BAR trains onion growers on OPREMS

The Bureau of Agricultural Research (BAR), in collaboration with OPTISERVE Technologies, Inc., conducted a training activity to further introduce and equip local onion growers and stakeholders through the Onion Production Resource Management System (OPREMS).

Management Information Systems Division Assistant Head Julia A. Lapitan and Information Communication Technology (ICT) Staff Rueth T. Cabral, together with Optiserve, Inc. CEO Cheryl Natividad, spearheaded the Stakeholders' Orientation and Users' Training on 13 February 2008 at the ATI Training Center, Sta. Barbara, Pangasinan.

OPREMS is a custom-built software application developed for the onion sector through community-based resource management system. It is designed provide a unified information system applicable for multi-stakeholder development projects in a cross-functional environment.

Specifically, OPREMS aims to develop and institutionalize an information-sensitive management platform to encourage proactive participation of onion farmers.

The team solicited inputs and information from the onion growers to be able to integrate these data in the current body of knowledge in onion production system for strategic decision-making.

The project aims to establish a transaction-based monitoring and evaluation system in pilot areas: Nueva Ecija, IIocos Sur, Pangasinan, and Tarlac. The team provided workstation for Sunggiam Multi-purpose Cooperative in Ilocos Sir and for the KASAMNE, a federation of onion growers based in Nueva Ecija, for the implementation of OPREMS. *(Ma. Eloisa E. Hernandez)*

photo courtesy of Dr. Witt

WHO'S NEW AT BAR?

photo by RITA DELA CRUZ

(L-R) Rene Cris P. Rivera, Miriam J. Mella, Amavel A. Velasco, Maylen D. Vilareal, and Jonas Brian C. Almendrala

This month, the Bureau of Agricultural Research (BAR) boosts its human resource capability by introducing five new staff members to its growing family.

Jonas Brian C. Almendrala, 21, is a B.S. Agricultural Economics graduate from the University of the Philippines Los Baños (UPLB). He loves engaging in relaxing activities such as watching movies, playing computer games, and surfing the Internet. He is assigned at the Research Coordination Division (RCD) as the new coordinator for Regions 10 (Northern Mindanao) and 12 (Central Mindanao). Although he expects that his job is going to be hard, he remains optimistic about it saying that "he'll manage." He describes himself as someone who is both friendly and dependable.

When asked to describe herself, **Amavel A. Velasco**, 22, said a clever remark on how she is as a person to those who knew her well. "I am a living example of that saying, 'looks can be deceiving'. They usually take me for a timid and silent type of girl well in fact, I am the opposite." Amavel or simply "Ams" is also a product of UPLB with a degree in Agriculture (major in plant pathology). She is RCD's new coordinator for Region IV-A. When asked about her expectations, she puts a positive perspective to it, saying, "I expect it to be fun, exciting and challenging, the kind of work that will push myself to the limits."

Rene Cris P. Rivera or RC is perhaps one of the youngest graduates who joined the BAR family. At 20, he graduated *cum laude* in BS Economics from UP Diliman and finished it in three and a half years. He is assigned at the Project Packaging Section of the Program Development Division (PPS-PDD). His working principle is to surpass one's perceived limit, which pretty much reflects on his job expectation at BAR, which is intense work, lots of learning, and new acquaintances. He described himself as the type who is "quiet to strangers, talkative to friends."

A documentary film enthusiast, **Maylen D. Vilareal**, 23, is the new addition to the Applied Communication Section of the Management Information Systems Division (ACS-MISD). She hails from Los Baños, Laguna. Another product of UPLB, she graduated BS Agribusiness Management in 2005. She described herself as a "true friend to those who know how to treat other people right." She has always been a believer in the saying, "Everything happens for a reason."

A lover of sports, **Miriam J. Mella**, enjoys going to the gym and biking. She graduated BS Commerce (major in management) at the Sorsogon Annunciation College. Her working principle is to work hard, be friendly and to be able to get along well with her colleagues. She is assigned at the Technology Commercialization Unit (TCU) as member of the administrative staff. *(Rita T. dela Cruz)*

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Indigenous community in Aklan benefits from abaca production

photo by MIKO JAZMINE MOJICA

A community of indigenous peoples (IP) in Libacao, Aklan has been selected as the beneficiaries of a technology demonstration project in anticipation of a full blast commercialization of abaca production in the country by 2020.

The project, which aims to showcase the package of technology (POT) for abaca production in Aklan through field demonstrations, will start to be implemented this year to determine if the technology will be productive and profitable enough to encourage farmers in expanding and sustaining an intensive abaca production through clustering.

The Bureau of Agricultural Research (BAR) of the Department of Agriculture (DA) is funding the capability building and establishment of abaca clusters in the IP communities in three barangays, namely: Manika, Oyang, and Dalagsaan.

The project is an initiative of SATRE Development Foundation, Inc., a

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IN THIS ISSUE...

photos by RITA DELA CRUZ

Farmers in Zambales gain from sweet tamarind

More than 700 people, mostly farmers, have benefitted from the commercialization of sweet tamarind in the province of Zambales. This was according to the Pampanga Agricultural College (PAC), the lead agency that developed the first National Seed Industry Council-approved sweet tamarind variety in the Philippines.

The *Aglibut Sweet*, the variety developed by PAC scientists, is comparable to Bangkok's variety which is known for its sweetness. Zambales was identified as ideal for tamarind planting owing to its semi-arid lands although this crop can grow well in any type of soil and agro-climatic condition.

In 2006, after a decade of research and development (R&D) work on this fruit crop, PAC embarked on its commercialization in Zambales.

"Tamarind has a huge market potential in the Philippines because the country is continuously importing them while trying to meet the domestic demand. The sweet tamarind is always in demand and can command a higher price than that of the sour variety," PAC scientists said.

When the commercialization project culminated in 2007, about 4,500 seedlings of sweet tamarind had been provided and planted in various farms and backyards in Zambales.

PAC led the training and provision of technical support to interested farmers and tamarind growers. The training course implemented by PAC included cultural management practices, postharvest handling, and marketing techniques.

They also provided loans payable within one year in three installments at 10 percent annual interest

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Corn is top performer in 2007;
DA targets 94% sufficiency in 2008

Corn is one of the top performers in 2007 with its total output reaching 6.7 million metric tons (mt). This is 11 percent higher (6.1 million mt) than the corn production in 2006. Of this, 62 percent (or 4.2 million mt) is yellow corn while the rest white corn.

Thus reported Dr. Candido B. Damo of the GMA Corn Program of the Department of Agriculture (DA) at the "Annual Corn R&D Review and Planning Workshop" on 7 February 2008 at the 4/F RDMIC Bldg., Diliman, Quezon City. Dr. Damo attended in behalf of DA Assistant Secretary for Field Operations and concurrent GMA Corn Program Coordinator Dennis B. Araullo.

