

Alcala... from page 1



Sec. Alcala and Dir. Eleazar tasting the various recipes developed from Adlai. Also in the photo are: Ms. Teresa Perez-Saniano (2nd from right) of Earthkeepers and Mr. Dante S. De Lima, (right) program director of High Value Crops Development Program. Photo: RBERNARDO

Dir. Eleazar opened the meeting with a recount of how the idea of developing an *adlai* R&D effort was inspired by Sec. Alcala. He said that as early as August, BAR had already identified four regions and five state universities and colleges (SUCs) that would initiate the adaptability trials of *adlai* for seed production.

The active involvement of Sec. Alcala in the meeting sends a strong signal of DA's commitment to promote food self-sufficiency. In his message, he laid down the strategies to address the so called 'food gap' and develop alternative staple food sources, one of which is *adlai*. The Agriculture Chief also commended BAR for 'thinking-out-of-the box' and challenged the bureau to be the 'critical thinker' in this special undertaking on *adlai* research and development.

The meeting was conducted in collaboration with the *Magsasaka at Siyentipiko Para sa Pag-unlad ng Agrikultura* (MASIPAG) represented by its national coordinator, Dr. Chito P. Medina;

and the EarthKeepers through its president, Ms. Teresa Perez-Saniano. Representatives of the collaborating agencies and institutions had been given a weeklong training in Manolo Fortich, Bukidnon by MASIPAG to learn appropriate production management from planting to processing of *adlai*.

Present in the meeting were representatives of the focal agencies who are involved in the *adlai* R&D Program. These included: DA-Regional Field Unit's integrated agricultural research centers in Southern Tagalog (STIARC), Cagayan Valley (CVIARC), Bicol (BIARC), and Northern Mindanao (NOMIARC); collaborating SUCs composed of Isabela State University (ISU), Camarines Sur State College, Camarines Norte State College, Southern Luzon State University (SLSU), Central Mindanao University (CMU), and Central Bicol University; and nongovernment organizations (NGOs).

Also present in the meeting was Program Director Dante S. De Lima of



(right) Varieties of Adlai and (left) recipes made from Adlai: maja blanca and sinukmani. Photo: RBERNARDO

the High Value Crops Development Program (HVCD) and concurrent Bureau of Plant Industry (BPI) assistant director.

Secretary Alcala said that he expects to formally present the *Adlai* program to President Aquino early next year. He urged BAR and the concerned R&D agencies to come up with the results and relevant data specific on the production per hectare, cost of production, market projection, and appropriate conventional, and organic crop management systems for *adlai*.

"I am confident that our researchers and scientists are imaginative and diligent enough to take this opportunity to explore the potentials of *adlai*. We, at the DA, are open to new ideas to fasttrack our actions for the benefit of the agriculture and fisheries sector," he stressed.

After the meeting, Sec. Alcala led in the tasting of local recipes developed from *adlai* such as *sinaing na adlai*, *sinukmani*, and *maja blanca*. Aside from its nutritional value, Sec. Alcala extolled *adlai* as also having medicinal value that could help ease allergies and diabetes, to name a few. ### (Miko Jazmine J. Mojica and Patrick R.A. Lesaca)

# Sec. Alcala promotes *Adlai* as alternative staple food crop

In a bid to develop the potential of *adlai* as an alternative staple food, Department of Agriculture (DA) Secretary Proceso J. Alcala and Bureau of Agricultural Research (BAR) Director Nicomedes P. Eleazar, led the "Planning Meeting on Adlai Research and Development" at the BAR Conference on 13 December 2010.

Also known as "Job's Tears", *adlai* comes from the same family of grasses (*Poaceae*) where wheat, corn, and rice belong. It is a tall grain-bearing tropical plant which is native to East Asia. The grains are generally spherical, with a groove on one end and polished white in color. (See also [http://www.bar.gov.ph/news/adlai\\_training.asp](http://www.bar.gov.ph/news/adlai_training.asp)). It is thought to have been introduced in Northern Luzon, during the archipelago's prehistory.

Throughout East Asia, Job's Tears is available in dried form and is often cooked as grain. It may be boiled and eaten like rice or added to stews and soups. The grains may also be ground into flour for baking or fermented to produce beer and wine.

