

# BAR, Optiserve re-orient Visayas, Mindanao clusters on e-Pinoy FARMS® CPAR M and E

The Bureau of Agricultural Research (BAR) with the Optiserve Technologies, Inc meet for a re-orientation on the e-Pinoy FARMS® for the Department of Agriculture (DA) Visayas and Mindanao Clusters. This served as an offshoot activity for held in Luzon in 2008.

Among the centers visited included the Autonomous Region for Muslim Mindanao Integrated Agricultural Research Center (ARMMIARC), Central Mindanao Integrated Agricultural Research Center (CEMIARC), Northern Mindanao Integrated Agricultural Research Center (NOMIARC), CARAGA Integrated Agricultural Research Center (CARIARC), Southern Mindanao Integrated Agricultural Research Center (SMIARC), Central Visayas Integrated Agricultural Research Center (CENVIARC), Western Visayas Integrated Agricultural Research Center (WESVIARC), and Eastern Visayas Integrated Agricultural Research Center (EVIARC).

Updates on the e-Pinoy FARMS® Community-based Participatory Action Research (CPAR) Monitoring and Evaluation System were installed by the team including modified data fields, customized reports, and new module-Fund

Management.

Optiserve Chief Executive Officer Cheryl Marie U. Natividad and Project Coordinator Eduvigis S. Angeles presented and briefed the participants and the Regional CPAR team on the profiling guide manual for the e-Pinoy FARMS® CPAR M and E.

The e-Pinoy FARMS® software is a unified farm management system designed for the country's stakeholders, namely: farmers' organizations, cooperatives, and agribusiness enterprises for the effective and efficient recording of baseline data, business transactions, and operations.

As a methodological requirement of BAR's CPAR, the monitoring and evaluation system aims to improve the documentation process

of CPAR. The implementation will enable the bureau to systematically institutionalize CPAR and empower the targeted beneficiaries on information generated by research, development, and extension (RDE) services.

"This is a system of monitoring the progress and the actual impact of CPAR projects on the farmers and their communities. This will be a viable tool in evaluating the CPAR projects on whether they may be graduated into an agribusiness venture," Ms. Ching said.

Representing BAR during the re-orientation meeting were Information Management Unit (IMU) head Melissa A. Resma and software programmers, Rueth T. Cabral, Rafael S. Umbrero, and Darlene Y. Rontas. (Ma. Eloisa E. Hernandez)



e-Pinoy FARMS/IMU TEAM PHOTOS



## Over 7,000 farmers benefit from BAR's CPAR projects

The Community-based Participatory Action Research (CPAR), one of the banner programs of the Department of Agriculture-Bureau of Agricultural Research (DA-BAR), is already providing benefits for 7,046 farmer-beneficiaries all over the country.

To date, 89 CPAR continuing projects are being implemented in 16 regions through the Regional Integrated Agricultural Research Centers (RIARCs) as well as through local government units (LGUs). With funding support from BAR, these projects are being conducted in close coordination with the national and regional research implementing units, academe, and members of the community.

Implemented in 299 CPAR sites/barangays, the 89 CPAR projects are distributed among all DA-Regional Field Units (RFUs).

Participating in CPAR-related activities are 3,100 farmer-cooperators who follow the interventions and adopt the technologies and innovations in their own farms. Ninety percent (2,789) are members of farmers' associations or



Farmer-cooperators from one of the successful CPAR projects in Region 2.

cooperatives while only 10 percent (311) are non-members.

With the benefits that CPAR brought to the community, other farmers witnessed the increase in production and profit potential from the farms; hence,

they opted to adopt the technologies in their fields too. Aside from the farmer-cooperators, a total of 3,946 farmers have also adopted the CPAR technologies in their farms bringing it to a total 7,046 beneficiaries.

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## 82 NTCP projects supported for agribusiness development

The Bureau of Agricultural Research (BAR) has funded 82 projects on agriculture and fisheries through the National Technology Commercialization Program (NTCP), an endeavor closely supported by Department of Agriculture (DA) Secretary Arthur C. Yap since its inception in 2005.

The projects cut across agricultural crops, fisheries, and livestock sectors that were carefully

chosen in an effort to maximize the research outputs of scientists and researchers by bringing packages of technologies (POTs) to farming and rural communities.

On crops, some of the promising completed projects implemented in the different parts of the country include the mass production and commercialization of locally-developed sweet tamarind variety comparable to the

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# Eleazar visits STIARC to assess status of e-Pinoy FARMS®

**B**AR Director Nicomedes P. Eleazar visited the Southern Tagalog Integrated Agricultural Research Center (STIARC) on 9 February 2009 to assess the operationalization of e-Pinoy FARMS® in the region. He was welcomed by STIARC Manager Digna P. Narvacan along with the CPAR Regional Team and other staff-members at STIARC in Lipa, Batangas. Accompanying him in the visit were BAR technical staffs Amavel A. Velasco of the Research Coordination Division (RCD) and Darlene Y. Rontas of the Information Management Unit (IMU). Six months after its launching in Sta. Maria, Pangasinan, the implementation of the project titled, "Establishment of the e-Pinoy FARMS® for a Sustainable and Profitable Agriculture and Fisheries Community-based Initiatives in all Regions", is now in full swing. Among the regions involved in CPAR implementation, the e-Pinoy FARMS® of STIARC has the privilege of being the first to be visited by the director.

The bureau recognizes the need to adapt an advanced Information Technology (IT) system embodied in e-Pinoy FARMS® to systematize the process



STIARC Managers Ms. Digna S. Narvacan (left, first photo) for IV-A and Dr. Louella Lorenzana (third from right, second photo) for IV-B present to BAR Dir. Nicomedes P. Eleazar the operation of the e-Pinoy FARMS® in their regional stations.

documentation of CPAR, one of BAR's banner programs.

With e-Pinoy FARMS®, CPAR stakeholders are able to capture the whole process, consolidate multi-location data, access mission-critical reports, and share information in real-time to support the decision-making process across the organization for effective management of resources. This in turn enables farmers and their organizations/associations to effectively organize and manage vital resources for sustainability and achieve the goals of agribusiness development.

