
Ms. Rita dela Cruz of BAR presents the bureau's KM program. PHOTO:RIO-RFUXIII

covering updates on various DA-led programs. These included: Updates on National Year of Rice activities (Dr. Karen Eloisa Barroga, head, Development Communication Department, Philippine Rice Research Institute); Updates on Corn and Cassava Programs (Dr. Candido Damo, cassava project leader); and Development Intervention Plan (2011-2016) and Updates on High Value Crops Development Program (Lyn Parenas, chief, Crops Division, DA-Regional Field Unit XIII).

The second batch of presentations reported updates on: Fisheries Program (Sammy Malvas, OIC-Fisheries Planning Economic Division, Bureau of Fisheries and Aquatic Resources); Livestock Program (Rachelle Aylon, agriculturist, Livestock Development Council); Public-Private Partnership Program (Ma. Eliza Junio-Antinero, project development officer, DA-Program Development Service); and Organic Agriculture Program (Rosemarie Calibo, information officer, Bureau of Agriculture and Fisheries Product Standards).

Ms. Rita dela Cruz, assistant head of the Applied Communications Division of the Bureau of Agricultural Research (BAR), presented the "Knowledge Management and Sharing at BAR" which focused on key strategies, approaches, and tools that the bureau employs in disseminating information out of its funded researches. Among these strategies and approaches include: 1) strengthen knowledge sharing and learning through various publications that answer a particular need of the stakeholder; 2) disseminate success stories and best practices by leveraging media relations to reach a wider and diverse audience; 3) "spread the word" through the conduct of seminar series and participation to international and local exhibits and fairs; 4) optimize ICT potential including the use of various knowledge-sharing platforms for broader reach; and 5) implement client-oriented service to support knowledge-sharing practices in the form of grant or fund support.

Knowledge Management or KM, according to Ms. Dela Cruz, is about applying the collective knowledge of the entire workforce to achieve specific organizational goals. "The aim of KM is not necessarily to manage all knowledge, but just the knowledge that is most important to the organization. It is about ensuring that people have the knowledge they need, where they need it, when they need it—the right knowledge, in the right place, at the right time," she added.

The PIO meeting is being held twice a year in an effort to urge all DA agencies through the PIOs to produce regular updates and success stories on the agency's activities and become instrumental in providing vital and relevant information to the stakeholders. With Agriculture and Fisheries Information Services (AFIS) at the helm, the meeting hoped to develop an efficient, working approach on how PIOs will have a synchronize means of delivering the "good news" to the public and keeping them aware what the agriculture sector is doing.

The semester meeting was hosted by DA-Regional Agriculture and Fishery Information Division (RAFID) XIII, led by Ms. Rebecca Atega, regional information officer. ### ***(Rita T. dela Cruz)***

Getting ready for green...from page 12

unanimously proposed the Philippines to be next year's country host for the IRRDB conference, which was duly approved by BAR Director Nicomedes P. Eleazar. It will be coordinated by the bureau in collaboration with the IRRDB Secretariat. ### ***(Daryl Lou A. Battad)***

Reference:
1. The Institute of Materials, Minerals and Mining. 2013. International Rubber Research and Development Board (IRRDB) Conference 2013. Retrieved from http://www.iom3.org/events/international-rubber-research-development-board-irrdb-conference-2013

BARChronicle
BUREAU OF AGRICULTURAL RESEARCH
RDMIC Bldg., Visayas Ave., cor. Elliptical Rd.
Diliman, Quezon City 1104
PHILIPPINES

Entered as second class mail at the Quezon City Central Post Office under permit no. 753-01 NCR

BAR Chronicle
BUREAU OF AGRICULTURAL RESEARCH
ISSN 1655-3942
Visit our official website at http://www.bar.gov.ph

Volume 14 Issue No. 7 | A monthly publication of the Bureau of Agricultural Research | July 2013

Eleazar addresses food security during 8th OYSI Convention

The Outstanding Young Scientists, Inc. (OYSI) held its 8th Annual Meeting and Scientific Convention on 9 July 2013 at the Manila Hotel. Dr. Nicomedes P. Eleazar, director of the Bureau of Agricultural Research (BAR), served as the convention's keynote speaker.

Titled "Achieving Food Security through Agri-Fishery Research & Development (R&D)," Dr. Eleazar's address focused on the bureau's intensified support to researches and activities on traditional and indigenous plants for food, health, and wellness under his management. He, in this regard, emphasized the role that agri-fishery R&D plays in the Department of Agriculture's (DA) goal of achieving rice self-sufficiency and at the same time, increasing the productivity of Filipino farmers and fishers. To give an overview, he mentioned two major R&D strategies.

First is by *promoting traditional food staples to ease rice and corn consumption,* where the bureau director referred to the implementation of DA's Food Staples Sufficiency Program (FSSP). With BAR tasked to coordinate and support all R&D initiatives under the FSSP, he emphasized not only the researches on the overall management of the food staples production systems, but also the development, promotion, and commercialization of food products from these food staples. Among these, he highlighted the *adlai* products developed by various DA-research stations such as *adlai* drink, pasta noodles, polvoron, breadsticks, *kutsinta, puto,* and *adlai* wine. With this, the bureau chief noted that "*adlai* food product consumption not only answers our need for alternative food staples, but also opens doors for agribusiness ventures for our farmers and private sector alike."

BAR Director Nicomedes P. Eleazar underscores the R&D strategies that the bureau employs in achieving food security. PHOTO:MVALDEABELLA

Second is by *utilizing indigenous plants for pharmaceutical manufacturing and product development,* wherein the director focused on the Indigenous Plants for Health and Wellness Program (IPHWP) of the bureau. He cited the program as the bureau's way of "tapping our own natural resources [which] will not only address food-related problems but will improve the lives of the farmers progressing towards a safe food and secured future." The program, which is BAR's response to the Filipinos' demand for safer and more nutritious and natural alternative food and pharmaceutical sources, "looks into the optimum utility and efficacy of our own indigenous plants through the introduction of packages of technologies including its conservation, promotion, and commercialization."

To strengthen his claims, Dir. Eleazar talked about the BAR-supported project on the "Development of Special Product Lines from

turn to page 9




Dir. Eleazar having a small talk with some of the attendees of the event. PHOTOS:MVALDEABELLA

IN THIS ISSUE...

WorldFish-BAR project to develop one superior strain of *Nile tilapia*

PHOTO:DDELEON

Officials and staff of CLSU-FAC, BFAR-NFFTC, and BAR together with CLSU-FAC Director Tereso A. Abella (4th from left) and BAR Director Nicomedes P. Eleazar (5th from left). Also in the picture is Mr. Patrick Daffon, executive director of PTV 4's *Mag-Agri Tayo* (2nd from right).

"Choose the best among the rest," thus the main thrust of the project, *Evaluation of Nile tilapia strains for aquaculture in the Philippines*, a collaborative initiative of the WorldFish Center and the Bureau of Agricultural Research (BAR) which aims to evaluate and identify the best performing Nile tilapia strains that are existing in the country.