Damo said that although DA missed its target by three percent last year owing to dry spell that devastated several corn growing areas in the country, the total performance of corn still contributed a lot in its recorded yield.

He reported that the projected losses was considerably reduced through the "quick turnaround" (QTA) planting program of DA. The QTA program was implemented in almost 100,000 hectares of arable land in non-affected farms in the Visayas and Mindanao, contributing 200,000 mt of corn in this year's production.

"We performed well as we recorded respective increases in harvest area and yield per hectare, thanks to the continued use of hybrid and quality open-pollinated variety (OPV) seeds and land expansion fueled by stable corn prices," Damo said.

Currently, the corn sufficiency level of the Philippines is at 88 percent (83 percent for yellow corn and more than 100 percent for white corn).

Even with the sustained demand for corn as animal feed ingredient, Dr. Damo explained that "we still import". In fact, last year the country imported 130,000 million mt. Also, it was reported that the demand for animal feeds in 2007 increased by 100,000 mt from the 4.5 million mt in 2006.

To achieve self-sufficiency in yellow corn, Dr. Damo said that the GMA Corn Program continues to supply the increasing demand of the livestock and poultry sector and reduce corn imports in the near future. DA is implementing various initiatives to improve corn productivity, decrease production and marketing costs, improve grain quality and marketable yield. Damo said that the key here is for the corn farmers to have "higher yield, lower production and marketing costs, and minimal postharvest losses."

For 2008, the GMA Corn program is targeting 7.4 million mt of corn. This is 9.3 percent higher (or 700,000 mt) than that of 2007 output (6.7 million mt). Pulling off this year's target will enable the country to attain 94 percent sufficiency level in corn.

According to Dr. Damo, to achieve the target, there is a need to develop additional 91,000 hectares and increase the total yield by six percent. Another strategy is to hasten the construction of additional 15 postharvest processing and trading centers nationwide which is part of the DA's effort to reduce postharvest losses by eight percent.

In addition to these strategies, three special programs under the GMA Corn Program will be implemented this year. These are: 1) Hunger Mitigation Project; 2) Hybrid Corn Production Enhancement Project; and 3) Off-Season Corn Production Enhancement Project.

The program is also pressing for additional funds to develop 75,000 hectares of idle lands and produce extra 750,000 mt of yellow corn and implement intercropping on 100,000 hectares of coconut lands for an additional 200,000 mt of OPV white corn. *(Rita T. dela Cruz)*

photo by RITA DELA CRUZ

Dr. Candido B. Damo of the GMA Corn Program reports on the situationer of the corn sector during the Annual Corn R&D Review held at BAR.

DEPARTMENT OF AGRICULTURE BAR Chronicle
The official monthly publication of DA-BAR

BAR Chronicle is the monthly publication of the Bureau of Agricultural Research (BAR) of the Department of Agriculture (DA), which is mandated to ensure that all agricultural researches are coordinated and undertaken for maximum utility to agriculture. This publication provides regular updates on 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.

RITA T. DELA CRUZ
managing editor/layout

MARLOWE U. AQUINO, PhD
RITA T. DELA CRUZ
MA. ELOISA E. HERNANDEZ
MIKO JAZMINE J. MOJICA
ELLAINE GRACE L. NAGPALA
MAYLEN D. VILLAREAL
writers

RICARDO G. BERNARDO
ANTONIO A. CONSTATINO
reproduction/printing

JULIA A. LAPITAN
VICTORIA G. RAMOS
circulation

MANUEL F. BONIFACIO, PhD
editorial consultant

MARLOWE U. AQUINO, PhD
head, MISD

NICOMEDES P. ELEAZAR, CESO IV
adviser

For subscription and inquiries please contact: **Applied Communication Section**, Management Information and Systems Division (MISD), Bureau of Agricultural Research, Department of Agriculture 3/F RDMIC Bldg., Visayas Ave., cor. Elliptical Rd., Diliman, Quezon City 1104 PHILIPPINES
Telephone No.+63 (02) 928-8505 local 3026-3027 Fax: (02) 927-5691 or (02) 927-0227
e-mail: misd-acs@bar.gov.ph Articles are also available online. Please visit us at: http://www.bar.gov.ph

A site-specific and integrated nutrient approach to growing corn in the Philippines

by Rita T. dela Cruz

Corn production systems vary depending on the agro-ecological and socioeconomic conditions of a country.

For the Philippines to identify major production constraints in its corn-growing areas and develop means to overcome them, farmer must consider a site-specific approach and integrated nutrient to crop management. This explains why there is a need for the Site-Specific Nutrient Management (SSNM) for Maize which Dr. Christian Witt, director of the Southeast Asia Program (SEAP) of the International Plant Nutrition Institute (IPNI), explained at a seminar on SSNM at the Bureau of Agricultural Research (BAR) on 8 February 2008.

The seminar aimed to orient corn research, development, and extension (RDE) personnel in major corn-producing regions on the practical applications of the SSNM system and discuss its benefits and difficulties and ultimately help improve corn production in the country.

Principles of SSNM

Although it is assumed that a crop's need for nutrient consists of a predetermined rate of N-P-K (nitrogen, phosphorus, potassium)which is constant over time and over large areas, its needs for supplemental nutrients can vary depending on the crop-growing conditions, soil management, and climate. Thus, it is necessary that adjustment in applying N-P-K is needed to accommodate the field-specific needs of a crop.

In essence, this is what according to Dr. Witt is referred to as "feeding a crop with nutrients as and when needed." This is the fundamentality of the SSNM approach.

This approach was first developed in Asian rice-producing countries trying to teach farmers how to optimally supply their crops with essential nutrients.

photo courtesy of Dr. Witt

According to Dr. Witt, this type of approach tries to equip corn farmers to actively adjust their fertilizer use and optimally fill the deficit between the nutrient needs of a high-yielding crop and the nutrient supply from naturally occurring indigenous sources such as soil, organic improvement, crop residues, manures, and irrigation water.

The SSNM approach does not specifically aim to either reduce or increase fertilizer use. Instead, it aims to apply nutrients at optimal rates and times to achieve high yield and high efficiency of nutrient use by the rice crop, leading to high cash value of the harvest per unit of fertilizer invested.

According to Dr. Witt, there are five steps towards SSNM. These are: 1) establish a yield target; 2) estimate actual yield responses to fertilizer N, P, and K application; 3) select fertilizer N, P, K rates based on expected yield responses to fertilizer application considering agronomic efficiencies and nutrient balances; 4) apply fertilizer to meet the crop demand for nutrients at critical growth stages; and 5) optimize nutrient use efficiencies.

