's research division. ### (Rena S. Hermoso)

*DZMM TeleRadyo's...from page 4*

wants to seek help from the bureau. He concluded the interview by encouraging the public to get in touch with the bureau and assuring them that it is open to the public, especially farmers and fisherfolk.

*Sa Kabukiran* is simultaneously aired over DZMM Radyo Patrol Sais Trenta (630 kHz), DZMM TeleRadyo Sky Cable Channel 26, online via dzmm.com.ph, and worldwide via The Filipino Channel. ### (Jhon Marvin R. Surio)

# BAR conducts 3<sup>rd</sup> Qtr. Research Mgmt. Mtg.



PHOTOS: CNABAO

INSET: “[BAR]...sees this Research Management Meeting as an opportune time for us to look into, discuss...and collectively respond to the challenge of ensuring that the programs and projects that we implement and support are geared towards contributing to the over-arching goal of increasing productivity and making farmers and fishers prosperous,” says DA Asec. Eleazar.

TO actualize the research for development (R4D) directives of Agriculture Secretary William D. Dar to the regions and share insights on salient issues relevant to the implementation of the agriculture and fisheries research and development (R&D), the Bureau of Agricultural Research (BAR) conducted the Third Quarter Research Management Meeting on 16-19 September 2019 in Angeles, Pampanga.

Participating in the event were regional technical directors for research and regulations, regional research managers, and staff of the regional field offices of the Department of Agriculture (DA); research managers of Bureau of Fisheries and Aquatic Resources, research division heads of Bureau of Plant Industry, Bureau of Soils and Water Management, National Fisheries Research and Development Institute, Philippine Carabao Center, Philippine Center for Postharvest Development and Mechanization, and Philippine Fiber Development Authority.

During the activity, DA Assistant Secretary for Special Affairs and BAR Director Nicomedes P. Eleazar

expounded the eight paradigms of Secretary Dar to the participants, emphasizing on the “New Thinking” approach for agriculture and the introduction of the Secretary’s Twin Vision, “Ani and Kita” or “Masaganang Ani at Mataas na Kita” as the new battle cry of the Department of Agriculture (DA).

“As research managers and leaders, you are our major partners in the implementation of R4D projects and activities in the regions. You play a major role in ensuring that the R&D programs, projects, and activities we implement will be responsive to the vision and goals of the “New Thinking” for agriculture. We are faced with this challenge of how we do things in agri-fishery R&D and I believe this is a challenge that we can face and successfully surmount, especially that we are working together,” said Asec. Eleazar.

Among the topics discussed were: 1) “New Thinking” for Philippine Agriculture – Research for Development (R4D) Approach and Directives of the Secretary; 2) Regional Strategies for Research and Development, and Extension; 3) Regional Research and Development

Extension Network (RRDEN) coordination with State Universities and Colleges (SUCs) for soliciting proposals for the Agriculture Competitiveness Enhancement Fund (ACEF) and other commodity programs; and 4) Agriculture and Fisheries Mechanization in Research and Development Extension Network (AFMECH RDEN); and 5) invitation and updates for the 31<sup>st</sup> National Research Symposium and Community-based Participatory Action Research (CPAR) Congress. Also included in the agenda are the invitations to the 31<sup>st</sup> National Research Symposium on 16-17 October 2019 and the Community-based Participatory Action Research (CPAR) Congress on 28-31 October 2019.

Spearheaded by the BAR Program Monitoring and Evaluation Division (PMED), the Quarterly Research Management Meeting was institutionalized by the bureau in 2014 to ensure the complementation, harmonization, and strengthening of partnerships among regions in the sector of agriculture and fisheries research and development. ###  
(Clarisse Mae N. Abao)

# DA-Western Visayas conducts WESVIRRDEN consultative meeting

TO strengthen the implementation of research, development, and extension (RDE) programs and projects among the Western Visayas Regional Research Development and Extension Network (WESVIRRDEN) members, the Department of Agriculture (DA)-Western Visayas conducted a consultative meeting in Banga, Aklan on 12-14 September 2019.

The meeting provided a venue to layout strategies to intensify and strengthen the agriculture and fisheries RDE implementation in the Western Visayas region.

Other matters discussed were the fine tuning of WESVIRRDEN organizational structure, crafting of improved Memorandum of Understanding among network members, and boosting the promotion of WESVIRRDEN activities through increased social media visibility through the

establishment of an official Facebook page.