The CPAR Regional Team, headed by STIARC Manager Narvacan, briefed the director on the status of data encoding in the region. Their database was filled with the data gathered from the Participatory Rural Appraisals (PRAs) and on-going CPAR on *lanzones*. The

director expressed interest on the *lanzones* industry and cited its potential as an export commodity. He encouraged the region to work on its shelf life and improve its packaging through the National Technology Commercialization Program (NTCP), another banner program of BAR. He also stressed the importance of having farmers' cooperatives in CPAR- and NTCP-supported projects.

The group proceeded to visit the production site of the regions' Agribusiness Development Project (ADP) on the production and commercialization of bio-organic fertilizer.

After visiting STIARC, Dir. Eleazar proceeded to MIMAROPA-RIARC office for a briefing on the status of its e-Pinoy FARMS®. (Amavel A. Velasco)



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## Safe food and pesticide-free veggies and fruits seen in markets



**S**taying fit and healthy is everybody's concern. One needs to have regular exercise and the proper diet. But what if the food available in the market, especially vegetables and fruits, still contain chemicals or pesticides and therefore are not safe?

The Bureau of Plant Industry (BPI) through its national crop research and development centers in Baguio, Davao, Laguna, and La Granja is now doing analysis and promoting preventive measures including new ways of growing crops the safe way to address this concern. The BPI has the responsibility of assuring the public that vegetables, including fruits that are locally produced and found in markets are safe, clean, fresh, and in good condition.

Pesticide-free fruits and vegetables are those grown without the use of pesticides and non-organic fertilizers and is one safe way of agriculture. Usually, produce can be given this label even if the farmer is not organically-certified or is unable to afford the certification process. With this certification, the farmer or producer declares to consumers that the product has integrity.

Trained chemists and technical experts of BPI are doing regular laboratory testing and providing assistance to enlightened farmers and consumers on safe food awareness. Technical assistance included proper agricultural practices and management. Enlightened farmers are those who used to be heavy users of fertilizers and chemicals in their farming operations. A change of farming attitude and knowledge resulted to the shift to safety consciousness in farming activities and operations.

Lately, the staff of the BPI-Baguio particularly the Pesticide

Analytical Laboratory (PAL) conducted field spot checking and random sampling of vegetable produce in the different provinces of Cordillera. Since summer is fast approaching, the prevalence of insect pests and diseases is a common sight. Some vegetable farmers are believed to use excessive chemicals and/or pesticides to combat this problem. However, with the assistance extended by BPI-Baguio, the Department of Agriculture – Cordillera Administrative Region (DA-CAR), Benguet State University (BSU) and the different local government units in the region including concerned farmers association and organizations, the practice has changed to the production of good, chemical- or pesticide-free vegetables and fruits in the Cordillera farms.

These agencies have collaborated and organized the task force that regularly monitor and evaluate the different vegetables and fruits produced by the Cordillera farmers as to the use of chemicals and pesticides. Since its creation a decade ago, there was an observable rate of decrease of excessive chemical use as farmers became enlightened and shifted their farming operation by following the good agricultural practices. Other farmers with clean and newly operated farmlands now practice organic farming which is becoming a new direction of Cordillera agricultural development.

With these developments and constant monitoring and evaluation by the task force, consumers and traders are can now be assured of safe and pesticide-free vegetables and fruits found in local markets and even supermarkets in nearby provinces, cities and even Metro Manila whose vegetables and fruits come mostly from the Cordilleras (Marlowe U. Aquino, PhD).

## ANNOUNCEMENT

### DA 3rd O! MAY GULAY Cooking Contest

**T**o show its support for the celebration of the National Nutrition Month, the Department of Agriculture (DA) is hosting the 3rd O! May Gulay Cooking Contest. This is a cooking contest aimed to encourage households in the urban areas (most especially the youth) to cook affordable and nutritious food using local agriculture products. This activity is designed to develop vegetable recipes that are easy to prepare, affordable, and delicious.

The contest is open to all public high schools from the National Capital Region (NCR) represented by two students from one section in a participating school. Only one team per school is allowed. Previous first and second prize winners of the O! May Gulay Cooking Contest are no longer eligible to join. Contestants who were not selected or did not win may join this year.

Cash prizes will be awarded for first, second, and third place in each category:  
**First Prize** - P20,000 + trophy + exposure trip to Baguio for the whole section (maximum of 50 students plus 2 teachers) + special prize for the school

**Second Prize** - P15,000 + trophy + exposure trip to Tagaytay for the whole section (maximum of 50 students plus 2 teachers) + special prize for the school

**Third Prize** - P10,000 + trophy + special prize for the school

**Finalists** will receive a consolation prize of P 5,000.

Submit fully accomplished entry form and school's endorsement on or before 10 July 2009. An electronic copy of the recipe should also be sent via email at [secyap@gmail.com](mailto:secyap@gmail.com) or on disk. Only recipes submitted electronically in accordance with these rules will be eligible for consideration.

Teams who will qualify for the second round will be informed via phone call or email.

For further information, please contact:

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# CRGM orientation for CAR conducted

Twenty-five participants from Local Government Units (LGUs), private sector and non-government organizations (NGOs) from the different provinces of the Cordillera Administrative Region (CAR) attended the Competitive Research Grant Manual Orientation (CRGM) orientation on 19 February 2009 at the Hotel Veniz, Baguio City.

Mandated to fund, coordinate agricultural research and development activities and develop partnerships with local and international research organizations, the Bureau of Agricultural Research conducted the said activity to orient the LGUs, NGOs and private sector that implements research and development activities on reviewing proposals project monitoring and evaluation activities as required in the CRG manual.

Dr. Cameron Odsey, Project Director of the Cordillera Highland Agricultural Resource Management (CHARM) project welcomed the participants in behalf of DA-CAR Director Cesar Rodriguez. Meanwhile, Dr. Carmencita V. Kagaoan, head of BAR's Program Development Division led the orientation by discussing the overview of



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the CRGM. Other items discussed were the implementing guidelines of the RDE grant system, specific guidelines for the private sector and NGO, format on the preparation of proposals and the guidelines on project monitoring and evaluation. The revised set of guidelines on how to avail of grants for the Community-based Participatory Action Research (CPAR) projects for the LGUs and NGOs were also discussed.