The Phil-Corn project

The SEAP and International Potash Institute (IPI), in collaboration with the University of the Philippines Los Baños (UPLB), initiated a collaborative research project on "Site-Specific Nutrient Management for Maize in the Philippines" (Phil-Corn) with pilot sites in Bukidnon, Isabela, Tarlac, and Nueva Ecija.

The SEAP project, which has an intended duration of three years (2005-2007), is also being conducted in major corn-growing areas in Indonesia and Vietnam.

The project is implemented through the UPLB Corn RDE Network, BAR, Philippine Rice Research Institute (PhilRice), Bureau of Soils and Water Management (BSWM), GMA Corn Program, and AFC Fertilizer and Chemicals, Inc. (AFCI) in close partnership with the private sector to ensure wider scale delivery of project results.

Generally, the project aims to improve the productivity and profitability of maize in major agro-ecological zones (AEZ) of the Philippines through site-specific, integrated nutrient and crop management. Specific objectives include: 1) quantify and understand the yield potential of maize and existing yield gaps in selected, major agro ecological zones through crop simulation modelling and on-farm research, 2) develop a scientific approach and practical tools for SSNM in key maize production systems, and 3) evaluate the agronomic and economic performance of SSNM and disseminate simplified SSNM recommendations.

photo by RITA DELA CRUZ

Dr. Christian Witt lectures on SSNM at DA-BAR.

In his lecture, Dr. Witt presented the results of the Phil-Corn project. "SSNM is ready for wider scale evaluation," he said. This is after SSNM for corn was developed and evaluated during the last four years of research at 19 key corn production sites in Indonesia, Philippines, and Vietnam.

Throughout these years of research, it showed that this site-specific approach offers significant opportunities for farmers to increase productivity and profitability in an environmentally sound fashion, he concluded.

Sources:
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2. "Site-Specific Nutrient Management: Enables Rice Farmers to Optimally Supply their Crop with Essential Nutrients" http://www.irri.org/irrc/ssnm/SSNM/aboutssnm.asp
3. "The principles of Site-Specific Nutrient Management for Maize" by Christian Witt and Julie Mae Pauquin of the International Plant Nutrition Institute, IPNI, Southeast Asia Program. For more information, please send them an e-mail at: cwitt@ipni.net or

Why sweet sorghum is the best source of biofuel

by Miko Jazmine J. Mojica

The Department of Agriculture (DA) is promoting sweet sorghum as a viable energy source after a study funded by the Bureau of Agricultural Research (BAR) found that sweet sorghum is one of the most promising sources of biofuel feedstock in the Philippines.

Sweet sorghum (*Sorghum bicolour* L.), a not-so-popular crop in the Philippines, is ranked in the world as the top five most important cereal next to wheat, oats, corn, and barley.

According to the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), sweet sorghum is a staple food crop of millions of poor in semi-arid tropics of Africa and Asia. It is also an important fodder and feed crop. ICRISAT is likewise promoting the potential of sweet sorghum as a cost-efficient source of biofuel.

"Smart" crop backed by research

In 2006, the Government of India, through ICRISAT, turned over to the Philippines seeds of sweet sorghum for testing and use nationwide, if found viable under Philippine conditions.

In the same year, BAR tapped the International Society for Southeast Asian Agricultural Sciences (ISAAS), Inc. led by Dr. Roberto F. Rañola Jr., to conduct a feasibility study on using sweet sorghum as feedstock. The study found that sweet sorghum is comparable if not better than sugarcane for ethanol production. The study was concluded prior to the enactment into law of the Biofuels Act (RA 9637) which requires vehicle manufacturers and owners as well as oil companies to use fuels diluted with sugar or starch-derived alcohol to reduce the country's dependence on imported fuel and promote cleaner air.

The feasibility study noted several advantages of growing sweet sorghum for biofuel.

First, it is drought-resistant and can endure storms and flooding. This enables farmers to plant the crop even if they have low access to irrigation or there are abrupt changes in climate and extreme weather disturbances in the Philippines.

Second, yield of bioethanol from sweet sorghum is comparable to that of sugarcane and better than cassava. Dr. Heraldo L. Layaoen, an agronomist and vice-president of the Mariano Marcos State University (MMSU) who is a member of the study team, said that the cost of producing a liter of ethanol from sweet sorghum is lower than that from sugarcane molasses. This is because sweet sorghum is sweeter, having 23 percent sugar content as compared to sugarcane's 14 percent.

Moreover, since planting season of sweet sorghum is only three to four months, it can be grown for two cycles in a year and can serve as secondary crop for rice. According to the feasibility study, tests at the MMSU have shown that sweet sorghum can produce 43-65 tons of stalks and 3.28-4.4 tons of grain per hectare.

"Both grain and stalks can be used as feedstock for bioethanol production and sold at reasonable prices," the study stated.

Dr. Layaoen also said that one hectare planted to sweet sorghum will yield 95-125 tons after a planting season of only three to four months (100-115 days) compared to sugarcane's 65-90 t/ha after almost one year of cropping season (300-330 days).

Third, the feedstock cost for the distillery from sweet sorghum only ranges from P12.55 to P14.07 per liter of bioethanol, which is lower than the feedstock costs of sugarcane, cassava, corn, and molasses.

Fourth, sweet sorghum is a cheaper and more reliable source of feedstock and bioethanol fuel for consumers.

"Blending ethanol with gasoline improves mileage as well as reduces toxic emissions. Ethanol blended with gasoline can be sold at retail at a lower price compared to unleaded gasoline," the study stressed.

Lastly, the study affirmed that biofuels have a huge captive market in the Philippines, a factor that will attract investors to enter the business of bioethanol processing. As mandated by the Biofuels Act (RA 9637), at least 20 bioethanol plants are needed to meet the requirement of an E10 (10 percent ethanol and 90 percent unleaded gasoline) blend by 2010.

"The country will benefit from additional jobs created, foreign exchange savings, and a cleaner environment with the promotion of ethanol as fuel. Sweet sorghum promises to provide a cheap and reliable source of bioethanol," the study concluded.

Commercialization of sweet sorghum

As a member of the Philippine Biofuel Board (PBB) created through the Biofuels Law, the DA is mandated to develop, implement, and monitor the government's biofuel production and utilization technology programs.

As early as 2005, BAR and through its National Technology Commercialization

photo courtesy of MMSU

Program (NTCP) has supported the research and development (R&D) and initial production of sweet sorghum in the Ilocos through MMSU. The project on commercial production of sweet sorghum was conducted in several areas in Regions 1, 2, 3, and Cordillera Administrative Region (CAR), Negros Occidental, Capiz, Bohol, North and South Cotabato, Sultan Kudarat, Bukidnon, Zamboanga, and Davao.