With funding support from BAR, the WorldFish Center, a Malaysia-based research institution, serves as the lead implementing agency for the project. Other collaborating agencies included in the project are the Freshwater Aquaculture Center-Central Luzon State University (FAC-CLSU) and the Bureau of Fisheries and Aquatic Resources-National Freshwater Fisheries Technology Center (BFAR-NFFTC).

"Based on the global production, our country is the fourth largest tilapia producer in the world. But we won't stop there. With this project, we want to further boost the productivity of the tilapia industry," said BAR Director Nicomedes P. Eleazar.

According to the data released by the Bureau of Agricultural Statistics (BAS) in the first quarter of 2013, aquaculture accounted for 44 percent of the total fisheries output and tilapia is considered the second most prized aquaculture species next to milk fish.

The first strain of Nile tilapia, due to its promising qualities, was introduced in the country in 1972. Since then, its popularity spread among tilapia raisers. As a matter of fact, 70 percent of the total tilapia production in the country comes from GIFT (Genetic Improvement of Farmed Tilapias) and GIFT-derived strains which are Nile tilapia. There are other existing Nile tilapia strains that are comparable to GIFT strains, but are not yet well-utilized. The country still lacks studies on the performance evaluation of these existing Nile tilapia strains.

"This project arose due to the need of helping our local tilapia growers. We want to provide them the options on what strain of tilapia to use and to increase their production. Consequently, this will lead in the increase of their income," underscored Dr. Tereso A. Abella, director of FAC-CLSU. The study is led by Dr. Maripaz L. Perez, regional director for Asia and country manager of WorldFish Center, and Dr. Paul W. Ponzoni, principal scientist, also from the same institution.

The study looked into the relative performance of Nile tilapia strains developed by various institutions, namely: GIFT-Malaysian of WorldFish, GET-EXCEL (Genetically Enhanced Tilapia-Excellent strain) of BFAR-NFFTC, FaST (FAC Selected Tilapia) of FAC-CLSU, and GIFT$_{ff}$ (GIFT Feedmix Fortified) of GIFT Foundation.

turn to next page

BARChronicle
BUREAU OF AGRICULTURAL RESEARCH

BAR CHRONICLE is published monthly by the Applied Communications Division of the Department of Agriculture - Bureau of Agricultural Research, RDMIC Building, Visayas Avenue, cor. Elliptical Road, Diliman, Quezon City 1104 Philippines.

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.

PRODUCTION TEAM

Editor:	Rita T. dela Cruz
Consulting Editors:	Julia A. Lapitan and Victoriano B. Guiam
Managing Editor:	Patrick Raymund A. Lesaca
Layout:	Anne Camille B. Brion
Writers:	Ma. Eloisa H. Aquino, Liza Angelica D. Barral, Daryl Lou A. Battad Anne Camille B. Brion, Diana Rose A. de Leon, Rita T. dela Cruz, Patrick Raymund A. Lesaca, Leila Denisse E. Padilla, Zuellen B. Reynoso, Mara Shyn M. Valdeabella
Reproduction/Printing:	Ricardo G. Bernardo and Lino Norman D. Reyes
ACD Head:	Julia A. Lapitan
Adviser:	Dr. Nicomedes P. Eleazar, *CESO IV*

ISSN 1655-3942

For subscription and inquiries please contact us: Tel. Nos: +63 (2) 928-8505, 928-8624, 920-0234 local nos. 3012, 3025, 3323 Fax No. +63 (2) 927-5691 Email: *rd@bar.gov.ph*
Articles are also available online, visit our official website: *http://www.bar.gov.ph/barchronicle*

DA info officers hold first sem meeting; BAR's KM PROGRAM presented

Public information officers of the Department of Agriculture during a photo op with DA Usec. Dante Delima (middle row, 5th from left). PHOTO:RIO-RFUXIII

To ensure that updated data and relevant information are being put forth into the public's eye, all Public Information Officers (PIOs) of the Department of Agriculture (DA) convened for their "First Semester Meeting"on 4-5 July 2013 in Butuan City.

Spearheading the activity was Director Noel O. Reyes of the DA-Information Office. Mr. Reyes, who gave a message to the information officers from various DA attached agencies and staff bureaus, reiterated the importance of the meeting which aims not only to keep the PIOs updated on the current programs and initiatives of each DA unit, but also to forge strong cooperation and network among them for efficient and harmonious information dissemination.

Mr. Dante S. Delima, OIC-undersecretary for field operations and concurrent national rice program coordinator, served as the honored guest. He provided updates on the Rice Program and the Food Staples Sufficiency Program (FSSP) of the department. In his message, Usec. Delima stressed the need to address the two great challenges now in the Rice Program: 1) climate change and 2) inclusive growth.

For climate change, he mentioned the need to sustain the gains/achievements given its effects in the agri sector. "That is why information is a vital instrument," he said. For the issue of inclusive growth, Delima underscored the urgent need for the government to set its priorities and to focus first on the basics like farm to road market and irrigation.

Delima added that 80 percent of the country's basic food items are imported so the strategy, according to him, is "import substitution." It is a government strategy that emphasizes on the replacement of some agricultural imports to encourage local production for local consumption, rather than producing for export markets. Import substitutes are meant to generate employment, reduce foreign exchange demand, stimulate innovation, and make the critical areas such as food, defense, and advanced technology self-reliant.

Engr. Christopher Morales, OIC, DA-Planning and Programming Division, presented the DA Thrust and Priorities for 2014-2016. This was followed by a series of presentations

turn to next page

Processed products from the cashew apple

- *CASHEW WINE*

The wine is made from the succulent flesh of cashew apples wherein juice is naturally extracted, fermented, clarified, and aged to have an assertive trait of fine alcohol beverage and a sparkling sight of a reddish-brown wine free of antioxidant called *polyphenols.* The wine contains 13.5 percent ethyl alcohol with a mild sweetness taste.

- *CASHEW PRUNES*

The prune is made from the pulp of cashew apples after the juice is extracted. This is cooked in syrup together with other additives to give a plumy delicacy, which is brownish-black in color with sweet sour taste. The prune contains high fiber and can be eaten as a snack food and dessert, or as ingredient in baked products.

- *CASHEW JUICE*

The juice is extracted from the cashew apple by means of osmosis process, using dried sugar as the osmotic agent. The juice is pale yellow in color with 12 percent soluble solids (brix) and contains natural vitamin C.

PHOTO:DDELEON

MONEY-MAKING POTENTIAL OF CASHEW *through value-adding technologies*

Story by Patrick Raymund A. Lesaca

Palawan is still the leading producer of cashew in the Philippines owing to the 93 percent cashew nut production. Official data obtained from Provincial Agriculturist Teresita Guian indicated that the area planted to cashew reached to 62,859 hectares as of June 2013.

While Palawan's share on nut production is high, cashew farmers are still facing problems of low income from their production. Identified factors included inferior quality of processed kernels (cashew fruit seed) and unutilized cashew apple (flesh or meat).