During the meeting, Remelyn R. Recoter, regional executive director of DA-Western Visayas, highlighted the importance of incorporating the “new thinking” approach of Acting Agriculture Secretary William D. Dar to the programs and projects implemented by the region.

Also present were Julia A. Lapitan, head of the Bureau of Agricultural Research (BAR)-Applied Communication Division (ACD) and RRDEN focal person for Western Visayas; and Marnelie G. Subong, BAR-Program Monitoring and Evaluation Division technical staff.

In her message, Lapitan reiterated the role of the network secretariat in ensuring all proposals are aligned with the priority agenda and programs of DA and that no duplication of proposals is made.



PHOTO COURTESY OF WESVIRRDEN

Julia A. Lapitan, BAR-ACD head, delivers her message.

Under the Agriculture and Fisheries Modernization Act, the regional integrated agricultural research centers of DA through the guidance of the Bureau of Agricultural Research and the Agricultural Training Institute are tasked to develop and maintain a network of regional and provincial collaborators in undertaking RDE programs. ### *(Rena S. Hermoso and Marnelie G. Subong)*



PHOTO: KTMHERNANDEZ | TEXT: RHERMOSO

**DA-RFO 11's TECH COM CENTER UNVEILED.** Dr. Angelina S. Pancho, regional technical director for research and regulations of Department of Agriculture-Regional Field Office (DA-RFO) 11; and Salvacion M. Ritual, head of the Bureau of Agricultural Research (BAR)-Program Monitoring and Evaluation Division, lead the inauguration of DA-RFO 11's Technology Commercialization (Tech Com) Center in Tugbok, Davao Oriental on 12 September 2019. This is in line with the celebration of the 32<sup>nd</sup> anniversary of DA-RFO 11's Research Integrated Agricultural Research Center. Funded by BAR through its Institutional Development Grant, the facility will serve as a showroom for products and technologies generated through research and development projects.

# 3<sup>rd</sup> RBM&E workshop conducted



Dr. Romeo B. Santos (standing), resource speaker and RBM&E expert, facilitates the workshop proper. PHOTO: JNPALLER



Dr. Nicomedes P. Eleazar, DA assistant secretary for special affairs and BAR director, delivers his opening message. PHOTO: JNPALLER

THE Bureau of Agricultural Research (BAR) conducted the third workshop on Results-based Monitoring and Evaluation (RBM&E) for Agriculture and Fisheries Research and Development

in Quezon City on 10-13 September 2019.

Dr. Romeo B. Santos, Asia Pacific Evaluation Association and Philippine Evaluators for Development president and University of the Philippines Diliman professor, served as resource speaker during the workshop.

He discussed the RBM&E system and the Theory of Change; identifying baseline targets; designing and implementing RBM&E performance framework; and formulating evaluation question.

Participants were tasked to work on BAR's major R&D programs including the National Technology Commercialization, Institutional Development, National Biotechnology, and Regional Research Development and Extension Network. Afterwards, they reported their respective outputs for each component.

Dr. Nicomedes P. Eleazar, Department of Agriculture assistant

secretary for special affairs and BAR director, reiterated the importance of conducting the workshop.

"Time and again, I have been very vocal in emphasizing the importance of RBM&E so much so that, we have encouraged its practice in our conduct of field monitoring and validation. Part of ensuring that the funds allocated for our sector are being judiciously used is making sure that all the projects that we coordinate achieve its objectives and reach its intended stakeholders with the identified outputs optimized."

BAR has funded numerous R&D programs and projects aimed to address specific issues and challenges in the agriculture and fisheries sector. RBM&E is a powerful tool that BAR can use to effectively measure the success of its R&D initiatives in addressing these challenges and in contributing to the overall growth and development of the sector. ### (**Juan Nikolas A. Paller**)



# Crop rotation towards sustainable corn productivity featured in BAR seminar

THE Bureau of Agricultural Research (BAR) featured technologies directed towards sustainable corn productivity in its monthly seminar series on 26 September 2019.

Dr. Artemio Salazar, an agricultural scientist and expert of the University of the Philippines Los Baños who specialized in plant breeding of corn and the development of the Philippines Quality Protein Maize Variety 6 used in the rice-corn blend, served as the resource speaker of the event.