Results of the study showed that of the eight sweet sorghum varieties introduced by ICRISAT through DA-BAR, five are adaptable to local conditions, namely: SPV-422, NTJ-2, ICSR-93034, ICSV-700, and ICSV-93046.

In the Bicol region, through a collaborative undertaking of BAR, MMSU, and the Bicol Integrated Agricultural Research Center (BIARC), the region-wide commercialization of sweet sorghum includes the development of village-level technologies such as pops from its kernels and macaroons as well as the production of molasses and organic fertilizer.

As a source of food, sweet sorghum can be processed into products such as syrup, jaggery (a kind of molasses), vinegar, wine, flour, cookies, and pop sorghum kernels (similar to popcorn).

BAR, under the leadership of BAR Director Nicomedes P. Eleazar, is at the forefront of the commercialization of sweet sorghum for wide-scale production and use as food, feed, and fuel.

Currently, BAR is actively promoting and funding programs and project on sweet sorghum all over the country and is coordinating with other government agencies and private sector to maximize the potential of sweet sorghum in the Philippines.

BAR is mandated to coordinate and fund agricultural research and development activities, develop partnerships with local and international research organizations, strengthen institutional capabilities, manage knowledge, and advocate policies towards improved governance and progressive agricultural and fishery sector.

photo by RITA DELA CRUZ

ACIAR Country Manager Cecilia O. Honrado (right) and BAR Director Nicomedes P. Eleazar (left) exchange copies of the signed MOA for the implementation of a project titled Impact Assessment of A CIAR-Funded Research on Pesticide Use and Grain Storage in the Philippines. Looking on are (L-R): PDD Assistant Head Salvacion M. Ritual, PDD Chief Carmencita V. Kagaoan, Planning Unit Head Joell H. Lales, and PDD Technical Staff Mariko M. Ramos.

ACIAR, BAR bind agreement to conduct IAS on pesticide use and grain storage

The Australian Centre for International Agricultural Research (ACIAR) and Department of Agriculture-Bureau of Agricultural Research (DA-BAR) signed a Memorandum of Agreement (MOA) for the implementation of a joint research project. The MOA, signed by Dr. Jeff Davis, research program manager of ACIAR, represented by Country Manager Cecilia O. Honrado, and BAR Director Nicomedes P. Eleazar, binds the two entities to implement the study titled "Impact Assessment of ACIAR-Funded Research on Pesticide Use and Grain Storage in the Philippines." The agreement was signed on 7 February 2008 at the RDMIC Building, Visayas Avenue, Diliman, Quezon City.

The Impact Assessment Study (IAS) aims to assess the impacts of the series of pesticide researches as follow-through of the earlier assessment studies in the context of the guidelines on impact assessment developed by ACIAR.

Specifically, IAS hopes to: 1) document the process development of the pesticide admixture technology in stored grain pest management; 2) quantify the inputs, outputs, outcomes, benefits, and other impacts of the technology on rice, corn, and legumes; 3) analyze the impact pathway of the projects in the concerned crops; 4) estimate the socioeconomic returns from the adoption of the pesticide admixture technology; and 5) formulate policy recommendations on how to enhance the impact of future ACIAR projects in the Philippines.

ACIAR, being the leader in detailed impact assessments undertakings of its projects, has provided useful inputs in selecting, designing, and developing new projects.

Consequentially for BAR, a funding and coordinating body for agriculture and fisheries R&D in the Philippines, impact assessment studies are crucial in demonstrating that all its R&D endeavors are effective and their impacts are being felt at the ground level.

ACIAR has partnered with the Philippines to integrate impact assessment activities into their accountabilities and decision-making systems.

Four ACIAR-funded projects have been identified for collaborative development on the use of pesticides and grain storage in tropical areas of Australia, the Philippines, Malaysia, Thailand, and China from 1983 to 1994.

For the Philippines, the projects were implemented by the Bureau of Postharvest Research and Extension (BPRE). These are: 1) Integrated Use of Pesticides in Grain Storage in the Humid Tropical Countries; 2) Kinetics of Decay of Candidate Pesticides for Integrated Pest Control Programs; 3) Integrated Use of Pesticides in Grain Storage in the Humid Tropics; and 4) Increasing Efficiency of Integrated Pest Control in Grain Storage and Minimizing Pesticide Residues by the Use of Mixtures of Grain Protectants.

Leading the project are Dr. Sergio R. Francisco, program leader of the Impact and Policy Research Program-Socioeconomics Division of the Philippine Rice Research Institute (PhilRice); and Dr. Minda C. Mangabat, chief of the Crops Statistics Division of the Bureau of Agricultural Statistics (BAS).

This IAS is funded by ACIAR and jointly implemented by four research agencies of the Philippine Agriculture, namely: BAR, PhilRice, BAS, and Agricultural Policy Credit Council. BAR is the executing agency.

Also present during the MOA signing were Dr. Carmencita V. Kagaoan, chief of Program Development Division (PDD); Ms. Salvacion M. Ritual, PDD assistant head; Mr. Joell H. Lales, Planning Unit head; and Ms. Mariko M. Ramos, PDD technical staff member. *(Rita T. dela Cruz)*

Farmers...*from page 1*

to selected farmer-beneficiaries.

Implementers of the project included the Department of Agriculture-Regional Field Unit 3 (DA-RFU 3), Central Luzon Integrated Agricultural Research Center (CLIARC), and local government units (LGUs) of Zambales. The Ramon Magsaysay Technological University (RMTU) was also tapped to promote the sweet tamarind.

"The project has aroused the interest of local executives on the potentials of sweet tamarind. Majority of the municipalities in Zambales is planning to establish their respective scion groves and to eventually venture into seedling production for their local needs," PAC reported.

The commercialization of sweet tamarind in Zambales was made possible through the efforts of former Senator Ramon Magsaysay Jr. and PAC, with funding support from the Bureau of Agricultural Research (BAR). *(Miko Jazmine J. Mojica)*

SMIARC evaluates rubber dev't program for Southern Mindanao

photo by SMIARC

The established Marilog Research Outreach Station located at the DA Stockfarm, Marahan, Marilog, Davao City serves as the new site for the rubber RDE progject in rubber for Southern Mindanao.

The Southern Mindanao Integrated Agricultural Research Center (SMIARC), under the Department of Agriculture Region XI Rubber Development Program for Southern Mindanao, conducted a project visitation and field evaluation on 30 January- 2 February 2008.