Very little activity is being done on processing cashew apples in terms of value-adding. Since the nut is only 10 percent of the total average weight of the fruit, around 90 percent is wasted. With the anticipated increase of nut production because of its expansion program, proportionate apple increase is likewise anticipated. The Bureau of Agricultural Statistics (BAS) reported that cashew production went up yearly by an average of 4.47 percent from 113.07 thousand mt in 2006 to 134.68 thousand mt in 2010.

To address farmers' low income and wastage, the Department of Agriculture (DA)-Palawan Agricultural Experiment Station (PAES)-Research Outreach Station (ROS) in Puerto Princesa, proposed a project titled "Technology Commercialization of Cashew-based Products/Agri-based Enterprise Development Project" to the Bureau of Agricultural Research (BAR) through its National Technology Commercialization Program (NTCP).

The project, which is now on-going, aims to introduce and promote other cashew value-adding activities that can be developed and at the same time generate viable agribusiness enterprise for the cashew municipalities in Palawan. The lead proponent or project leader is Ms. Librada L. Fuentes, chief, Research and Development Section of PAES-ROS.

Ms. Fuentes said that cashew in Palawan is sold outside the province as raw material, not as a processed product. This is due to lack of good processing and packaging technologies in the province. If value-adding technologies on cashew will be promoted to cashew growers, the profit of farmers will significantly increase. With the technical and financial intervention of BAR, the processing center, equipment and other facilities were made possible through the assistance of the agency. The facility is now called "Agri-based Processing and Techno Center." The building was officially inaugurated in October 2012 by Agriculture Secretary Proceso J. Alcala.

The establishment of the Center paved way for the development of new cashew-based products like *bandi*, nougat, brittle, polvoron, and pastillas, other than the traditional roasted and fried cashew nuts.

The project leader also said that with the establishment of the Center, farmers are now selling the cashew apple at P11.00 per kilo, which is not bad for something not valued before. With the value-adding technologies developed, the apple extracts are now being used as raw materials for making cashew juice, cashew wine, cashew prunes, and cashew soap, the latest product of PAES. If the cashew soap will progress, it will be the first of its kind, Ms. Fuentes revealed.

Cashew product diversification in terms of value-adding will boost farmers' income and more importantly, address the issue on wastage. With value adding, the price of cashew could go as high as P200-300 per kilo. This in turn will benefit local farmers.

With this development, the cashew industry will not only be known for its processed nuts, but also for other high-valued cashew-based products, making the province of Palawan among the list of exporting provinces in the country. ###

PHOTOS:DDELEON

BAR Dir. Nicomedes Eleazar visits the Tilapia Germplasm laboratory which houses various live and cryopreserved spermatozoa of Nile tilapia strains. Ms. Ma. Jodecel Danting of BFAR-NFFTC (below, right) explains to Dir. Eleazar the process of cryopreservation.

Specifically, the study aimed to: 1) develop an experimental protocol for the performance evaluation of available Nile tilapia strains in the Philippines, 2) conduct experiment to identify superior tilapia strains for aquaculture in the country, 3) further improve genetic performance of the identified strains by implementing breeding schemes that are consistent with available resources, 4) disseminate the superior strains to farmers and producers throughout the country, and 5) enhance local personnel (hatchery) capacity in tilapia breeding and production.

The results of the study will be used to come up and to develop one superior strain of Nile tilapia possessing the good genetic qualities of the four Nile tilapias being evaluated. Hopefully, once done, it will be distributed to the local tilapia hatcheries to boost the aquaculture industry in the country.

Dir. Eleazar and Dir. Abella both agreed that aside from increasing tilapia production, product development is the next "must" step. The study is also assessing the best performing Nile tilapia strains based on body weight that will be used for tilapia fillet. ### ***(Diana Rose A. de Leon)***

Roadmap for food legumes crafted

Participants of the "National Food Legumes Roadmap Workshop" PHOTO:ABRION

The ultimate contribution of the food legumes industry in the agriculture sector lies in its ability to provide nutrition to humans and animals, as well as to improve crop and soil quality.

On 9-11July 2013, the Department of Agriculture-Bureau of Agricultural Research (DA-BAR) together with the DA-High Value Crops Development Program (HVCDP), organized a workshop aimed at crafting the National Food Legumes Roadmap, specifying the strategic action plans for individual legume crops, and identifying the specific interventions for the development of food legumes for 2013-2014.

According to National HVCDP Coordinator Jennifer Remoquillo, each region already has various initiatives on legumes. She explained that the activity was initiated for these individual initiatives to be consolidated towards one direction to boost further the food legumes industry. She added that the crafting of the roadmap should take on the value-chain approach which will allow the identification of gaps in each component, from research, production, down to the marketing aspect. Furthermore, she emphasized the important roles of other DA-attached agencies such as the Philippine Center for Postharvest Development and Mechanization (PhilMech), Bureau of Plant Industry (BPI), and Agribusiness Marketing Assistance Service (AMAS) in realizing this objective.

BAR Director Nicomedes Eleazar briefly discussed on the implementation of the sustainable soybean industry roadmap which was developed in 2010. Since then, various activities have been done in view of the soybean program including the conduct of field days in soybean producing areas of the country, and the development of different product lines of soybean. The bureau chief re-echoed the statement of Mr. Dante Delima, OIC-undersecretary for field operations and concurrent national rice program coordinator, that roadmaps for each commodity should follow the crafted roadmap for soybean because of the clarity of each component of the whole value chain. He reiterated that the involvement of the regional field units, attached agencies and staff bureaus of the department is essential in the formulation of a comprehensive consolidated food legumes roadmap.

Mr. Elmer Enicola of the University of the Philippines Los Baños (UPLB) gave an overview on the situation and outlook of the legumes industry, particularly on the opportunities and challenges on peanut, mungbean, and soybean. Meanwhile, Ms. Salvacion Ritual,

turn to page 13

DA key officials visit NSTW 2013;
NTCP-funded projects featured in BAR's booth

Inside the BAR booth are the bureau's staff members together with BAR Dir. Nicomedes Eleazar (3rd from left), National HVCDP Coordinator Jennifer Remoquillo, (4th from left) VIEVA Pres. Leah Cruz (5th from left), DA Usec. Dante Delima (6th from left), and DA-STAG Member Ms. Teresa Saniano (rightmost) PHOTOS:MVALDEABELLA

To personally inquire and look for the latest technologies that the Department of Agriculture (DA) may adopt to further upgrade and augment its current facilities and machineries, DA key officials, headed by Mr. Dante S. Delima, OIC-undersecretary for field operations and concurrent national rice program coordinator, and Ms. Teresa Saniano, member of the Secretary's Technical Advisory Group (STAG), visited the 2013 National Science and Technology Week (NSTW) on 25 July 2013. Joining them were Dr. Nicomedes P. Eleazar, director of the DA-Bureau of Agricultural Research (BAR), Ms. Jennifer Remoquillo, national program coordinator of High Value Crops Development Program (HVCDP), and Ms. Leah Cruz, president of the Vegetable Importers, Exporters, and Vendors Associations Phil., Inc. (VIEVA).