The CRGM is a program designed by the bureau intended to strengthen the system of coordination,

monitoring of projects in agriculture and fisheries. It provides the guidelines, rules and procedures to access funds and implement R&D projects.

CRGM is a component of the Diversified Farm Market Income Development Program (DFIMDP), a World-Bank supported project thru the Department of Agriculture. It commenced last 2004 and is oriented to stimulate rural growth and farmer incomes by enhancing the competitiveness of agriculture and fisheries. (Ellaine Grace L. Nagpala)



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Dr. Carmencita V. Kagaoan of BAR provides the overview of the CRGM to attendees.



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# BAR supports two LGU-led projects on high-value veggies for commercialization

Two LGU-led projects on high-value crops promotion and commercialization were recently completed through a counterpart funding of the local governments of Ormoc City, Biliran Province and the Department of Agriculture's Bureau of Agricultural Research (DA-BAR).

The two projects were conducted separately by the two local government units (LGUs) through the City Agricultural Services Office in Ormoc and the Office of the Provincial Agricultural Services in Biliran, respectively.

The Ormoc project, was led by Ms. Imelda T. Remollo, OIC-City Agriculturist, had the Ormoc Federation of Vegetable Growers as the farmer-beneficiaries. Through the project, the federation was able to establish a "bagsakan"/trading center that caters to the vegetable demand of Ormoc City. They are also aiming to supply the vegetable demand outside Ormoc such as Tacloban City, other parts of Leyte, and possibly Cebu. Ms. Remollo also attested to the success of a former OFW who decided to get into vegetable production through this project and is now making a profitable business out of it.

According to Ms. Remollo, although Ormoc City is a vegetable producing area in Leyte, engaging farmers in its commercial production was difficult because it was hindered by high cost of inputs, pest and diseases, and weak marketing approaches. Hence, the project was implemented to assist vegetable growers in the production of new lines of promising vegetables.



LGU-ORMOC PHOTO

Mr. Romo, a farmer from Brgy. San Vicente in Ormoc, during a hands-on pest monitoring in his farm.

The Ormoc Federation of Vegetable Producers, composed of 76 farmer-cooperators from 21 barangays, participated in the season-long (4 months) technology demonstrations conducted in Brgys. Dolores, RM Tan, and San Jose.

The proponent tapped East West Seeds Company to provide technical support on the production management of the promising lines of vegetables such as ampalaya, tomato, eggplant, and sweet pepper. The seeds used for the project were also sourced from the company.

In another endeavor, the LGU of Biliran, through the Office of the Provincial Agriculturist, implemented a project on the promotion of sustainable

agricultural development in four selected municipalities in Biliran which the LGU considers as agricultural development zones.

The three main components of this project include the establishment of a nursery and scion grove, high-value vegetable production, and cutflower production. Of the three activities, the external evaluator tapped by DA-BAR to review the project saw the establishment of the provincial nursery and scion grove as having the most impact for Biliran in general. "We are grateful that this project pushed through because now our farmers could finally avail of quality grafted planting materials in our own province without having to source them from other provinces," said Mr. Corsino Jadulco, project leader for that component.

The proponents of the two projects are expected to come up with production management guides and other informative materials to aid in the commercialization of technologies that they disseminated to farmer-beneficiaries in their respective localities.

The two projects were funded through the coordination of DA-BAR's Technology Commercialization Unit (TCU) which facilitates provision of support to the projects under the National Technology Commercialization Program (NTCP) supported by DA Secretary Arthur Yap. (Miko Jazmine J. Mojica)



LGU-ORMOC PHOTO

Season-long vegetable production training for farmer-beneficiaries of the DA-BAR-LGU project in Ormoc.

# 102 new and continuing CPAR projects approved for 2009



Investing in strengthening further the role of R&D and its impact at the farmers' level, the Bureau of Agricultural Research (BAR) approved 102 new and continuing Community-based Participatory Action Research (CPAR) projects for 2009.

CPAR is one of the banner programs of BAR under the leadership of Dir. Nicomedes P. Eleazar which is implemented in 16 regions through the Regional Integrated Agricultural Research Centers (RIARCs) as well as the Local Government Units (LGUs). With funding support from BAR, the projects are conducted in close coordination with the local government units (LGUs), national and regional research implementing units, the academe, and members of the community.

Implemented at the baranggay level, the 102 CPAR projects are distributed in all DA-Regional Field Units (RFUs) and

Bureau of Fisheries and Aquatic Resources-Research Outreach Stations (BFAR-ROSeS). Forty of these projects are in Luzon, 24 in Visayas, and 38 in Mindanao.

CPAR is a government initiative designed to reach out to the members of the community through various technology interventions. Farmers are presented with better opportunities and strategies to increase their incomes. As CPAR farmer-cooperators, the farmers are provided farm inputs, livestock, technical assistance, and technology interventions to increase production and profit. Re-dispersal and rollover of benefits sustain the CPAR project ensuring extension to more community beneficiaries.

Among the technology interventions introduced through CPAR, are crop diversification, poultry and livestock production, and use of appropriate and improved varieties, applying organic fertilizers, implementing

Integrated Nutrient Management (INM), Integrated Pest Management (IPM) and other cultural management practices.

With CPAR technologies, farmers are taught how to apply effective total farm productivity within the context of a sustainable production system and farming system approach. Farmers are able to maximize the use of their lands and ensure available and at the same time, affordable food for the family through the integration of high value crops and vegetables and livestock and fishery productions in the system.

Since its inception in 1999, CPAR is already reaping benefits for 7,046 farmer-beneficiaries all over the country. One of them is Carlos Gamiao, a farmer-adopter of CPAR project in Brgy. Cabisera 10, Ilagan, Isabela. In a recent project documentation exercise conducted by BAR, Gamiao testified how his life changed after adopting CPAR.