The Bureau of Agricultural Research (BAR), being the lead institution in strengthening, consolidating, and developing the agriculture and fisheries R&D system, served as the funding agency for the program situated at the newly established Research Outreach Station at the DA Stockfarm, Marahan, Marilog, Davao City. BAR was represented in the activity by Research Coordination Division (RCD) Assistant Head Rolando V. Kintana and Technology Commercialization Unit (TCU) Coordinator Rodolfo L. Galang.

The BAR staff, together with SMIARC Manager Alfredo M. Cayabyab, Dr. Romulo Cena of the University of Southern Mindanao (USM), a rubber expert, and other regional staff workers, inspected the various projects at the station.

Under Phase I, five components were evaluated based on their accomplishments in 2007. These are: rubber budwood garden, rubber nursery, technology demonstration (RBFS), adaptability trial, and the production of information, education and communication (IEC) materials.

For Phase 2, it was proposed to conduct similar evaluation of project components per province as compared to the first implementation on the station.

Results showed that the rubber budwood garden were already established in 900 hills (three clones at 300 plants per clone). The rubber nursery contained 3,000 seedlings ready for budding. Only 350 rubber seedlings were successfully budded owing to the distance of the budwood source. The rubber plants intercropped with bananas, lanzones, mangosteen, corn, and eggplants were already in place. Canals, terraces, and boundaries have been established. This is part of the rubber demonstration program. Also, Region XI conducted rubber consultation with the provincial and municipal local government units (LGUs) in Southern Mindanao and rubber investment forum, among other things.

After the ocular inspection, Mr. Cayabyab briefed the group on the station's activities and accomplishments. He highlighted BAR and the High-Value Commercial Crops (HVCC) financial assistance to the projects. In response, Dr. Kintana said "this area holds a vast potential to develop the rubber industry which is fastrising, high-income generating with great demand in the world market. The SMIARC project is pioneering and it offers a timely support to the industry in Region XI."

Recently, rubber has been included in the list of priority crops under the DA's HVCC Program. In a survey conducted by the USM with rubber stakeholders, 85 percent were smallholders. According to USM, rubber stands out as a commercial crop in the Philippines because it is highly profitable, versatile, sustainable, and environment-friendly.

As part of its initiatives, DA has launched the National Rubber Development Program (NRDP) to gradually increase the country's rubber plantations to one million hectares. The NRDP runs parallel to the DA priority thrusts. These include developing of new lands for agribusiness undertakings, opportune time to respond to increasing supply and demand gap, and creating new jobs and correcting balance of trade through exports. *(Ma. Eloisa E. Hernandez)*

RP boosts rubber production through NRDP

The Bureau of Agricultural Research (BAR) is supporting the programs of the Department of Agriculture (DA) and its partner institutions to boost the development of rubber plantations nationwide.

The bureau is part of an inter-agency collaboration that initiated the 10-year National Rubber Development Program (NRDP) which aims to position the Philippines as the fourth biggest player in the world natural rubber industry by 2016.

Rubber, a cash crop among the agro-industrial commodities in the country, has been identified by the DA as a high-value commercial crop and could keep pace, if not overtake, the production of its neighbor rubber-producing countries dominated by Malaysia.

Currently, the Mindanao region is the major producer of rubber with 84,461 hectares. Zamboanga Sibugay has the largest area planted to rubber trees, followed by the provinces of North Cotabato and Basilan.

Based on suitability maps generated by BAR using the geographic information system (GIS), rubber can be planted not only in Mindanao but also in various provinces of Luzon and Visayas.

Based on the survey conducted by the University of Southern Mindanao (USM), the rubber smallholders comprise 85 percent of rubber tree production in the Philippines.

BAR has so far funded at least

turn to page 6...

CPAR FISHERIES WORKSHOP CONDUCTED

"After several terrestrial agricultural research and development programs, we also need to strengthen our efforts to support fisheries research and development," Director Nicomedes P. Eleazar stressed at the recently concluded Bureau of Agricultural Research (BAR) Executive Committee Meeting.

To do this, Director Eleazar approved the conduct of Fisheries Community-based Initiative (CBI) Workshop that would support the implementation of Community-based Participatory Action Research (CPAR) - Fisheries in the regions.

The workshop was conducted on 27-29 February 2008 specifically for the technical staff of the regional field offices of the Bureau of Fisheries and Aquatic Research (BFAR) through the Regional Fisheries Research and Development Centers (RFRDCs).

It aimed to enhance the skills and provide the latest information on fishery community-based strategies as well as sharing of experiences and lessons learned in the implementation of fisheries R&D activities by the participants. Furthermore, the workshop tackled the dynamic CPAR Fisheries framework, including Participatory Rural Appraisal (PRA), to be more responsive and appropriate in community action planning and community development activities.

During the workshop, the participants were exposed to several PRA tools and methods to assess community resources, identify gaps and concerns, and formulation of regional community-based participatory research and development plans and programs. Like the regular CPAR for Agriculture, all fishery programs will address the use and application of viable technologies for increased production and profit at the same time making all fishery communities information-sensitive and output-oriented.

As part of the workshop outputs, the participants prepared their plan of action for the conduct of fishery PRA and utilization of community-based initiative strategies. Based on this, BAR's efforts to make its programs attuned to localizing A/F development are assured and strengthened because of partnerships among BFAR, local government units, fishing communities and organizations, state universities and colleges, and fisherfolk. (*Marlowe U. Aquino, PhD*).

BAR convenes...*from page 7*

Natividad introduced to the participants the strategies and mechanics to be used in monitoring and evaluating all CPAR projects through the *e-Pinoy* FARMS.

The *e-Pinoy FARMS* is an ICT-based system that enhances and supports the monitoring and evaluation of CPAR projects for better technology refinement and systematic processing of community information and stakeholder characterization for appropriate and timely decision-making for agriculture and fisheries policies on research and development, agribusiness, and marketing. It provides local entrepreneurs, importers, and exporters a system to locate specific information on where they can buy seedlings and assists them in decision making.

BAR Technical Adviser for Knowledge Management Manuel F. Bonifacio gave the highlights of the programs as he averred that "CPAR is now the model of the modern agriculture." He emphasized that with the new means of managing the system through the integration of a time-bound exchange of information from CPAR and knowledge from farmers based on valid solid information, this inevitably will lead to the achievement of expected output.

Other presentations during the one-day activity included: updates on the "Bio-Organic Fertilization Production Program" presented by Agro-Forestry Crop Systems Inc. (AFCSI) President Rene T. Naguiat; and "Introduction of new products on enhancing organic crop production through nanotechnology" reported by Planters Products, Inc. Marketing Researcher Allan L. Aquino.