With focus on technologies that may improve food production and consequently increase the export abilities of our commodities such as rice, fruits, vegetables, and others, the team visited the booths of the Food Nutrition Research Institute (FNRI) which showcased their packaged brown rice and the Metals Industry Research Development Center (MIRDC) which featured food manufacturing and processing equipment including the "freeze dryer"—a machinery used to reduce drying time and to increase shelf life of different food applications.

The team also visited the booth of DA-BAR, an annual participant of the NSTW. This year, BAR featured a booth exhibition showcasing product displays from its funded projects under the National Technology Commercialization Program (NTCP). The displays included products developed from *adlai* (a rice-like staple crop), *sapinit* (wild raspberry that grows in Quezon), *arius* (berry-like fruit that only grows in Batanes), oregano, and soybean. Also featured were technologies on Site-Specific Nutrient Management (SSNM) for yellow corn and evaluation of genetically improved Nile tilapia strains.

The booth's main attraction was the free taste of various products particularly those made from *adlai* including *sinukmani, maja blanca,* and California *maki; sapinit* juice; *arius* pastillas; oregano wine; and soybean coffee. The visitors had the chance to evaluate the products by providing their comments and suggestions in the taste test feedback form.

Around 900 participants visited the BAR booth which were mostly composed of students, teachers, private individuals, businessmen, and government employees.

With the theme, "Science, Technology and Innovation: The Road to a Smarter Philippines," the National Science and Technology Week (NSTW) highlighted scientific and technological efforts of the Department of Science and Technology (DOST) and other scientific institutions.

The 2013 NSTW was held at the SMX Convention Center, Mall of Asia, Pasay City on 23-27 July 2013 and was participated in by 26 exhibitors coming from DOST, academe, businesses, private, non-government, and international organizations. ### ***(Liza Angelica D. Barral*** and ***Mara Shyn M. Valdeabella)***

Bangladeshi, French delegations visit BAR

The Bangladeshi (left) and French (right) visitors are able to see various technologies and products generated under BAR's National Technology Commercialization Program inside the R&D Technology Commercialization Center. PHOTOS:ABRION&DDELEON

The Bureau of Agricultural Research (BAR) has always been opening its doors to stakeholders to entertain inquiries regarding the initiatives being done by the bureau, and to open up new partnerships for the advancement of the agriculture and fisheries research and development (R&D).

On 3 July 2013, a group of 11 PhD scholars visited BAR for a brief orientation on the bureau's major programs and activities. The visit was part of a training program funded by the Bangladesh government titled "Bangladesh Study Tour Program for In-Country PhD scholars" spearheaded by the University of the Philippines Los Baños (UPLB) Graduate School, in cooperation with the UPLB Foundation, Inc. (UPLBFI).

One component of the training program aims to expose the scholars to institutions involved in agricultural research, development, and extension systems. According to Professor Anna Floresca F. Firmalino, program coordinator, the visit would help the scholars acquire information and knowledge on research areas and projects implemented in the Philippines which they can use in their respective fields of expertise.

As the national coordinating agency for research and development, BAR presented its institutional primer which contains the different activities and projects being coordinated and undertaken in line with the Department of Agriculture's priorities and programs. Present during the event were BAR technical advisers: Dr. Catalino dela Cruz, Ms. Josefina Lantican, and Engr. Roberto Villa, who were joined in by concerned staff members of BAR in responding to the queries of the participants during the open forum.

Meanwhile, on 8 July 2013, Dr. Jean Claude Legoupil, regional director of Conservation Agriculture Network for South East Asia (CANSEA), arranged a meeting with BAR to look for a potential partnership in agricultural research for development, especially in the area of conservation agriculture.

Leading the BAR staff was Assistant Director Teodoro S. Solsoloy who discussed the core functions of the bureau, as well as its R&D programs and projects. On the other hand, Dr. Legoupil discussed the functions of CANSEA and how conservation agriculture works.

Conservation agriculture is a cropping system that allows restoration of the soil fertility and productivity. It works under three principles which are no tillage, direct seeding into cover crops, and crop rotation.

Dr. Legoupil is also the current director of CIRAD (Centre de cooperation Internationale en Recherché Agronomique pour le Développement) research unit "Conservation Agriculture and Systems Engineering." CIRAD is a France-based research center that works with developing countries in tackling international agricultural and development issues. Accompanying Dr. Legoupil was Ms. Hélène Delille, attaché for Scientific Cooperation under the Embassy of France to the Philippines. ### ***(Anne Camille B. Brion*** and ***Diana Rose A. de Leon)***

Roadmap for food legumes...from page 3

The participants are grouped into clusters during the workshop proper. PHOTOS:ABRION

head of the Project Monitoring and Evaluation Division (PMED), Ms. Kris Thea Marie B. Hernandez of PMED, and Mr. Gian Carlo Espiritu of the Technology Commercialization Division (TCD) presented the significant accomplishments and outputs of completed and ongoing research and development (R&D) and technology commercialization projects on legumes being coordinated and handled by BAR.

The presentations during the plenary served as a guide for the participants during the workshop proper wherein they discussed the target yields, expansion areas, and interventions on existing areas for food legumes, among others. Dr. Teotimo Aganon of Central Luzon State University (CLSU), BAR Technical Adviser Virginia Agcopra, Ms. Rose Mary Aquino of Cagayan Valley Integrated Agricultural Research Center (CVIARC), and Mr. Enicola provided suggestions and recommendations to improve the inputs of the participants in the crafting of the roadmap. ### ***(Anne Camille B. Brion)***

Getting ready for green technologies

Philippine representatives to the 2013 IRRDB conference: (L-R) Ms. Leoncia B. Del Mar of DA-BAR; Ms. Salvacion M. Ritual of DA-BAR; Dr. Emma K. Sales of USM; Dr. Divine R. Murao and Mr. Jerry Gil S. Murao from the private sector. PHOTO COURTESY OF SRITUAL

Focusing on green technology, this year's international conference on rubber research and development was dedicated in developing and promoting green and sustainable technologies relevant to the rubber industry. Jointly organized by the International Rubber Research and Development Board (IRRDB), Malaysian Rubber Board (MRB), and its United Kingdom-based research facility Tun Abdul Razak Research Centre (TARRC), the conference was held on 24-26 June 2013 at the Millennium Hotel in Mayfair, London. The conference was part of the 75th anniversary celebration of TARRC, commemorating the work of the IRRDB for over 50 years.

Representing the Philippines were Ms. Salvacion M. Ritual and Ms. Leoncia B. Del Mar of the Bureau of Agricultural Research (BAR), Dr. Emma K. Sales of the University of Southern Mindanao (USM), and Mr. Jerry Gil S. Murao and Dr. Divine R. Murao from the private sector.

Among the conference topics included: rubber economy, genome research, biotechnology and physiology, cultivation and processing of natural rubber, life cycle analysis of raw materials and rubber compounds, alternatives to natural rubber, 'green' tyres, tyre labeling, and civil engineering applications.