He said *"Talagang malaki ang naitulong sa pamilya ng naibebenta naming mga gulay. Kumikita kami ng pambili ng karne, pang-allowance sa anak. Talaga palang napakaganda ng CPAR project."* (Our income from selling vegetables helped us a lot. We now have money to buy meat and provide allowance for our children. Indeed, CPAR project is really good) (Rita T. dela Cruz)

**“Our income from selling vegetables helped us a lot. We now have money to buy meat and provide allowance for our children. Indeed, CPAR project is really good.”**



# BFAR Reg 1 updates RIRDEAP for fisheries

The Bureau of Fisheries and Aquatic Resources-Regional Fisheries Office (BFAR-RFO1) conducted a workshop to update the Regional Integrated Research, Development, and Extension on Agenda and Programs (RIRDEAP) for fisheries at the Regional Mariculture Technology Demonstration Center (RMaTDeC) in Lucap, Alaminos City, Pangasinan on 11-12 February 2009.

The workshop was primarily aimed to discuss the problems in the fishery sectors of the region and consequently draw up solutions through research including the identification of priority commodities. Participants were the members of the Fishery RDE Regional Network 1 composed of representatives from Pangasinan State University, Mariano Marcos State University, Don Mariano Marcos Memorial State University, Ilocos Sur Polytechnic College, University of Northern Philippines, Philippine Council for Aquatic and Marine Research and Development (PCAMRD), and the local government units (provincial and local fishery officials); researchers from BFAR-RFO I; and Fisheries Zonal Center coordinators. Representing the Bureau of Agricultural Research was Mr. Amador Macabeo, coordinator for Region 1 of Research Coordination Division.

Ms. Amanda Galang, OIC-RMaTDeC, gave the welcome remarks during the opening ceremony while BFAR RFO 1 Regional Director Nestor D. Domenden delivered the keynote message. He stressed the importance of holding the activity and recognized its significance to economic development particularly in sustaining the smooth flow of goods. In his talk, Dir. Domenden also emphasized several issues for research such as creation of jobs, increase in income, lower prices of commodities, and Hazard Analysis and Critical Control Points (HACCP) compliance while considering the capacity of the environment to produce. He stressed the importance of drawing up of solutions related to fishery production problems such as low profitability, marketability of production, competitiveness and consideration to pre-production phase. "The assistance of the RDE Network 1 members would be essential in drawing up mechanisms to respond to product identification and non-reliability of supply as affected by the socioeconomic aspects of development," he said.

Highlights of RDE Network I accomplishments for CY 2008 was

presented by Ms. Rosario Segundina P. Gaerlan, Regional Fisheries Research and Development Center (RFRDC) manager.

Prior to the workshop on the identification of issues besetting the fishery sector and prioritization of researchable areas, inputs from the Zonal Center I was presented by Dr. Jinnie R. Mamhot, director of the Fisheries Zonal Center. The presentation covered the national R&D framework supported by PCAMRD including the status and research potentials of the priority commodities like sea cucumber, tuna, and seaweeds. Dr. Mamhot also included relevant information on the issues and researchable areas related to climate change and the production of biodiesel from fishery resources.

The second day of the activity was utilized in updating the RIRDEAP for the three sectors which are capture

fisheries, aquaculture, and postharvest/marketing. Participants were grouped into these three sectors (the socioeconomic sector cut across the three sectors). The output of the first workshop and copies of the RIRDEAP for Fisheries of Region I (CY 2006-2010) served as the working materials for the workshop.

Ms. Gaerlan facilitated the workshop on refocusing of the RDE Network I goals for 2009. After a series of discussions, the lineup of activities to be implemented for RDE Network I was made. These include: "lakbay aral" cum planning workshop, training on Intellectual Property Rights for Fisheries Research and Development (R&D), training of harmonization of gender and R&D, R&D Review (proposed to be held on May), and review of research proposals for submission to BAR for funding assistance. (Christmas B. de Guzman)



# Increasing economic value of seaweeds in Region 5



FDLORENA

The Regional Integrated Fisheries Research Center (RIFRC) Region V headed by Ms. Aida S. Andayog has developed four new innovative products derived from seaweeds with huge potential for increasing its market value and creating an enterprise in the Bicol region.

The products developed are seaweed jam, seaweed pickles, seaweed tart, and seaweed infant food which are similar to the commercially available Gerber products.

These products were showcased during a project visit at the RIFRC Research Outreach Station (ROS) in Cabid-an, Sorsogon by a group from the Bureau of Agricultural Research (BAR) on 17-18 February 2009. The group, led by Joell H. Lales and Ferdinand Dax C. Lorena of the Planning Unit, conducted the visit to foster RDE collaboration and to intensify ties with the region.

According to Ms. Andayog, these products, though newly-developed, have competitive advantage in the market considering the uniqueness of the products, taste, and nutritional value. They can also add on to the list of One-Town-One Product (OTOP) products from the Bicol region alongside pili and abaca products. OTOP is a priority

program of the government to promote entrepreneurship and create jobs by promoting a specific product or service with competitive advantage in each city and municipality of the country.

The products, once commercialized, will have the “first mover” advantage in the market which can compete against other processed products not usually found in the region therefore assuring its market share and competitive edge relative to the price.

Given the products' market value, the Technology Commercialization Unit (TCU) of BAR assessed the project on 24 February 2009 for possible support in terms of product development through packaging, processing, and nutritional tests. TCU is the focal unit assigned by BAR to facilitate the funding and monitoring of viable technologies on agriculture and fisheries from the different R&D institutions. (Ferdinand Dax C. Lorena)

For further inquiries regarding the seaweed products, contact Ms. Aida Andayog tel. nos. (54) 477-3517 and (54) 477-7111 or email bfar5@yahoo.com or asandayog@yahoo.com.

Over 7,000... from page 1

One of the most notable successful CPAR projects is located in Brgy. Ipil, Echague, Isabela in Region 2. The project, “Community-Based Participatory Action Research Project in the Rice-Based Farming System,” introduced the rice-mungbean-rice cropping pattern to farmer-cooperators which provided them a net income of P68,442 per hectare against the P10,000 net income before the CPAR project was implemented in the area.

This was made possible with the introduction of various component technologies in production related activities. Farmer-cooperators were able to improve their production and increase their income. Among the technologies/interventions that they adopted were integrating vegetable crops into rice production, using high quality seeds and organic fertilizers, and implementing Integrated Pest Management (IPM) including other cultural management practices such as plastic mulching for vegetables.

In Region 2 alone, there are 16 CPAR projects; seven in Isabela, four in Cagayan, three in Nueva Vizcaya and one each in Batanes and Quirino province.