After the presentations, a forum was conducted to facilitate the identification of other issues and concerns. *(Maylen D. Villareal and Rita T. dela Cruz)*

Participants of the CPAR Leveling-off meeting held at BAR. photo by RITA DELA CRUZ

BAR participates in 7th Philippine Food Expo

The importance of indigenous plants for health and wellness was presented in a seminar series during the 7th Philippine Food Expo at the Megatrade Hall, SM Megamall, Mandaluyong City on 1 February 2008. This also served as the Bureau of Agricultural Research's (BAR) participation to the activity.

Dr. Lourdes Cardenas and Dr. Evelyn Rodriguez, professors at the University of the Philippines Los Baños, served as the resource speakers for the event.

The "Indigenous Plants for Health and Wellness" is a program launched by BAR in line with the celebration of the Health and Wellness Tourism month in October 2007. It aims to promote indigenous plants as functional foods that have a health-promoting and disease-preventing property.

Sponsored by the Philippine Food Processors and Exporters' Organization (Philfoodex), the food exposition was organized to help local manufacturers and processors showcase their products by bringing in together the small- and large-scale players in the food industry. Philfoodex is the country's biggest umbrella organization of local food processors and exporters.

This year's exposition highlighted regional food products from Luzon, Visayas, Mindanao, and Metro Manila and participated in by around 200 exhibitors from 31 January to 3 February 2008. The Department of Agriculture, together with its regional field units, also participated as exhibitors in the event. *(Ellaine Grace L. Nagpala)*

Nationwide PRA kicks off in Negros Oriental

The coordinated program of the Bureau of Agricultural Research (BAR) on Community-based Participatory Action Research (CPAR) kicked off through the Participatory Rapid Appraisal (PRA) in Sibulan, Negros Oriental on 11-15 February 2008. This activity was spearheaded by the Department of Agriculture-Central Visayas Integrated Agricultural Research Center (DA-CENVIARC) and participated in by the agriculture offices of the provincial and municipal government units.

PRA is a localized strategy used to assess community resources and generate relevant information needed in the formulation of community-based plans, particularly for the agriculture sector. It emphasizes the strong involvement of the community and people in the identification and evaluation of community resources, activities, and issues and concerns related to production management systems, and provision of community services. These were obtained through the use of several PRA tools in the pilot barangays of Magatas and Calabnugan in Sibulan.

The appraisal was participated in by DA-CENVIARC technical staff, agriculture officers, agricultural technicians, staff members of the provincial technical institutes, and barangay officers, farmers, and concerned groups of the community.

Similar PRA activities will be conducted in the provinces of Cebu, Bohol, and Siquijor. The output of PRA is a community-based plan and a CPAR project that will showcase and refine agricultural technologies for increased production and profit.

photo by MARLOWE AQUINO

Rain or shine, the PRA team conducts village mapping for the bio-physical characteristics of Brgys. Magatas and Calabnugan.

During the PRA, Sibulan Mayor Antonio Renicia signified his full support to the CPAR project and promised to provide additional resources and services to make the CPAR project in his town a success.

Excitement and enthusiasm overwhelmed the members of the municipal government and agreed to use the strategies and follow its process as part of their development planning to improve and develop the agriculture and fishery communities.

Mayor Renicia emphasized the need for hillyland development and practice of contour farming. He pointed out that this can be demonstrated with the priority commodities to improve the area during the actual community planning and programming.

Based on the results of the PRA, the municipality is now ready to formulate its CPAR project that will address the immediate agricultural concerns. Interventions will be identified and implemented by the community members.

The CPAR project is supported by BAR with some financial support and cost-sharing scheme with the DA-Regional Field Unit, local government units, non-government organizations, and farmers.

BAR's support for the conduct of PRA will properly address the identified needs, gaps and issues necessary for a holistic community development plan.

Other regions are now scheduling their specific PRA activities as part of a well-defined, participative, and coordinated community planning and programming highlighting CPAR as a development modality to institutionalize information driven agriculture and make farmers information-sensitive and output-oriented. (*Marlowe U. Aquino, Ph.D*)

Indigenous...*from page 1*

non-stock, non-profit, non-government organization which BAR has entered into partnership with the local government units (LGUs) of Aklan. The offices of Aklan led by Governor Carlito S. Marquez and Libacao Mayor Charito I. Navarosa are also supporting the project by providing counterpart funding.

This public-private partnership is expected to develop sustainable farming system for abaca production in Aklan. "The current situation is this: the farmers consider abaca as a tertiary crop since it is not planted systematically as it grows where is, as is. They only harvest abaca fiber when they need extra income," Project Leader and Director of SATRE Foundation Rica Cortes Rentzing said.

During the site validation and pre-implementation conference conducted by BAR and SATRE, farmer-technicians and representatives from LGU and Fiber Industry and Development Authority (FIDA) Region VI gathered to discuss the objectives and components of the project.

The project will form abaca clusters in the three barangays by grouping: 10 farmer-cooperators, 2 farmer-scientists, 1 farmer-entrepreneur, and 1 farmer-technician to supervise the techno demo farms.

The representatives from FIDA noted that although Region VI is not known for its abaca and only contributes a miniscule portion of abaca production in the country, 70-80 percent of Aklan's produce comes from Libacao.

At least five varieties of abaca planted and harvested in Libacao were identified by the farmer-technicians such as Tabukanon, Totoo, Bisaya, Negro, and Hagbayanon. FIDA representatives attested that the abaca plants from Libacao are all disease-free and thus produce high-quality fibers.

The farmer-technicians, together with a team from FIDA and the representatives from the LGU of Libacao, are set to identify and come up with a final list of farmer-cooperators for each barangay by the end of February. The orientation of the farmer-cooperators is set in the middle of March. *(Miko Jazmine J. Mojica)*

Researchable areas on indigenous plants discussed

photo by ELLAINE NAGPALA

Possible areas for research and development (R&D) on indigenous plants were identified in a meeting with a group of experts of three government and private entities held on 8 February 2008 at the Bureau of Agricultural Research (BAR) RDMIC building, Visayas Avenue in Diliman, Quezon City.

The experts were from the Department of Agriculture-Bureau of Plant Industry (DA-BPI), University of the Philippines Los Baños (UPLB), and Spa Association of the Philippines, Inc. (SAPI).

Spearheaded by BAR, the meeting was a take-off from the "Indigenous Plants for Health and Wellness RDE Program" launched in 2007 to promote the utilization of indigenous plants as functional foods and source of raw materials for nutraceuticals, pharmaceuticals, and cosmeceuticals.

During the meeting, areas identified for R&D were focused on indigenous plants that have high potentials in promoting health and wellness. The development of natural products for nutraceuticals and cosmeceuticals is also eyed. Moreover, the improvement of the packaging quality of natural products was identified.