Dr. Salazar's presentation focused on the advantages of crop rotation in corn areas which affects soil fertility and other soil properties. The project specifically aimed to compare the total crop yield and farmer's income under continuous corn cropping and corn-legume crop rotation system.

According to Dr. Salazar, the

sustainability of corn production practices in the Philippines is becoming a serious concern. Continuous mono-cropping and frequent torrential rains due to climate change intensified soil degradation.

"It has been a general knowledge that rotating legumes with cereals can improve soil fertility and enhance total crop productivity, but there is no comprehensive data in our country," he explained.

Data from the Philippine Statistics Authority also stated that the country spends more than five billion pesos in the importation of oil seeds from leguminous crops. Hence, there is a big reason for legumes production in the country.

Dr. Salazar together with his colleague, Romnick Talde assessed and identified the yield performance of corn using leguminous crops

such as mungbean, soybean, and peanut under four cropping pattern treatments in the three sites of Isabela, Cebu, and Bukidnon.

The team found out that there is 10 to 25% increase in yield of corn in crop rotation rather than utilizing monoculture. The cost of production also decreases to a certain which mostly depends on the crop utilized. This helps in increasing nutrient uptake of the plants from the soil, as different crops require different nutrients in different quantities.

Farmers can also see a decrease in the incidence of insect pests, pathogens, and control soil-borne diseases. In addition, crop rotation improved the soil structure and prevented the accumulation of toxic chemicals or substances secreted by crop plant. Net income of farmers per hectare for the four cropping

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Dr. Artemio Salazar (left) and Romnick Talde (upper right corner) of University of the Philippines Los Baños and Roynic Aquino of DA-Cagayan Valley Research Center (right) share their knowledge during the in-house seminar. PHOTOS: LBARTINA

# 14 CGUARD projects reviewed



Evaluators and project implementers convene to assess the projects under the CGUARD program. PHOTO: CFRANCISCO

FOURTEEN completed project under the Corn Germplasm Utilization through Advanced Research and Development (CGUARD) program were reviewed in Diliman, Quezon City on 18-20 September 2019.

Dr. Artemio Salazar of the University of the Philippine Los Baños and Dr. Candido Damo of the Department of Agriculture (DA)-National Corn Program lead the panel of evaluators.

Apolonia Mendoza, on behalf of

DA Assistant Secretary for Special Affairs and Bureau of Agricultural Research (BAR) Director Nicomedes Eleazar, emphasized in her message that the bureau prioritizes the development of non-rice staples and has collaborated with state universities and colleges and DA regional field offices to improve R&D issues and projects concerning CGUARD.

“Continue to persevere on the projects which aim to provide

more income to corn farmers while providing healthy and inexpensive food to millions of Filipinos,” Mendoza said.

Spearheaded by BAR through its Program Monitoring and Evaluation Division and Program Development Division, the review centered on the accomplishments of the regions for the second phase of the program.

Potential impacts of the projects reviewed include better crops, higher yield, and improved income for the farmers. Aside from the farmers, the projects will also benefit researchers and breeding institutions.

The activity is part of BAR’s continuing efforts in forwarding the production, consumption, and marketing of corn’s potential in the country as the focal agency for Corn R&D of DA.

Led by the DA-National Corn Program through BAR, the CGUARD program aims to conserve native and traditional corn varieties found in the country. ### (*Chantale T. Francisco*)

## 4 NTCP projects reviewed, 5 proposals scrutinized



Dr. Arnold Elepaño and Dr. Cesar Quicoy of University of the Philippines Los Baños and Anthony Obligado, BAR-Technology Commercialization Division head serve as evaluators during the NTCP review. PHOTO: CNABAO

TO ensure that projects meet guidelines for technology commercialization and promotion,

four ongoing projects and five proposals under the National Technology Commercialization

Program (NTCP) were reviewed in Subic, Zambales on 24-27

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# Field day showcases tech for high-yielding corn



Corn farmers, project collaborators, project implementers, representatives from the local government units, and other stakeholders participated during the Farmers' Field Day held in Banga, Aklan on 6 September 2019. PHOTO: LFONTANIL

TO showcase the technologies generated from the project “Nutrient Expert Approach of Fertilizing Open Pollinated Variety (OPV) Corn,” a farmers’ field day was held on 6 September 2019 in Banga, Aklan.