In addressing the weak research-extension (R-E) linkage, CPAR aims to promote an integrated production management system in the community level while developing strategies for effective integration of support services for agribusiness development.

On the part of BAR, implementing CPAR is seen as an effective means to strengthen the role of research and development (R&D) in technology transfer and in production management system. Through CPAR, the active involvement of the community, both in the identification of the most appropriate technologies that suit their needs and management of their own farm resources, is being institutionalized. (Rita T. dela Cruz)

# BAR Seminar Series highlights climate change and its impact to agriculture

“Be worried, be very worried” warned Dr. Maria Victoria O. Espaldon, professor and dean of the School of Environmental Science and Management at University of the Philippines Los Baños (SESAM-UPLB) as she lectured on “Climate Change in Agriculture; Impact and Adaptation” at RDMIC Bldg., Visayas Avenue, Diliman, Quezon City on 26 February 2009.

This was the first of the seminar series for 2009 organized by the Bureau of Agricultural Research (BAR). Attending were 80 participants from various attached agencies and staff bureaus of the Department of Agriculture (DA) and representatives from the private sector. Welcoming them was BAR Asst. Dir. Teodoro S. Solsoloy who stressed the significance of the activity and its impact to the agricultural R&D community.

The world has gotten warmer, revealed Dr Espaldon while enumerating observations and evidences that scientists were able to monitor since the issue of “global warming” came about including intense and longer droughts, increase in temperature and decrease in precipitation, increase in sea surface temperature, and frequent heat waves, among others. According to her, carbon dioxide is among the essential greenhouse gasses (GHG) that keeps the earth's temperature balance. However, excessive carbon dioxide (CO<sub>2</sub>) in the air makes the earth warmer resulting to the “greenhouse effect”. In the long run, the increase of average global temperature can lead to changes on other weather and climate elements, such as winds, precipitation, atmospheric pressure, cloudiness or “climate change”.

Alarmingly, these climatic variations can have adverse and diverse effects such as reduction in agricultural yield leading to increase in competition for food, decrease in the availability of potable and irrigation water due to droughts, increased risk of flooding, and frequent occurrence of forest fires to name a few. But Dr. Espaldon said that, with proper mitigation and adaptation strategies, the adverse effects of climate change can be reduced.

During the seminar she mentioned various mitigation measures to help reduce greenhouse gas emissions



Attendees and participants of the BAR seminar series listen to the lecture on climate change.

such as using renewable energy like solar, wind, biomass, tide, and hydro. She also cited Filipinized mitigation strategies which she dubbed as “Solusyong Pinoy” such as the use of corn and sugarcane as biofuel (ethylene), coconut and jatropha for biodiesel, methane from dumpsites for biogas, and using bicycles as transport alternative.

For the adaptation measures, Dr Espaldon enumerated some adjustments in practices, processes, or structures on the systems that could eventually be adopted in the projected changes of the climate. On the terrestrial ecosystems and forests adaptation, she suggested biodiversity and forest conservation activities, efficient use of forest resources, prevention of forest fires, development and trials of better adapted and fast growing plants, rehabilitation and protection of degraded lands.

Meanwhile, for the fisheries sector, she cited close monitoring and surveillance of fish stock, and proper management and sustainable use of marine resources while combination of crops for intercropping and crop rotation to enhance productivity, diversification, integrated pest management, improved land management, traditional agriculture, and agro forestry and judicious water management in irrigation as essential adaptation strategies.

She also mentioned the use of drip irrigation system, a water saving



Dr. Maria Victoria O. Espaldon, dean of SESAM-UPLB, serves as the resource speaker for the seminar on climate change.

technology that delivers water through a pipe distribution network consisting of a main pipe, sub-main, manifold and lateral pipes under low pressure and emission through small outlets of drippers or emitters into the soil, surrounding the crop to be irrigated. This technology can be used on any crop, soil, and topography with limited water supply condition.

Concluding the seminar, she said that “Climate change affects not only the welfare of the earth's ecosystem, but also our health, livelihood, social systems and economy. The impacts will be felt for generations to come, thus we must drastically reduce greenhouse gas emissions and find ways to adapt to new realities of a warmer world”. (Edmon B. Agron)

# NFC project on virus-tolerant processing tomato variety reviewed

Evaluators from the Bureau of Agricultural Research (BAR), the Bureau of Plant and Industry (BPI), and the University of the Philippines Los Baños (UPLB) conducted an annual review of the Northern Foods Corporation (NFC) project titled, "Development of Processing Tomato Variety for Tomato Leaf Curl Virus (ToLCV) Tolerance" in Baguio City on 19 February 2009. The meeting was conducted to review and evaluate the annual report/ accomplishments of the project and to certify its acceptability.

The NFC project with funding support from BAR aims to develop and improve a tomato variety that is tolerant to ToLCV and that is adaptable to local condition with good processing qualities.

Mr. Norberto D. Mendoza, NFC vice president for operations and project leader, and Ms. Raquel G. Dela Cruz, NFC lead breeder presented the accomplishments of the projects. Mr. Mendoza reported that the project has already finished conducting the trial crosses for the F3 (Nov. 2007-May 2008) and F4 (June 2008-October 2008) generations in Ilocos Norte and Baguio City, respectively.

In the F3 generation, 40 lines exhibited tolerance to the virus and were selected for F4 generation advancement including the two check varieties (susceptible and tolerant checks).

During the F4 generation



In the F3 generation, 40 lines exhibited tolerance to the virus and were selected for F4 generation advancement including the two check varieties, susceptible and tolerant checks.

advancement, the selected lines of tomatoes were planted in two plastic houses and in the open field. The tomato plants in the open field were totally devastated due to typhoon *Karen* in August 2008 followed by daily rain showers mostly in the afternoon, leading to the occurrence of late blight during the vegetative and fruiting stage.

Occurrence of whiteflies was also observed after fruit development stage. Mild infection in five entries including the check variety, *Ilocos Red* was observed. Symptoms of ToLCV

were also observed in the five entries.

In November 2008, seeds for each line

were extracted and planted for the dry season in Ilocos Norte for the F5 generation. For the trial crosses for the F5 generation, it is hoped that varieties of good processing characteristics will be obtained to enable the project to proceed to the F6 advancement. A virus-tolerant variety is hoped to be generated which will be planted for seed production.