SAPI president Marjorie Lopingco said that the government's thrusts are heading towards the right direction since indigenous plant materials are the "in" thing today, which are promoted by spas and other groups in the private sector.

SAPI is a non-profit organization established in April 2004 to promote and develop the spa industry in the Philippines. Its mission is to put forward the Filipino brand of SPA as it highlights the country's unique qualities in SPA treatments, experience, arts, and culture. *(Ellaine Grace L. Nagpala)*

BAR meets with SUCs to discuss R&D priority projects for 2008

The Bureau of Agricultural Research (BAR) convened on 5 February 2008 the key officials of the National Center of Excellence of the various state university and colleges (SUCs) in agriculture and fisheries to discuss R&D priority projects to be funded by the bureau in 2008. The activity was held at the BAR RDMIC building, Visayas Avenue in Diliman, Quezon City.

BAR is the lead agency mandated to coordinate and fund R&D activities for the development of agriculture and fisheries sector. In this regard, SUCs are being tapped to conduct research and development (R&D) and its significant results to be used by farmers and fisherfolk to improve their production.

BAR Director Nicomedes P. Eleazar, who presided the meeting, presented the bureau's directions and programs for 2008. Director Eleazar specifically elaborated on the alignment of the programs of BAR with that of the five priorities of the Consultative Group on International Agricultural Research (CGIAR) and the move towards the revitalization of agriculture and fisheries in the country. Meanwhile, Planning Unit Head Joell H. Lales presented the R&D agenda and programs for 2006-2010.

Eleazar encouraged the participants to submit proposals for basic and applied researches, particularly on product development, biotechnology, biofuels, indigenous plants, and policy studies. He said that the proposals to be submitted must be aligned with the priority commodities identified by the Department of Agriculture.

Present in the meeting were Dr. Enrico P. Supangco, vice chancellor for RDE of the University of the Philippines Los Baños (UPLB); Dr. Luis G. Sison, vice chancellor for R&D of UP Diliman (UPD); Dr. Ma. Lourdes SD. McGlone, director of the UP-Marine Science Institute (UP-MSI); Dr. Jose L. Bacusmo, president of the Visayas State University (VSU); Dr. Othello Capuno, vice president for Research and Extension of VSU; Dr. Glenn D. Aguilar, chancellor of UP Visayas; Dr. Eugenio A. Alcala, vice president for RDE of the University of Southern Mindanao (USM); and Dr. Teotimo Aganon, vice president for Research, Extension and Training of the Central Luzon State University (CLSU). *(Ellaine Grace L. Nagpala)*

photo by ELLAINE NAGPALA

BAR holds a meeting with the key officials of State University and Colleges (SUCs) regarding the priority projects to be funded by the bureau in 2008. Present in the meeting were Dr. Enrico P. Supangco (UPLB), Dr. Luis G. Sison (UPD), Dr. Ma. Lourdes SD. McGlone (UPMSI), Dr. Jose L. Bacusmo (VSU), Dr. Othello Capuno (VSU), Dr. Glenn D. Aguilar (UPV), Dr. Eugenio A. Alcala (USM) and Dr. Teotimo Aganon (CLSU).

DA taps agribiz and IT experts to launch e-AgriteK

The Department of Agriculture (DA) is tapping experts from the agribusiness and information technology sectors to help the Bureau of Agricultural Research (BAR) in launching an electronic system that will equip stakeholders in farm and fisheries sector with knowledge tools to produce higher yields and earn more profits, particularly in research and development (R&D).

In a report to Agriculture Secretary Arthur Yap, BAR Director Nicomedes P. Eleazar said that this innovative development strategy, dubbed **e-AgriteK**, intends to unify the delivery of accurate information to researchers, farmers, fisherfolk, and other stakeholders so that they can apply and boost the business aspect of Philippine agriculture.

e-AgriteK stand for "*Kagalingan sa Agrikultura tungo sa Kabuhayan, Kasaganaan at Kaunlaran*."

"Our bureau will be tapping experts in the field of information communication and technology, community development, agribusiness and marketing, and development management to support and make agriculture and fisheries part of our daily activity with emphasis on effective and efficient R&D management," Eleazar said.

According to the BAR Director, projects covered by **e-AgriteK** will focus on the goals, vision, and mission of the development strategy highlighting agriculture as a business.

"Communities will have a share in this initiative by making agriculture relevant to livelihood activities be it on crops, livestock and poultry, fisheries, product development and processing, and most especially in community progress." he added.

Yap said that this BAR project complements DA's five-pillar program, particularly on: increasing public spending on R&D and extension work, along with irrigation and other infrastructure and postharvest facilities; provide more credit facilities in the countryside; and open more markets for Philippine farm produce here and overseas.

Yap noted that the goal of the project is to encourage stakeholders to use information available to them through **e-AgriteK** and develop a more profitable, modern, and globally competitive agriculture sector. He said that DA can truly realize its goal by organizing and systematizing agriculture and fisheries information and knowledge for optimal application, use, and exchange among users and partners.

Eleazar said that the four major components necessary to carry out the **e-AgriteK** are: 1) preparation of information and knowledge products, their dissemination and management; 2) enhancement of community-based knowledge systems; 3) expansion of the *e-Pinoy* FARMS and development of commodity production resource management system (C-PREMS); and 4) strengthening and maintenance of e-Partnerships for agriculture and fisheries development.

The bureau director said that *e-Pinoy* FARMS involves Regions 1, 5, and 9 as pilot regions and will expand to other regions for use and application of

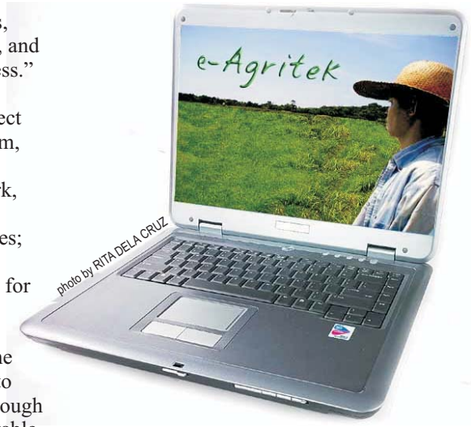

photo by RITA DELA CRUZ

community-based projects nationwide. C-PREMS covers prioritized high-value commercial crops such as fruits (mango, pineapple, banana), vegetable (chopsuey crops, *pinakbet* crops, and salad crops), rootcrops (potato, sweet potato and cassava), rubber, and abaca. It will also cover livestock and poultry, including dairy products.

e-AgriteK will be implemented nationwide with institutional assistance and support from the Agribusiness and Marketing Assistance Service (AMAS), Information Technology Center for Agriculture and Fisheries (ITCAF), and Agricultural Training Institute (ATI).