In support to the Department of Agriculture's (DA) national priorities, BAR, in collaboration with the High Value Crops Development Program (HVCDP), has intensified its R&D intiatives in the promotion of rubber through the implementation of various research projects that will strengthen and expand the rubber industry in the Philippines.

On its end, BAR has been establishing partnerships with different local government units, regional research groups, and academic institutions in the implementation of R&D projects. In the Philippines, the Mindanao region has the most number of rubber-growing areas. Through the efforts of BAR and various stakeholders, the rubber production is sustained by capacitating rubber farmers and growers, and establishing benchmark studies to better the implementation and define policies for all rubber R&D projects.

At present, rubber-based R&D projects supported by BAR cater to the needs of smallholders, providing them the ability to deal with the different challenges in the overall production and post-production of rubber. Interventions adopted through the conduct of these projects are designed to increase the country's share in the world's rubber market.

What is green technology?

The call for preserving mother earth has been going around for quite some time now. Various government, non-government, and private organizations have been innovating technologies and policy recommendations to continuously meet the needs and demands of the society without compromising the ability of our resources to provide for future generations. Green technology encompasses a constantly evolving group of methods and materials for generating non-toxic, environmentally safe yet sustainable produce.

Through this year's conference, the board, along with its member countries, highlighted the promotion of green technology. Topics on forest sustainability, optimized waste, energy, and water management were given emphasis. Along with increasing the productivity, accelerating the large scale commercial planting, ensuring the effective transfer of research innovation to smallholders, and finding measures in upgrading the quality of rubber, its production encourages increased carbon sequestration while equally decreasing the emission of carbon in the hope of gratifying the field of green technology.

Datuk Dr Salmiah Ahmad, IRRDB chair and MRB director general, emphasized that the future viability of the rubber industry is dependent on how well the industry fulfills the requirement and progresses towards sustainability—in which it concerns the conservation of natural resources including our environmental and ecological system, while achieving a balance of social, economic, and environmental aspects. She also added that, "new approaches are definitely required to integrate an equation of solutions to upstream, midstream, and downstream problems, while incorporating sustainability."

The conference also featured a visit to world-renowned laboratories of the TARRC at Brickendonbury, Hertford. The participants were able to see state-of-the-art rubber processing materials and engineering designs, serving as a promotion center showcasing the enhancement and competitiveness of the Malaysian rubber industries through R&D.

BAR to host 2014 IRRDB conference

The annual meeting of the IRRDB Chief Executive Officers and Committee of Directors was also held. Issues and concerns regarding the clonal exchange and the creation of the IRRDB research and liaison officers were initially discussed which will be finalized after consultations with other member countries. In the meeting, the directors

turn to page 16

Production of CASSAVA projected to increase in the next 4 years

Given the increasing demand for cassava (fresh root) in the last three years (2011-2013), production is projected to reach a hike by at least 20 percent in the next four years (2014-2017), according to the report of Dr. Candido Damo, project leader of the Cassava Program of the Department of Agriculture (DA), during a briefing of the public information officers on 4 July 2013 in Butuan City.

According to him, in 2012, the demand for cassava reached to 2.6M mt but the production was only at 2.2M mt accounting for 218,000 ha of area harvested and an average yield of 10.2 t/ha only.

Given this, DA is intensifying its efforts to boost the cassava industry by increasing cassava production (fresh roots) from 2.6 to 7.6M mt by 2017. The program is targeting an increase average yield from 10.25 t/ha to 20.00 t/ha.

Addressing the demand and achieving the projected increase in cassava production will ultimately lead to an increase in the yearly income of cassava farmers by 10 percent per hectare.

In achieving the targets, Dr. Damo reported that the program is employing four major strategies. These are: 1) increase area to be planted, 2) increase yield/income, 3) improve quality of cassava primary products and reduce harvesting and post-harvest losses, and 4) increase consumption of cassava as food.

With the increase in cassava production, Dr. Damo said that they are also aiming to improve the quality of its primary products and by-products and increase its per capita consumption from 3 kg to 6 kg per year.

Cassava is one of the important agricultural crops in the Philippines contributing Php14.32B (1.15 percent) in the GVA at current price. In fact, around 220,000 Filipino farmers are dependent on cassava production.

Locally referred to as *balinghoy* or *kamoteng-kahoy*, cassava has many uses including as food, feeds, fuel, and industrial (as textile binder and as raw materials in making biodegradable products). Majority (84 percent) of the cassava utilization goes to processing, followed by food (10 percent) and feeds (6 percent).

Under the DA Food Staples Sufficiency Roadmap, the consumption of non-rice food staples, including cassava, is being encouraged.

As food, about 15M Filipinos are eating cassava during breakfast and snacks instead of rice (BAS, 2009). It is the staple of the Muslim population in the south. The Autonomous Region of Muslim Mindanao (ARMM) and North Mindanao are the top two cassava producing regions in 2012 sharing 48 percent and 26 percent, respectively of the overall distribution. ### ***(Rita T. dela Cruz)***

BAR, HVCDP conduct review on vegetable and sweet potato projects

BAR Director Nicomedes Eleazar (left) and National HVCDP Coordinator Jennifer Remoquillo give inspiring messages to the participants.

Present during the event are project implementers and representatives from the Regional Field Units, Bureau of Plant Industry-LBNCRDC, and partner State Universities and Colleges including Tarlac College of Agriculture and University of the Philippines Los Baños. PHOTOS:MEAQUINO&DDELEON

In support to the promotion, utilization, and commercialization of vegetables and root crops locally and internationally, the Bureau of Agricultural Research (BAR) conducted the "Review cum Workshop on the Multi-Location Adaptability Trial of Several Imported Seeds from Singapore and Japanese Sweet Potato (SPJ) Projects under High Value Crops Development Program (HVCDP)" at Hotel Stotsenberg, Clark City, Pampanga on 2-5 July 2013.

As instructed by Agriculture Secretary Proceso J. Alcala, BAR and HVCDP supported and funded the activities under the project, "Multi-Location Adaptability Trials (MLAT) of Several Imported Vegetable Seeds and the Japanese Variety Sweet Potato from Singapore". Part of the activities is to regularly conduct review and planning activities to continuously validate results and to come up with plans that will further strengthen the activities and projects under the program.

Since 2011, BAR, through its Technology Commercialization Division (TCD), and HVCDP spearheaded consultation meetings and workshops to facilitate the adaptability trials of the imported vegetable seeds and the Japanese sweet potato from Singapore under local conditions.

Imported seeds were initially tested at the Southern Tagalog Integrated Agricultural Research Center (STIARC), Southern Mindanao Integrated Agricultural Research Center (SMIARC), Northern Mindanao Integrated Agricultural Research Center (NOMIARC), University of the Philippines Los Baños (UPLB), and BPI-Los Baños National Crop Research and Development Center (LBNCRDC).