In the concluding presentation, Dr. Rodel G. Maghirang of UPLB, Ms. Josephine T. Garcia of BPI, and Dr. Jesus R. Aspuria of BPI-BNCRDC commended the project and endorsed its continuation. The evaluators made several suggestions/instructions to further improve the project. Among them were: inclusion of the details of the procedures in the report, conduct F5 trial crosses in Benguet (simultaneous to the F6 trial cross in Ilocos Norte), using of rankings in the purification and selection at F6 and, possible sourcing of *inoculum* and planting of tomato in BPI Baguio for wet season. (Raymond Patrick L. Cabrera)



Mr. Amador C. Macabeo inspects the F3 generation of tomatoes at BPI Baguio.



# BAR trains proponents on project financial viability; strengthens partnership with farmers and LGUs

The Bureau of Agricultural Research (BAR), in partnership with the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), trained 76 proponents of BAR-funded projects on the preparation of the projects' financial viabilities.

The four-day training course on the profitability of new production and processing technologies was conducted twice last year in November while the third leg was conducted in January this year for the project proponents. BAR funded their projects through the National Technology Commercialization Program (NTCP) which was initiated by Agriculture Secretary Arthur C. Yap.

BAR's Technology Commercialization Unit (TCU) requested its project proponents to participate in the training in an effort to institutionalize a uniform and comprehensible format on the reporting of profitability analyses of projects for

all its funded-projects. The bureau believes that two significant outcomes would surface in presenting an accurate estimate of the profitability of projects being supported by the government. One, scarce resources are spent wisely and two, projects with the highest benefits and real economic potential are explored and prioritized.

After the training, TCU, through the assistance of its technical staff on agribusiness, started requiring its project proponents to submit their respective profitability analyses presenting two sides of analysis: one from the perspective of the proponent who invested in the project, and the second from the perspective of the potential investor who is interested in investing in the business.

On related developments, BAR has also formally reiterated to its project proponents in its TechCom Program to tap farmer organizations or cooperatives to ensure that technologies and research results are properly disseminated to the right communities and thus create a

significant impact on farm productivity and profitability. TCU looks for this component whenever it conducts monitoring and evaluation the projects' progress.

In line with BAR's partnerships with the local government units (LGUs) in the development of agriculture and fisheries enterprises, two BAR-funded projects through NTCP with counterpart fund from LGU were completed in Ormoc and Biliran provinces and have started to bear fruit.

The two LGUs likewise tapped farmer-beneficiaries to establish technology demonstrations on the production and commercialization of high-value vegetables in their respective provinces. Out of the counterpart funding, the Ormoc Federation of Vegetable Producers was able to establish a "bagsakan"/trading center for their vegetable produce. On the other hand, the Biliran LGU used the fund from BAR to establish a provincial scion grove and nursery for the production of quality planting materials. (Miko Jazmine J. Mojica)

# South Cotabato farmers trained on SSNM for corn

Fifty corn farmers from Koronadal City and Tupi, South Cotabato attended a training-workshop on *Farmer Participatory Evaluation of Site-Specific Nutrient Management (SSNM) for Maize in South Cotabato* on 17-19 February 2009.

The Phase 1 or Wet-Season was facilitated by the Department of Agriculture-Regional Field Unit 12-Central Mindanao Integrated Agricultural Research Center (DA-RFU 12-CEMIARC), Agricultural Training Institute, and the Local Government Units (LGUs) of Koronadal City and Tupi.

The three-day activity was designed as an experiential, practical, and interactive learning environment to build appreciation on the importance of corn development in the on-farm trails of SSNM and help improve and sustain farms productivity and profitability

through promising technologies or changes in existing practices.

The SSNM approach advocates the use of available organic nutrient sources and inorganic fertilizer in meeting the nutrient demand of a high yielding crop. These generic principles are applicable for both hybrid and open-pollinated maize varieties.

Over the traditional farmer's fertilizer practice (FFP), the application of SSNM tends to increase corn yield and revenue by 12% or an average of two tons per hectare. The net benefit per hectare of land is higher by more than Php5,000.00.

Experts from DA-CEMIARC and the Bureau of Soils and Water Management (BSWM) served as resource persons in the workshop. Topics discussed included: (1) Soil Sampling and Analysis using STK; (2) Corn Management Practices in SSNM; (3) Integrated Pest Management on Corn; (4) Farm Record



Keeping in SSNM; (5) SSNM Data Collections & Analysis; and (6) Corn By-Products for Organic Fertilizer.

Later in the year, the participants will attend Phase 2 or the Dry-Season for field trials scheduled for September of this year. (Ma. Eloisa E. Hernandez)

# TechCom projects on sweet sorghum and sweet tamarind showcased

Two technology commercialization projects on sweet tamarind and sweet sorghum, both supported by the Bureau of Agricultural Research (BAR) in collaboration with the Pampanga Agricultural College (PAC), were showcased in a technology forum and product exhibit on 11 February 2009 held at the PAC Audio-Visual Center, Magalang, Pampanga. The activity aimed to expedite the promotion and adaptation of technologies from research and development (R&D), specifically the research outputs initiated by PAC on the two "sweet" R&D projects: sweet tamarind and sweet sorghum.

PAC is known for its sweet tamarind variety not only in Central Luzon but also in other parts of the country. The projects titled, "Intensifying the Commercialization of the First Philippine Sweet Tamarind" and "Initiative to Promote the Production of Sweet Sorghum and Its Utilization as Human Food, Animal Feed, and Bio-Ethanol in Region III," were conducted by PAC to develop and come-up with mature package of technologies (POTs) on the production, packaging, processing of sweet tamarind. These were funded by BAR through its National Commercialization and Technology Program (NTCP), one of its banner programs.

PAC's sweet tamarind, also known as "sweet *aglibut*" (after the late Professor Andres Aglibut of the University of the Philippines Los Baños), has been proven to be very sweet and is comparable to the Bangkok variety. It is also an important crop because of its fruit and other parts that have various food and medicinal uses.