The project was implemented by the Department of Agriculture-Regional Field Office 6 through the leadership of Luisa Fulgueras and Nora Garpa of the DA-RFO 6 Western Visayas Integrated Agricultural Research Center. It was funded by the Bureau of Agricultural Research (BAR) under its Community-based Participatory Action Research (CPAR) program.

Representatives from BAR attended the event, led by Amavel Velasco, Program and Monitoring Evaluation Division assistant head; Judith Maghanoy, Finance Division

head; and Dr. Elmer Enicola, member of technical working group of the University of Philippines Los Baños.

The project sought to demonstrate the actual on-farm practices of farmers using the nutrient expert tool from CPAR, highlighted the developed package of technologies, and shared farmer’s experiences and insights through the project.

During the field day, 50 participants from Banga and other invited municipalities such as Balete, Batan, and Kalibo participated in the activities. Part of the activity was the presentation of preliminary data gathered through the project.

Banga is among the crop producing municipalities in the province of Aklan that has a larger areas devoted to agricultural use

particularly for corn. With almost a total of 114 hectares of corn area with 107 corn farmers.

The objectives of the CPAR project were: 1) provide a nutrient decision support tool for hybrid, open-pollinated and traditional corn varieties; 2) increase OPV corn yield by 15% following the recommendation compared to farmers practice; 3) determine the benefits and costs derived from adoption of technology; and 4) strengthen knowledge and capacities of farmers through trainings.

CPAR is a location-specific research cum extension activity that deals with improved farming systems technologies for specific micro agro-climatic environments within a province or municipality. ###  
(Leoveliza C. Fontanil)

# Building improved resiliency among fishing communities in Luzon

by Chantale T. Francisco

THE Philippine seas are one of the main food and livelihood sources among Filipinos residing near coastal areas. Abundant with various kinds of aquatic species, these waters indeed help the people and the economy of the nation. However, with the drastic change of climate in the country, there is a radical loss of varietal diversity which resulted to an unsteady fish catch among fishers.

As such, initiatives and conservation efforts for the mitigation of the effects of climate change to fishing communities have been initiated by various organizations. This has been the focus of one of the projects founded by the College of Public Affairs and Development of the University of the Philippines (UP) Los Baños and UP Los Baños Foundation, Inc., in

collaboration with local government units, provincial and municipal agricultural offices, Bureau of Fisheries and Aquatic Resources provincial offices, and the Bureau of Agricultural Research (BAR).

Funded by BAR, the undertaking aimed to take action on the repercussions brought by climate change through the project called “Developing Strategies Towards More Resilient Fishing Communities Amidst Climate Change: The Case of Major Lakes in Luzon.”

The project developed improved adaptation strategies to cope with negative effects of climate change. Hence, the enhancing of resiliency of the fishing communities in Luzon to climate change.

The lakes identified by the project are Laguna de Bay, Taal

Lake, Lake Naujan, Lake Bato, and Lake Buhi.

A profiling and characterization was conducted testing the Knowledge, Attitude, Perceptions, and Practices of the communities; determined their adaptation mechanisms and strategies; identified the roles of various institutions in the resiliency of fishing communities; and distinguished the roles played by both men and women in adapting to climate change in their own areas. The information that the proponents gathered were then used to formulate each community’s own Participatory Community Resiliency Action Plan for Climate Change Adaptation.

Data showed that most of the fishers from the major lakes of Luzon were engaged in open water fishing and fish cage farming. These



PHOTO COURTESY OF MNGUYEN/UPLBFI

Participants engage in the yarn dynamics activity during the workshop conducted in Talisay, Batangas.

activities are their major source of income. But aside from those, there were fishers whose income also depend on fish peddling, fish processing or drying, fish trading, and fish caretaking.

It was observed that majority of the fishers around the major lakes experienced declining catch for the last five years attributing it to overfishing, increase in the number of fishermen, water pollution, illegal fishing, strong typhoons and calamities, and climate change or “*pabago-bagong panahon*.” With these challenges, more than half of the respondents attested that because of the decreasing fish catch, their income became inadequate to support their necessities.