Meanwhile, after yielding favorable results for sweet potato through the Rapid Multiplication Tests (RMT) at the Tarlac College of Agriculture (TCA) and DA-RFU V-Bicol Integrated Agricultural Research Center (BIARC), Regions II, III, IVA, IVB, VIII, X, XI, and XII were likewise tapped.

In the opening message of BAR Director Nicomedes P. Eleazar, which was read by BAR Technical Adviser Virginia Agcopra, he acknowledged BAR-HVCDP's partnership. "With most projects focused on improving the income and productivity, BAR and HVCDP have undertaken practical, modernized, and efficient strategies and approaches in response to challenges in agricultural productivity and sustainability. Through these projects, necessary and up-to-date knowledge, information, and technologies have been generated by researchers for the use and optimum advantage of farmers and fisherfolk," Dir. Eleazar said.

National HVCDP Coordinator Jennifer E. Remoquillo also delivered a message for the activity. "One of the HVCDP objectives is to have import substitution, meaning we have to lessen our importation and produce more especially in vegetables. This is why we are doing these types of researches (adaptability trials)."

Project implementers presented their respective accomplishments for the two-year project. Most of the imported vegetable seeds from Singapore were included in the major and priority categories and all were subjected for adaptability trials. These include: chili, eggplant, okra, pak choy, coriander, cherry tomato, pepper, broccoli, cabbage, lettuce, spinach, and sweet potato.

Based on the reports, majority of the imported crops are adaptable to local condition. Some crops even surpass the local varieties in terms of yield, taste, and appearance. However, due to several factors such as the occurrence of pests and diseases and other weather disturbances, some crops showed negative results. BAR and HVCDP are constantly coordinating for the next steps in this initiative.

The participants got to taste the *kamote* pie from TCA and the boiled Japanese sweet potato from SMIARC. These two agencies shared the production management protocol for Japanese sweet potato to other implementing regions. ### ***(Ma. Eloisa H. Aquino)***

Expert explains the economics of CLIMATE CHANGE ADAPTATION

"Climate change impacts put coastal ecosystems and the population at even more risk." This was affirmed by Dr. Maripaz L. Perez, regional director for Asia of the WorldFish Center, in a seminar organized by the Bureau of Agricultural Research (BAR) on 11 July 2013 at BAR.

Dr. Maripaz L. Perez of the WorldFish Center discusses the economic aspects of climate change adaptation. PHOTO:LPADILLA

In the presentation titled "Economics of Climate Change Adaptation–Policy Implications and Lessons Learned," Dr. Perez discussed about a study that focused on assessing the economic aspects of climate change adaptation in Regions 2, 8, and 10 with findings later on utilized for the crafting of policy implications.

The seminar was participated in by partners from DA-attached agencies and staff bureaus including Bureau of Soils and Water Management (BSWM), Bureau of Fisheries and Aquatic Resources-Regional Field Unit II, and DA-RFU II, III, IV-A, IV-B, and V. Also present were representatives from various state universities and colleges such as Camarines Norte State College (CNSC), Central Luzon State University (CLSU), Nueva Vizcaya State University (NVSU), Pampanga Agricultural College (PAC), University of Rizal System (URS), Mindoro State College of Agriculture and Technology (MinSCAT), and Southern Luzon State University (SLSU).

Involving the communities through participatory assessment

"[The methodology] involves a rapid assessment through [the] use of participatory methods supported by technical economic analysis. [This] can be replicated and presents a systematic way of gathering information for climate change planning at the local level," said Dr. Perez.

In the three study areas, the study proponents conducted community focus group discussions (FGDs) and field surveys. Through the FGDs, hazards were analyzed and mapped, and vulnerability was assessed. The field surveys made possible for 1) valuation of damages, 2) identification of autonomous adaptation and coping mechanisms, and 3) vulnerability as expected poverty index (VEP).

The vulnerability assessment matrix (VAM), which contains data on hazards (e.g., flood, sea level rise, storm surge), adaptive capacity (i.e., households and community), and community list of planned adaptation strategies, was developed through FGDs.

One of the quantitative measures is VEP, which as defined in the presentation, is the "probability that household's per capita daily consumption will fall below USD 1.25…involves estimation of a consumption determination function".

Hazards, strategies, and policy implications

In Region 2 barangays, it was found that the surrounding waters are valuable for breeding and fishing. Recurrent typhoons, flooding, coastal erosion, and drought have caused fish kills and farm losses. The same anomalies were also found felt in Regions 8 and 10.

"In general, flooding/typhoon is the dominant hazard, affecting more than 50 percent of households in Region 2 and at least 27 percent of households in Region 10. Only 7 percent of the households are affected in Region 8 due to a number of existing interventions in the area," elucidated Dr. Perez.

The type and magnitude of impacts were found varying across the study areas. It was found that the damages in Region 10 are high in terms of assets and properties while the damages in Region 2 are high in terms of agriculture production.

Income and livelihood were found to be most affected by flooding/typhoon and coastal erosion and artificial environmental problems were confirmed to worsen the impacts of hazards. "In general, the value of damages is low. Not surprising since households in coastal communities are poor, and assets and income are low," explained Dr. Perez.

Some of the identified planned adaptation strategies are early warning system/information dissemination, establishment of floodgates, dikes, and walls, regular coastal and canal clean-up, evacuation/relocation, river/flood control, tree planting, mangrove reforestation, and alternative livelihood. Still, early warning system and construction and repair of infrastructures remain to be on top of the list.

Five policy implications were developed by the study: 1) policies that address poverty and environmental degradation complement planned adaptation policies, 2) economic as well as non-economic values should be accounted and used to justify or rationalize climate change-related interventions involving poor households, 3) policies aimed at motivating autonomous adaptation to be effective can be designed with gender and geographical targets in mind, 4) organizing communities and enhancing trust and relationships within communities can also enhance resiliency against climate change induced hazards, and 5) public/planned strategies can have consequences for private/autonomous adaptation. ### ***(Leila Denisse E. Padilla)***

PROMOTING SAFE, HEALTHY PINAKBET VEGGIES WITH GAP

Good Agricultural Practices or GAP can minimize microbial food hazards, reduce environmental damages, protect workers' health, and promote food safety. GAP certification is governed by the Bureau of Agriculture and Fisheries Product Standards (BAFPS) which is mandated to create certain guidelines in the production of various crops, fruits, vegetables, and more.

Cognizant to the importance of and the demand for safe and healthy food, the Department of Agriculture-Regional Field Unit IV-A (Southern Tagalog Integrated Agricultural Research Center) and DA-Regional Field Office V (Bicol Integrated Agricultural Research Center) with support from the Bureau of Agricultural Research (BAR), conducted the project "Establishment of the Quality Plans for Pinakbet Vegetables in support to GAP Implementation in Luzon Cluster".

The project was featured during the seminar series of BAR held on 11 July 2013, with Ms. Rosemarie Olfato, senior agriculturist of the DA-RFU IV-A and one of the project proponents, as the resource speaker.