On the other hand, sweet sorghum is a high value crop identified as a potential source of ethanol next to coconut and jatropha. Mainly considered as source of



ACD Asst. Head Julia A. Lapitan (2nd from right) represents BAR during the techno-forum and exhibit held at PAC in Magalang, Pampanga.

carbohydrates and protein, it is a good substitute for corn as feed grain and is utilized as human food in the form of grain or flour.

Recognizing the significance of the two agricultural crops to address food security and improve human nutrition, sustainability and expansion of R&D activities on the enhancement of sweet tamarind and sweet sorghum production is deemed necessary to optimize their promising potentials as an evolving industry.

The initiatives of BAR in partnership with PAC is specifically intended to heighten sweet tamarind production and develop packaging and processing techniques for sweet tamarind products and promote the production of sweet sorghum for human food, animal feed, and bio-ethanol purposes in Region III through technology demonstration at the farmers' level, trainings, trade fairs,

and exhibits.

In relation, the techno forum and exhibit, which was well-attended by farmers, researchers, municipal agricultural officers, and local government administrators, included a series of plenary sessions focused on the: importance of sweet sorghum and sweet tamarind as high-value crops, sweet sorghum production, sweet sorghum as a promising biofuel source, food utilization of sweet sorghum at the household level, sweet tamarind production, and non-food and food products from sweet tamarind.

Dr. Norman de Jesus, PAC director for research and development discussed sweet sorghum production and emphasized that PAC has been conducting R&D activities related to sweet sorghum since 2006. These include: varietal trials, fertilizer trials, ethanol production, animal feeds production, and sweet sorghum-based food processing (e.g., sweet sorghum juice, sweet sorghum flour, sweet sorghum native cake).

Meanwhile, Dr. Estrella Zabala and Prof. Regina Loria discussed the potential of sweet tamarind providing alternative income for farmers through livelihood opportunities in food processing (e.g., sweet tamarind vinegar, sweet tamarind jam, sweet tamarind juice) and developing sweet tamarind-based beauty products (like sweet tamarind soap, sweet tamarind lip balm, sweet tamarind foot scrub, and sweet tamarind spa salt, among others). (Christmas B. de Guzman)



Product displays during the sweet tamarind and sweet sorghum techno forum and exhibit.

# CABI officials visit BAR



(L-R) Dr. Wai-Hong Loke, CABI regional director for East and Southeast Asia, Dr. Qiaoqiao Zhang, CABI director for East Asia, and Mr. Dennis Rangi, CABI development executive director.

Three key officials from the Center for Agricultural and Bioscience International (CABI) visited the Bureau of Agricultural Research (BAR) on 3 March 2009 for possible future collaboration to address current key issues concerning agricultural research.

The CABI officials were Dr. Wai-Hong Loke, regional director for East and Southeast Asia; Mr. Dennis Rangi, development executive director; and Dr. Qiaoqiao Zhang, director for East Asia. Meeting them were key officials from BAR headed by Mr. Victoriano Guiam, head of the International Relations Unit, Dr. Marlowe Aquino, head of the Applied Communications Division, Mr. Joell Lales, head of the Planning Unit, and Ms. Salvacion M. Ritual, assistant head of the Program Development Division.

Mr. Lales gave an overview of the bureau's plans and programs for the CABI officials. He also discussed BAR's

thrusts and priorities putting emphasis on BAR's flagship programs – the Community-based Participatory Action Research (CPAR) and the National Technology Commercialization Program (NTCP).

Meanwhile, Dr. Loke explained the role of CABI in agricultural research and expounded on the activities that their institution does to help alleviate poverty worldwide.

CABI and BAR officials further discussed the roles of both institutions in dealing with major issues in agriculture today such as food security, climate change, and global warming.

Dr. Aquino expressed the bureau's willingness to be in partnership with CABI.

CABI is a non-profit organization which specializes in publishing, research and communication. The Philippines is a CABI member since 1993. (Don P. Lejano)



Visitors from CABI pose with BAR staff for posterity.

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famous Bangkok variety; development of special product lines from the medicinal oregano plant such as wine, tea, and vinegar; testing of postharvest technology using coir dust and evaporative cooling for off-season supply of tomato; production of high-quality garlic through the use of Gibberellic acid; and enhancing the export quality of fruits and vegetables through Good Agricultural Practices (GAP) and application of postharvest handling technologies.

The project on enhancing exports of fruits and vegetables also started the full support of BAR to the fresh and processed mango export venture of Mr. Lito Arenas, the now successful and prosperous mango exporter and owner of LA Trading in Pangasinan. BAR financed the successful market reconnaissance of Mr. Arenas to Europe and his project on using a German-based fabricated drying system for the commercial production of dried mango fruit through the Pangasinan Tropical Fruits Multi-purpose Cooperative. In the market reconnaissance to Europe, pickled mango was found to be a viable venture since processed food has less stringent requirements for export than fresh produce.

Similarly, as part of BAR's commitment to the National Rubber Development Program (NRDP), some of its funded and completed projects on rubber through NTCP include the establishment of budwood gardens, nurseries, and technology demonstration farms nationwide for the recommended rubber clones, namely: RRIM 600, RRIM 712, RRIM 901, PB 217, PB 235, PB 260, USM 1, PB 311, and RRIM 628.

To support the R&D component of the DA's Biofuel Feedstock Program for the production of sufficient amount of feedstock to meet the local demand for biofuels, BAR's NTCP funded several projects on the commercialization of sweet sorghum for wide-scale production and use not only for fuel but as human food and animal feed as well. This came about after the feasibility study, commissioned by BAR also on the viability of sweet sorghum as energy

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# Rubber farming reached MIMAROPA



**Expansion activities was made possible through BAR-supported projects on rubber.**

interested farmers and establish 20,000 hectares of rubber in 10 years.

The Bureau of Agricultural Research (BAR) has been at the forefront of these expansion activities. In 2007, BAR funded a five-year project titled, "Technology Demonstration of Recommended Rubber and Nursery Establishment Towards Commercialization in Palawan" to produce quality planting materials and establish adaptability and performance trials of high yielding clones.

In August 2008, another BAR funded project, "Development and Promotion of Rubber Towards Commercialization in Oriental and Occidental Mindoro" was launched to establish budwood gardens and nursery of five recommended clones of rubber producing 10,000 quality planting materials. (*Hernani Lapid and Rodolfo Galang*)

Oriental, and Mindoro Occidental are now into planting rubber trees due to its high commercial value.