To further address concerns on climate change, a needs assessment was also conducted. One strategy is through a program that aims utilizes a capacity-building strategy for communities. This program is called ICARE (Increasing Community Awareness and Resilience Enhancement). ICARE is composed of different activities tailor-fitted according to the needs of the communities.

The first part of ICARE is the Awareness Raising of Communities on climate change effects and the Adaptation and Resilience Practices and Strategies. The lecture-seminars conducted during the first part primarily targets to increase the awareness of the respondents on

climate change and how it affects their livelihood. From the results of characterization and profiling, the first phase was pursued in 20 barangays within the project sites. The participants were fishers and the barangay officials with the hope of being able to adapt and duplicate these activities in their own localities.

According to the participants, they are highly satisfied of the lecture-seminars provided. They have realized a lot of possible actions towards the challenges they are currently facing. They recognized that their collective movements can minimize the destruction of the environment, especially of the lake.

On the other hand, as part of the ICARE strategy, the Problem Trees and the Participatory Community Resilience Action Planning (PCRAP) were also incorporated. These strategies center on problem identification, problem analysis, project interventions ranking, and action plan preparation. PCRAP enabled the participants to create their own community action plan to increase the resiliency of the community toward the effects posed by climate change. During the provincial stakeholders’ forum, most of the local government unit participants proudly shared that many of the strategies and activities in PCRAP are already being undertaken.

The Provincial Stakeholder’s Forum conducted this year capped off

the project. The forum communicated and validated the results of the project to the stakeholders and tendered actions plans in accordance to their own community. Aside from that, projects and interventions being undertaken and programs to be launched by government agencies concerning the lakes were presented. The forum also served as an avenue for the stakeholders to interact and raise their issues and concerns about their communities and among their groups. Moreover, the forum became a medium for agreements and collaborations among the stakeholders.

The project has been beneficial for the stakeholders as they were able to identify the issues in their communities and address them through community action plans and resiliency strategies. But even though this initiative is a necessary step to mitigate the effects of climate change, the project team pointed out that this program alone is not enough. Similar trainings and seminars to the grassroot level must be conducted to other areas as well, in order to achieve higher participation from many other fishers. ###

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### 4 NTCP projects...from page 10

September 2019.

Present during the review were Dr. Nicomedes Eleazar, Department of Agriculture (DA) assistant secretary for special affairs and Bureau of Agricultural Research (BAR) director; Anthony Obligado, BAR-Technology Commercialization Division (TCD) head; Dr. Cesar Quicoy and Dr. Arnold Elepaño of the University of the Philippines Los Baños, evaluators; and select BAR focals and staff.

Asec. Eleazar encouraged

the proponents to endorse projects for possible funding under NTCP and for other sources of support for technology commercialization projects as well like the Agriculture Competitiveness Enhancement Fund (ACEF) R&D Grant which caters to state universities and colleges.

“The National Technology Commercialization Program, one of the banner programs of the bureau, has always been parallel to Acting Agriculture Secretary William Dar’s goal of ensuring food security with prosperous farmers and fishers. NTCP highlights the technology commercialization

process and provides support to R&D institutions rooted towards improving technology transfer and application in the agriculture and fisheries sector,” said Asec. Eleazar.

Spearheaded by BAR through TCD, the activity served as a venue for DA regional field offices, non-government organizations, and state universities and colleges to showcase their accomplishments and to present new project proposals in line with technology commercialization and promotion in the field of agriculture and fisheries research and development. ### (**Clarisse Mae N. Abao**)

# Salted Eggs for a Taste of Sweet Life

by Ephraim John J. Gestupa



Corn husks are used to package salted eggs. The unique characteristic of these salted eggs is to do not exhibit the purple outer covering. PHOTO COURTESY OF DR. JOVITA M. DATUIN/DA-RFO 1

THE history of salted eggs in the country can be traced back from China where it was known as the “thousand-year-old egg.” Centuries after the Chinese introduced salted eggs to the Philippines, locals have grown fond of it calling it their own and reinventing it by tainting it with a stark, purple hue that distinguishes it from regular chicken eggs.

The Philippine duck industry is dominated by *balut* because of its popularity as an exotic food for tourists or as common snacks for locals. However, aside from that, salted egg or *itlog na maalat* (also *itlog na pula*), are also approaching the same level of popularity since it has been part of Filipino cuisine for a long time.