Member-institutions of the National Research and Development System for Agriculture and Fisheries (NaRDSAF), including state universities and colleges (SUCs), non-government organizations, and the private sector, will be tapped to help ensure the success of the **e-AgriteK** program. *(Marlowe U. Aquino, PhD)*

RP boosts...*from page 4*

eight projects devoted to research and development and commercialization of rubber tree production and harvesting all over the country.

The research centers of DA's Regional Field Units are currently testing the suitability and productivity of planting the recommended rubber clones in Palawan, Quezon, Pampanga, Tarlac, and Zambales. In Mindanao, North Cotabato and Davao also benefit from the rubber projects supported by BAR.

The bureau has funded the establishment of budwood gardens, nurseries, and technology demonstration farms for the recommended rubber clones, namely: RRIM 600 (Rb-99-01), RRIM 712, RRIM 901, PB 217 (Rb 99-04), PB 235 (Rb 99-02), PB 260, USM 1 (Rb 99-03), PB 311, and RRIM 628.

As part of the implementation plan of the NRDP, BAR will also support the characterization and evaluation of existing rubber clones, including hybridization to improve and develop new rubber clones.

For 2008, the agency is looking at the possible commercialization of tissue culture techniques for the rapid propagation of rubber seedlings and the promotion of rubber technologies and its commercialization in Rizal and Laguna.

The DA launched NRDP in 2006 together with BAR, Agricultural Credit Policy Council (ACPC), Agribusiness and Marketing Assistance Service (AMAS), Bureau of Plant Industry (BPI), Bureau of Soils and Water Management (BSWM), Field Operation Service (FOS), High-Value Commercial Crops (HVCC) Program, National Agribusiness Corporation (NABCOR), National Agricultural and Fishery Council (NAFC), and ZNAC Rubber Estate Corporation (ZREC), in collaboration with the provincial government of North Cotabato. *(Miko Jazmine J. Mojica)*

BAR convenes regions for CPAR leveling-off meeting

The Bureau of Agricultural Research (BAR) held a leveling-off meeting on the Community–based Participatory Action Research Program (CPAR) with the managers of the Regional Integrated Agricultural Research Center (RIARC) and Regional Fisheries Research and Development Center (RFRDC) on 6 February 2008 at the BAR's RDMIC building, Visayas Avenue in Diliman, Quezon City.

The meeting, spearheaded by BAR's Research Coordination Division (RCD), was set to have a common understanding of CPAR and present to the participants the current issues in the world agriculture vis-à-vis the priorities and programs of the Department of Agriculture (DA).

BAR Director Nicomedes P. Eleazar presented the "CGIAR System Priorities for 2005-2015" to provide the regions a world view of its current strategies and priorities, particularly on the issues of world poverty and food adequacy. BAR, being the sole representative of Philippine agriculture in CGIAR, must align its priorities and programs with those of the Group.

Eleazar also discussed "Revitalizing Agriculture/Fisheries (A/F) in the Philippines" which was originally presented by Albay Governor Jose Clemente "Joey" Sarte Salceda to substantiate the importance of R&D in the agriculture sector and why there is a need to increase its budget.

He likewise tackled "BAR's Major Programs for 2008 and Beyond" to serve as guidelines for the regions in their CPAR proposals and provide tighter focus in setting their regional priorities.

In his message, Eleazar instructed the regions that CPAR implementation should be in collaboration with the local government units (LGUs) to make them aware and involve them in the projects that are being implemented in their respective areas. He said that social participation with the LGUs is needed to intensify CPAR programs. The Provincial Office must provide farm trainings and leadership skills to sustain projects on farming activities.

photo by RITA DELA CRUZ

BAR holds a leveling-off meeting on CPAR to set a common understanding and provide participants on the current issues in world agriculture vis-à-vis the local priorities and programs of DA. BAR Director Nicomedes P. Eleazar (left) leads the one-day activity; with him in the photo are: RCD Head Tito Z. Arevalo (middle) and PU Head Joell H. Lales (right).

Meanwhile, RCD Head Tito Z. Arevalo introduced the new coordinators who will work hand in hand with the RIARC/RFRDC managers, namely: Jojee H. Lales (Regions 2 and 3); Amavel A. Velasco (Region IV-A); and Jonas Brian C. Almendrala (Regions 10 and 12).

Planning Unit Head Joell H. Lales presented the Research, Development and Extension Agenda and Programs (RDEAP) for 2006-2010 focusing on the bureau's major programs and priority areas of concern. These are: 1) intensification of CPAR; 2) commercialization of appropriate technologies; 3) establishment of Agribusiness Development Projects (ADPs) in RIARCs and other R&D station; 4) support to basic and strategic research; 5) Integrated Property Management; 6) Human Resource Development Program; 7) R&D Facilities Development Program; 8) Knowledge Products and Services Program; and 9) Information Communication Technology Program.

photo by RITA DELA CRUZ

An overview of the CPAR program is presented by RCD Head Tito Z. Arevalo (left) including its history, functions, status in 10 the poorest provinces, and plans for 2008.

In his presentation, Lales reported that as of 2007, the Bureau had funded 25 CPAR projects from which 16 were already completed and have been turned over to LGUs.

For 2008, BAR is targeting 53 CPAR projects to be implemented in 16 regions and expand its implementation to cover 400 new additional sites. For ADPs, the bureau targets 28 projects sites to be implemented this year.

An overview of the CPAR program was presented by Arevalo including its history, functions, status in the 10 poorest provinces, and plans for 2008. It was explained that communities must be properly characterized based on the priority commodities in the region and the needs of the farmers in the area. This is for better management of the CPAR in the regions.

Arevalo added that stakeholders in the community must be well represented in the project and production management system must be organized. He suggested that a bottom-up approach during consultation and action planning must be espoused and the problems and needs of stakeholders, particularly the farmers and fisherfolk, must be properly identified.

Based on the status report presented by Arevalo, in 2005, performance of selected regions with CPAR sites averaged a net increase in income of 45.30 percent. As of 31 December 2007, the number of barangay sites increased to 233 in 102 municipalities of 58 provinces of all regions. Farmer-cooperators of CPAR have gone up to 2,280 benefiting the other 844 technology adopters.

Program Development Division Chief Carmencita V. Kagaoan gave the details of the modified CPAR guidelines, its basic requirements, and items eligible for BAR support. This is to guide the regions on the CPAR proposals that they will submit to the bureau for evaluation.

Management Information Systems Division Head Marlowe U. Aquino and Optiserve Technologies, Inc. CEO Cheryl

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