Palawan now has 625 hectares planted to rubber with 58 hectares productive and the provincial government of Palawan through its Provincial Agriculture Office (PAO) has embarked in a two-year "Plant Now, Pay Later" scheme in 2005 to encourage and assist

Rubber farming is no longer limited to Mindanao. Through the National Rubber Development Program (NRDP) of the Department of Agriculture (DA), other potential areas for the expansion of rubber plantation were being exploited.

With favorable climatic conditions and fertile soils suitable for growing rubber trees, the provinces of Palawan, Mindoro

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source, found it to be one of the most promising sources of biofuel feedstock in the Philippines.

Sweet sorghum is ranked in the world as among the top five most important cereals and was introduced in the country by the India-based International Crops Research Institute for Semi-Arid Tropics (ICRISAT) alongside other pro-poor crops such as pigeon pea and *Asha* peanut which are also being commercialized in the country through projects funded by BAR.

On livestock, upgraded goat production through Farmer's Livestock School on Integrated Goat Management was funded as well as the propagation of genetically-superior water buffaloes through *in-vitro* production and embryo transfer. Moreover, the promotion and commercialization of carabao-based dairy products was also supported for the full development of village-level enterprises.

On fisheries, the development of products from the commercial

seaweeds such as seaweed *longanisa*, pickles, noodles, and chips were funded. There is likewise an on-going project on the development of postharvest technologies on the *halymenia* and *portiera* seaweed species which are being screened for their bio-active compounds. The appropriate technology for the grow-out of sea urchin, a delicacy popular in Japan, Southeast Asia, and the United States, was also given support.

The abovementioned projects are just a few of the technologies and projects funded by BAR through NTCP in its effort to develop agribusiness enterprises anchored on appropriate activities for technology promotion, transfer, utilization, and commercialization.

Since 2005, BAR has been regularly conducting technology commercialization exhibits and fora at the national and regional levels to create awareness and to disseminate these viable technologies where needed. In August 2008, it decided to hold the event

in SM Megatrade Hall to capture a wider audience and showcase the products generated by our scientists, researchers, and farmer-cooperators. In line with BAR's plans to continue and strengthen the worthwhile contributions of NTCP, more projects and activities related to agriculture and fisheries technology commercialization are expected to be funded this year.

The Technology Commercialization Unit (TCU) is the focal unit assigned by BAR to facilitate the funding and monitoring of the commercialization of viable technologies on agriculture and fisheries from the different R&D institutions within DA, other government agencies, state universities and colleges (SUC), non-government organizations (NGOs), and local government units (LGU) involved in the development of the sector. (*Miko Jazmine J. Mojica*)

# Flowers made available year-round, thanks to R&D

Flowers in bloom these days, including farm technologies used and other products were properly showcased in recent flower festival. In the staging of the 14<sup>th</sup> Panagbenga Festival in Baguio City, various activities such as concerts, street dancing, flower float parades, food and beverages and a sampling of Cordillera culture and tourism activities were held for local and foreign visitors. The success of the event would have been incomplete without the flowers in bloom where if not for extensive research and development (R&D) activities on ornamentals would have not been possible.

Ornamentals and cutflowers such as roses, calla lily, chrysanthemum, Malaysian mums, sunflowers, everlasting, daisies and other colorful and bright flowers made their

appearance in the festival was the result, to a large part, of the work of researchers and farmers. Researchers from the Benguet State University (BSU) particularly the Horticultural Research, Development and Training Institute (HORTI) and Bureau of Plant Industry (BPI)-Baguio including private ornamental farms all worked together to make use of ornamental research outputs. New technologies are now utilized by cutflower communities within Baguio City, municipalities of La Trinidad, Tublay, Tuba, Itogon, and Sablan in Benguet province.

The successful development and utilization of technologies for ornamental and cutflowers, now used by the different farmers including by the cutflower farmer's federation, has helped create a stable and sustainable business in the different farming communities

within the Baguio-Benguet area.

Through the constant technical support of BSU, DA-CAR, LGUs, BAR and the farmers associations, and the collaborative work of concerned stakeholders in the local ornamental and cutflower industry, the flower business will become better as technologies and products are continuously improved. This will also work to sustain the required supply of flowers, not only during the flower festival conducted annually during the month of February but in other occasions where flowers are needed such as during weddings and other special occasions.

With year-round production now possible and with good local partnerships, these will make the flower industry a booming community enterprise (*Marlowe U. Aquino, PhD*)



Rosalina Luz Labotan explains why there is money in ornamental fish breeding.

## Ornamental fish breeding seen as an answer to poverty

Labotan, "Dahil sa fish terraces, meron ng immediate na pagkain para sa mesa ang pamilya ko at mayroon pang extra na pang-emergency. Maganda itong pagkakitaan ng pera."

NAPC and the members of the Taloy Sur fishing community agreed to hold another training this time on ornamental fish propagation on March 21 wherein the NAPC will provide fish breeders (parent fish) to the fisherfolk. Marketing concerns of this new technology will also be discussed.

"May mga Koreano na

pumupunta dito para bumili. Minsan naman dumalaw dito ang mga Girl Scout at sila mismo ang nanghuli ng isda. Enjoy na enjoy sila," said Mrs. Labotan. "Kaya ini-engganyo ko kayo na subukan ang ganitong negosyo upang matikman niyo rin ang tinatamasa ko ngayon."

The Bureau of Agricultural Research (BAR) noted that these new trends in agriculture, fisheries and tourism can be subject for further studies to enhance the fisheries innovative system in the Cordilleras. (*Don P. Lejano*)

The National Anti-Poverty Commission (NAPC) provided 18 fisherfolk with a seminar on ornamental fish breeding held in Brgy. Taloy Sur, Tuba, Benguet on 28 February 2009.

The objective of the seminar was to encourage the members of the Taloy Sur Fisherfolk Association to breed ornamental fishes like koi, guppies, goldfish, flower horns, and the like in their fish terraces as this could be another means of income for them.

As of today, Mrs. Rosalina Luz Labotan, president of the Taloy Sur Fisherfolk Association, is the only one who propagates ornamental fish as a source of livelihood. According to Mrs.