According to the Philippine Statistics Authority, duck is the second largest poultry industry that provides sources of income to farmers through the production of egg and meat in the country. In fact, recorded volume of production for the last quarter of 2018 was at 12.45 thousand metric tons. This is 3.03 percent higher compared to the preceding year.

But whenever you buy salted eggs in the market, have you ever wondered when their expiration dates are? Typically, consumers do not really think about this especially for food items like salted eggs. After all, its defining characteristic is that it was preserved to prolong its shelf life compared to regular eggs.

However, as salted eggs found their way to the international market because of the sudden influx of Filipinos in major cities across the globe, important considerations like this arises. This is how the story of salted eggs of the Ilocos Region came to be.

For Dr. Jovita Datuin, Research and Development Division chief of the Department of Agriculture-Regional Field Office 1, exporting salted eggs can be quite a lucrative opportunity that demands attention from the agriculture sector of the country.

“When I had a diploma course training at the Netherlands, our Filipino store in that country was selling salted eggs. I was asking *kung kalian pa nanggaling ito sa Pilipinas, pero* they have no proper

information about it. So when I went back home in the Philippines, I focused on studying the different processing media which give salted eggs appropriate expiry dates through shelf life evaluation,” said Dr. Datuin. She then went on to conduct a study with the University of the Philippines Los Baños.

The research project eventually went on to win gold in the National Research Symposium (NRS) of the Bureau of Agricultural Research (BAR). Moreover, the project became a recipient of an intellectual property rights certificate for utility model which was secured through the assistance of BAR.

The protocol developed by Dr. Datuin focused on how duck eggs were prepared for the curing process in order to make salted eggs. She discovered that salted eggs take longer to expire if processors pay attention to the selection of quality, fresh duck eggs, as well as the utilization of salting medium that underwent simple sanitation by heating. Firstly, processors must pick eggs that are at most three days old.

Each batch of eggs must then

be cleansed using detergent soap to remove traces of dirt and bacteria. Dr. Datuin said that processors should note that only those that will be cured should be cleaned. Eggs that underwent cleaning must not sit uncured for a long period of time as the shell has already been further. Through candling method, eggs must undergo further inspection to ensure that each egg does not exhibit hairline cracks. Duck eggs with hairline cracks are not recommended to undergo the process of curing as it attracts bacteria during the process, which may compromise the quality of salted eggs.

As for the curing medium, processors normally use wet clay to coat duck eggs. In Dr. Datuin's protocol, it is advised that before wet clay is used on the eggs, it must first be heated or boiled to eliminate dirt and other pathogens.

"The science behind the process undertaken is further validated through soil analysis," added Dr. Datuin as she showed results from her study that found traces of bacteria in parts of the egg that easily come off when subjected to heated media.

Dr. Datuin's protocol also calls for the utilization of termite mound.

"We use termite mound because we have noted that it is very sticky for coating the duck eggs. However, we have to see to it that no termites are present and we have to pound it and sieve it as well. We have to sundry it or roast it as well and use an autoclave," Dr. Datuin shared. An autoclave is a machine that completely sterilizes surfaces from microbes by way of pressure,

temperature, and steam. It is very ideal for farmers who are venturing into commercial-level salted egg production.

"As of the moment, since our salted eggs are for domestic consumption, processors can use heated clay for three hours using a bigger pan to eliminate pathogens. The autoclave is quite expensive so we can use this if thousands of salted eggs will be made for export abroad," explained Dr. Datuin.

By adhering to Dr. Datuin's protocol, salted eggs exhibit longer shelf life of six to eight weeks. Moreover, the unique characteristic of the salted eggs processed under such protocols do not exhibit the purple outer covering as most people were accustomed to, because it was discovered that most dyes used to color salted eggs contain traces of lead.

"*Yong ginagamit natin na pang-dye, hindi ito food grade. Instead, salted egg products developed under my protocol are distinguished with a sticker,*" said Dr. Datuin.

With regards to the valuation of Dr. Datuin's salted egg products, she claimed that "the usual salted egg in the market are being sold at 10 pesos each; however, by strictly following the protocol that I developed, it can be sold from 13 to 15 pesos each depending on the size of the processed duck eggs."

Dr. Datuin admits that her protocol demands more working hours for salted egg processors, not to mention the other requirement that no mud and water used for one batch must be reused. But for salted eggs to exhibit a quality deserving of a

spot on the international market, Dr. Datuin said that there is "no shortcut to success."