The GAP concept

"It provides a means for farmers to respond to existing standards, norms and certification efforts. It also offers management options for sustainable agricultural practice, taking into account universal criteria associated with the environment, economic and social dimensions," stated Ms. Olfato as she discussed what GAP is all about.

With the problem on quality depletion of vegetable produce due to contamination, Quality Assurance (QA) Systems such as GAP and Good Handling Practices (GHP) are encouraged to be integrated. Codes of Practice are then established to serve as guide for farmers in aptly managing their farms for better quality and quantity of harvest.

The GAP approach, as indicated in the presentation, "applies recommendations and available knowledge to address environmental, economic and social sustainability for on-farm production processes resulting in safe and healthy food and non-food agricultural products".

GAP on a global scale

"GAP enables for better export capacity of our commodities," said Ms. Olfato as she tackled the significance of GAP in agribusiness and global competitiveness. Today's consumption trend is all about eating what is healthy and safe. "It is therefore proper for the producers/ suppliers to implement QA Systems to meet the demand of the retailers and customers for an acceptable and healthier produce," Ms. Olfato added.

In neighboring countries such as Vietnam and Thailand, GAP has been the customary practice of majority of the farms for many years. In Vietnam, the Sub-Institute of Agricultural Engineering and Post-Harvest Technology documented that 75,000 farms are already GAP certified. Meanwhile, the Department of Agriculture (DOA) in Thailand declared almost 170,000 GAP certified farms.

In the Philippines, 13 farms are GAP certified since 2012. These are Athene Abad Farm, Labo Progressive Multi-Purpose Cooperative, Del Monte Philippines, Inc. Company, PhilPack, Ricardo Tolentino Farm, Sparkle Corporation, Agrotrends Import Export Corporation, JM's Agricultural Marketing, Litz Marketing, Eilomar International Trading Incorporated, Vegetable Importers, Exporters, and Vendors Associations Phil., Inc. (VIEVA), Anflo Banana Corporation, and Tagum Agricultural Development Company Inc. (TADECO). "The number of GAP compliant and certified farms in the Philippines is very low in contrast to the numbers in Thailand and Vietnam," said Ms. Olfato.

Promoting GAP in Luzon

As observed by the proponents, there is a relatively low knowledge of researchers, extension workers, and LGUs on the concept of GAP. There is also "limited number of established GAP farms and high usage of fertilizers and pesticides by the traditional farmers" as stated in the presentation.

Ms. Rosemarie Olfato of DA-RFU IV-A explains what GAP is all about. PHOTO:LPADILLA

The lack of awareness and appreciation on the benefits of GAP along with the entailment of increased cost of investment and absence of price premiums for GAP products have resulted to low turn-out of farmers aiming for certification.

The project has helped stakeholders and local government units (LGUs) in Regions IV-A and V in appreciating GAP through awareness activities and trainings and in establishing demo farms subjected under risk assessment and quality plans determination.

Packing/storage houses of involved farms in Quezon, Rizal, Cavite, and Camarines Sur were improved to comply with the guidelines of GAP. Risk assessment and quality plan were conducted in La Huerta Farm, one of the involved farms, which produce eggplant, bitter gourd, tomato, okra, squash, and pole sitao in order to determine the readiness of the farm for the initial assessment prior to GAP certification.

BAR assures its continuous support to R&D efforts on GAP and hopefully, more farms in the Philippines will become GAP certified in order to attain sustainability of high-quality harvest that will assure consumers and investors, local and foreign, of safe and healthy foods. ###
(Leila Denisse E. Padilla)

National Review on dry season SSNM FOR CORN held

Dr. Nicomedes P. Eleazar, BAR director, shares the objectives of the workshop to the participants during the opening ceremony. PHOTOS:ZREYNOSO

As the Bureau of Agricultural Research (BAR) continues its efforts to attain food self-sufficiency in the country, the Dry Season Site-Specific Nutrient Management (SSNM) National Review and Planning Workshop on Corn was held on 3-5 July at Oasis Hotel, Tanza, Cavite.

With two SSNM activities (dry and wet season) held annually, the event aimed to gather proponents of SSNM corn projects around the country, guided by consultants and evaluators, in a congress that would allow for a productive discussion in terms of the progress of their respective SSNM projects.

SSNM is a product of research and development (R&D) wherein rice and other crops are "fed" with nutrients to boost product profitability. It is used to optimize fertilizer and amplify natural nutrients found in sources like soil, irrigation water, and crop residues.

Coordinated by the Project Monitoring and Evaluation Division (PMED) of BAR, over 60 participants arrived from state universities and colleges including the University of the Philippines Los Baños (UPLB); organizations like the International Plant Nutrition Institute (IPNI) and Bureau of Soils and Water Management (BSWM); and representatives from DA-Regional Field Units.

The three-day event began with an opening ceremony attended by Mr. Milo delos Reyes, head of the National Corn Program; Dr. Nicomedes Eleazar, BAR director; Asst. Secretary Edilberto de Luna, national coordinator for corn; and Dir. Vilma Dimaculangan, OIC-Regional Executive Director, DA-RFU IVA.

"For three days, we will be working together to conduct a review and planning workshop for the 2012-2013 SSNM dry season. We regularly hold review and planning activities like this to continuously validate results and update workplans for the progress of this program," shared Dr. Eleazar.

Asec. de Luna mentioned in his note that "SSNM will contribute not only to increase yield, but in losing cost. *Dahil tamang pag-usapan dito yung cost reduction*."

The remaining days of the event were dedicated to the presentations of the participants' most recent achievements and the issues that they have encountered in their respective areas of implementation.

The panel of evaluators headed by Mr. Delos Reyes raised questions and clarifications to steer the proponents towards the proper execution of SSNM initiatives in their areas. ### ***(Zuellen B. Reynoso)***

"SSNM will contribute not only to increase yield, but in losing cost."
-Asec. de Luna

BAR STAFF UNDERGO SERIES OF IP AWARENESS TRAINING-SEMINAR

Given the importance of Intellectual Property Rights (IPR) and its application to the technologies and processes generated from agriculture and fisheries research and development (R&D), the Bureau of Agricultural Research (BAR) held a series of training-seminar on Intellectual Property (IP) principles for the staff of the bureau on 2-19 July 2013 at BAR.

The series consisted of six sessions of a two half-day seminar which were presented in four topics: 1) IP Management: Relevance in Economic Development, 2) Patents, 3) Brands and Trademarks, and 4) Utility Model (UM) Registrability Requirements.

Dr. Andrea B. Agillon, a Patent Agent Qualifying Exam (PASE) passer, served as the resource speaker and shared her knowledge and expertise in the IP field. She encouraged BAR staff to look for "technologies that can change the world."

According to her, IPR is about any product of the mind and the rights emanating from these products. One simple work can generate many forms of IPR, hence, IP is an asset that possess commercial value which can be exploited to generate revenue. The types of IPR include: patents, copyright, trademarks, trade secrets, utility model, industrial design, plant variety protection, traditional knowledge, and geographic indication. Main creators for these IPs are the R&D institutions, inventors, innovators, state universities and colleges (SUCs), and business enterprises. Other than these creators, the business sector and the IPR system are the key players in the IP System.