The assistance provided by BAR to the study extends beyond its recognition during the NRS. Dr. Datuin claimed that the bureau has been helpful in further promoting her protocol to the public.

In 2017, Dr. Datuin was invited as a resource speaker during one of the free in-house seminar series hosted by BAR on duck raising and duck egg production. As of writing, the video recording of her seminar posted in the bureau's YouTube channel has reached more than 22,000 views.

"When BAR invited me as a resource speaker *at na-upload ito sa YouTube*, thousands of viewers were benefitted. Others call me up, especially OFWs, farmers, and working professionals alike," Dr. Datuin proudly shared.

As the staff bureau of the Department of Agriculture in charge of supporting agricultural research and development, BAR ensures that all the technologies generated from its programs and initiatives are disseminated to the public, especially to farmers. After all, research not communicated is research not done. ###

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### *Crop rotation...from page 9*

seasons under corn-legume crop rotation created a notable increase of 90% compared to continuous corn cropping in three locations across the Philippines.

"Indeed, these grain legumes are ideal crop to be utilized in crop rotation system in order to enhance soil fertility and increase farmers' income. Apparently, rotating corn

with grain legumes both provided agronomical and economic benefits which shows the general advantage of crop rotation over continuous corn cropping," Dr. Salazar concluded.

Another topic discussed during the seminar series was the "Enhancement of Developed Food Products from Open Pollinated and Pigmented Corn," presented by Roynic Aquino, science research specialist of Department of

Agriculture Regional Field Office 2 - Cagayan Valley Research Center. His discussion centered on improving value of corn harvest for its product development and food processing.

Spearheaded by the bureau's Applied Communication Division, the activity is part of the monthly free seminar series of BAR, featuring funded research initiatives by partner agencies and institutions. ###  
**(Leoveliza C. Fontanil)**

# 188 entries vie for NRS 2019

A record-high of 188 research papers were scrutinized by agriculture and fisheries experts during the initial screening for the 31<sup>st</sup> National Research Symposium (NRS) held on 20 September 2019 in Diliman, Quezon City.

Spearheaded by the Institutional Development Division (IDD) of the Bureau of Agricultural Research (BAR), the screening was conducted to identify research papers that will move forward for presentation in the symposium proper.

Digna L. Sandoval, BAR OIC-assistant director and IDD head, welcomed the evaluators from different partner-agencies on behalf of Dr. Nicomedes P. Eleazar, Department of Agriculture assistant secretary for special affairs and BAR director.

“You have been our constant partner not only in generating technologies, but also in providing sound recommendation to our project implementers to ensure effective and successful outputs for maximum utility of our stakeholders,” BAR OIC-Asst. Dir. Sandoval said, acknowledging the importance of the panel of judges in the said activity. She also announced the addition of organic agriculture as a new category in this year’s roster.

Marjorie M. Mosende, BAR-IDD assistant head, presented the mechanics of the initial screening



The evaluators and facilitators of the Applied Research (TG/IG and TA/TV) Organic Agriculture category: (L-R) Dr. Fe Porciuncula (CLSU); Dr. Norman de Jesus (Pampanga State Agricultural University); Jude Ray Laguna (BAR); and Ryan Jay Ogao-ogao (BAR) PHOTO: JMSURIO

process highlighting the fact that this year received the most number of entry papers in recent history.

The following is the breakdown of the number of research papers per category: Basic Research, 10; Applied Research (TG/IG) Crop Science/Crop Protection, 47; Animal Science, eight; Soils and Water Science, four; Engineering and Postharvest, 11; Applied Research (TA/TV) Crop Science/Crop Protection, 22; Animal Science, one; Soils and Water Science, three; Engineering and Postharvest, seven;

Applied Research (TG/IG) Fisheries, 21; Applied Research (TA/TV) Fisheries, three; Socio-economic Research, 22; Development Agriculture, 17; and Organic Agriculture, 12.

Only papers with average point scores of 80 percent and above will be considered as qualifiers. The top three papers with an average of at least 85 percent for each category will advance for the presentation. The awarding of the AFMA R&D Best Paper/s will be on 16-17 October 2019. ### (Jhon Marvin R. Surio)



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