Dr. Agillon explained the economic and institutional functions of the IPR system. "It allows exclusive rights to sell, license, and use; creates strong market position; provides higher return on investments; and offers higher negotiating power, among others," she said. IPR serves as important mechanism that provides the scientists and researchers means of controlling and protecting their works, hence, providing ways on how to be properly acknowledged, rewarded, utilized, and optimized.

In 2004, BAR established the IPR Office which was later renamed as IPR Management Section (IPRMS) and was moved under the BAR-Technology Commercialization Division (TCD).

BAR, through the IPRMS, ensures that researches, technologies, and other works generated within the DA and National Research and Development System for Agriculture and Fisheries (NaRDSAF) community supported by BAR are given proper IP protection through registration with the Intellectual Property Philippines.

Over the years, the IPRMS continued to search and spot novelties for IP protection, mainly focusing on completed and ongoing BAR-funded projects. The section not only limits its function to BAR-supported technologies, but also extends to other public and private entities any forms of assistance in managing their IPs and application.

"Let us help our partners in determining what kind of IP suits them. Providing a secured environment, these will further encourage them to create and generate more technologies, inventions, and innovations for the benefit of various industries," stressed TCD Head Anthony B. Obligado.

The culminating day was highlighted by the "Graduation Ceremonies" held on 19 July 2013. Sharing the stage with Mr. Obligado and Dr. Agillon was Ms. Leoncia B. del Mar, senior technical staff, Office of the Director and concurrent OIC-Administrative Unit.

In her message, she said that *bilang mga technical staff, huwag nating limitahan ang ating trabaho sa pagreview ng mga proposals, coordination ng projects, o sa pag monitor ng mga ito. Bagkus ay tulungan natin ang ating mga project implementers na mabigyan ng IP protection ang kanilang mga nabuong teknolohiya at mas ma-encourage pa silang magdevelop ng mga makabagong teknolohiya para sa ating mga magsasaka at mangingisda,* (as technical staff, let us not limit our workload to just reviewing proposals, coordinating projects, or monitoring them. Instead, let us help our project implementers to be given IP protection in the technologies that they have developed so that they will be encouraged to develop more new technologies for our farmers and fishers), she said.

Dr. Andrea Agillon (above) capacitates BAR staff on IPR through the training-seminar.

Meanwhile, BAR Director Nicomedes P. Eleazar, in his message, said that creating awareness and equipping basic knowledge on intellectual property rights for the BAR staff is the main purpose of conducting the seminar-training on IP. As research coordinators, having knowledge-equipped staff can lead to a more effective and efficient coordination and management. This is critical, said the bureau chief, as BAR is the DA's lead coordinating agency for agriculture and fisheries R&D.

Dr. Agillon and Ms. Merlinda S. Martinez composed the BAR-IPRMS. ### ***(Ma. Eloisa H. Aquino)***

Field day on CPAR integrated farming encourages more farmers in Davao del Norte

With the aim of encouraging involvement and adopting the interventions and technologies introduced through the Community-based Participatory Action Research (CPAR) program of the Bureau of Agricultural Research (BAR), the Department of Agriculture-Regional Field Unit XI (DA-RFU XI) and Southern Mindanao Integrated Agricultural Research Center (SMIARC) held a Farmers' Field Day featuring integrated farming system.

The integrated farming showcased in the field day hoped to encourage more farming communities in the area to maximize product and promote sustainability. It is a location-specific research cum extension that deals with improved farming systems technologies for specific micro agro-climatic environment within a province/municipality.

More than 30 participants from Brgys. Bobongon and Balagunan in Sto. Tomas, Davao del Norte attended the event. Dr. Alfredo M. Cayabyab, SMIARC manager, shared an insightful message of support for the farmers.

Tour orientations were headed by barangay representatives Ms. Sanilyn Madero (Bobongon) and Mr. Alfredo Arado (Balagunan). Five farms were visited during the field tour. These farms showcased the integration of crops as introduced and taught in the CPAR project.

Different farmers from both barangays displayed ingenious utilization of the knowledge that they have gathered from their exposure to CPAR. The crops they used for integration varied, depending on their capabilities and the land that they are able to use. Among the crops used were rubber, banana, and cacao, and some were even able to raise hogs within their properties, fully utilizing waste materials as fertilizers for their interspersed crops.

During the visits, farm owners were able to showcase the developments that they have experienced from implementing the CPAR project. They were also able to encourage disheartened farmers who experienced issues to continue and carry on with the project because soon after they will reap the benefits. Farmer beneficiaries shared the advantages they have gained and the profits they have collected from integrating crops and livestock.

Farmer field days are synonymous to *lakbay aral*. They are educational trips that allow participants to see for themselves the positive effects of research and development (R&D) initiatives set off by institutions like BAR. It is experienced in an environment of discovery and learning. ### ***(Zuellen B. Reynoso)***


A farmer-cooperator showcases her integrated farm on rubber and cacao. PHOTO:AREYNOSO

Eleazar addresses food security...from page 1

Philippine Oregano" being implemented by the DA-Quezon Agricultural Experiment Station (DA-QAES) in partnership with the Green Rescue Organic Association, Inc., a non-government organization composed mainly of rural-based women from Tiaong and Candelaria, Quezon. "Through the project, different oregano product lines such as wine, juice for human, juice for poultry, tea vinegar, capsules, and soap are being commercialized. The oregano products are proven safe based on physico-chemical, microbial, and heavy metal analyses conducted by an independent government-accredited testing laboratory. With markets within the provinces of Quezon, Laguna, Batangas, Cavite, Rizal, NCR, and even in some parts of Visayas and Mindanao, the products did not only serve as an alternative medicine and food, but also as a source of income for the women of the association."

The director also mentioned other indigenous plants being developed through the IPHWP including the *sapinit* or Philippine wild raspberry, *arius* of Batanes, turmeric, and others.

Concluding his keynote address, Dr. Eleazar, in an encouraging yet thought-provoking note, said that "with the abundance of our traditional food staples and indigenous crops, we could be holding in our hands the solution for malnutrition, hunger, and poverty that more than 30 percent of Filipinos face today. And with agriculture not solely focused on producing food but also on generating income and supporting livelihood, why not intensify, enhance, and further develop agriculture through the use and application of knowledge and interventions?"

Instituted in 1980, OYSI is an organization of young Filipino scientists who are recipients of the Outstanding Young Scientist Award. Given annually by the National Academy of Science and Technology (NAST) Philippines, the award is in recognition of scientists (not older than 40 by the time of the awarding) who have made significant and excellent contributions to science and technology.

OYSI conducts their annual AMSC to recognize the OYS award recipients and provide a venue for their members and the concerned stakeholders in the scientific community to share expertise, experiences, views, and ideas towards addressing issues and concerns being faced by the nation.

Leading the 8th AMSC is Dr. Felino P. Lansigan, OYSI President and OYS 1987 awardee. ### ***(Mara Shyn M. Valdeabella)***