The meeting was called to plan out the research and development (R&D) activities on the utilization and promotion of *adlai* as an alternative staple food



Agriculture Sec. Proceso J. Alcala (right) and BAR Dir. Nicomedes P. Eleazar (center) lead the planning meeting on Adlai, a research endeavor in collaboration with two nongovernment organizations, namely: Earthkeepers and Masipag. Photo: RBERNARDO

source. This is in line with DA's effort on identifying alternative food crops toward the attainment of the food self-sufficiency program of the government. The meeting also addressed the need to determine the adaptability of available varieties or strains of *adlai* in selected regions. Related to this is the need to

develop the package of technologies (POTs) on cultural management practices and food products and by-products from *adlai*, and the need to promote the crop's uses as food, feed for livestock/poultry, and for other purposes.

The resulting proposal on exploiting the potentials of *adlai* will be used as the basis for the preparation by other agencies involved in their respective project proposals on this underutilized crop.

turn to page 16

## What is Adlai?



Photo: RBERNARDO

*Adlai* (*Coix lacryma-jobi* L.) is a freely branching upright herb that can grow as tall as three feet and can be propagated through seeds. Also referred to as Job's Tears due to the tear-like shape of its grains (which are white or brown), *adlai* comes from the family *Poaceae* or the grasses, the same family that wheat, corn, and rice belonged. *Adlai* originated in Southeast Asia. The leaves are 10-40 cm long, 2.5-4 cm wide, with the base broad and cordate. The spikes are 6-10 cm long, erect and peduncled, while the male spikelets are about 8 mm long.

Grains are usually harvested 4-5 months after sowing and are separated from the stalks through threshing. Like rice, the seeds are first sun dried before milling. *Adlai* is 50 percent starch, 14 percent protein, and 6 percent fat. #



RDMIC Bldg., Visayas Ave., cor. Elliptical Rd.  
Diliman, Quezon City 1104  
PHILIPPINES

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

## What's inside...

Alcala leads R&D meeting on Adlai.....	1
BAR conducts strat plan.....	2
Co-culture system potential of sea cucumber.....	3
BAR, BFAR tie up for a fisheries livelihood.....	4
Phil coconut industry summit held.....	5
R&D is key component of Phil Soybean Roadmap.....	7
BAR celebrates Christmas 2010.....	8
Apayao State College "storm" BAR.....	10
BAR, STIARC project on tamarind wins award.....	11
Sec. Alcala underscores vital role of info officers.....	12
FEATURE: Small fishpond farmers benefit.....	13



# BAR conducts strat plan

To effectively plot its future direction in strategically implementing its programs and projects, guided by its vision, mission, and mandate, the Bureau of Agricultural Research (BAR) conducted a "Strategic Planning Workshop" on 8-10 December 2010 in Tagaytay City.

BAR Dir. Nicomedes P. Eleazar opened the activity with remarks highlighting on the importance of having a finetuned corporate plan for the next medium-term (2011-2016) and the need to effectively implement its key strategies in harmony with the current focus and priorities of the Department of Agriculture (DA) and the government.

To provide proper perspective on the DA's current priorities, Mr. Joell H. Lales, head of BAR's Planning Unit, presented the *Agri-Pinoy* (Agricultura Pilipino) Framework which serves as the backbone or foundation on which strategic DA programs and initiatives are to be built upon and implemented according to priority needs of the agriculture and fishery sector.

Mr. Lales mentioned that this is a "development framework for the entire Filipino nation and not for the DA alone". He also re-echoed the "Agriculture and Fisheries Issues and Challenges/Strategies" which was presented during the recently-concluded DA-PS/NEDA Agri Staff Consultation Writeshop. Among the issues and challenges/strategies highlighted were: attaining rice self-sufficiency, going for staple food



BAR Dir. Nicomedes Eleazar and Asst. Dir. Teodoro Solsoloy lead key staff during the strategic planning workshop. Photo: RDELACRUZ

self-sufficiency by diversifying food and nutritional options; providing alternative and viable options to significantly reduce production inputs; intensifying adoption of technologies through mechanization; improving supply chain efficiency; improving logistics and investments in needed rural infrastructure; increasing resiliency against climatic variability and extreme weather events; advocating sustainable agricultural practices to preserve the integrity of the natural resource base; and increasing public investments in commodities that exhibit competitive advantage.

In view of the directions of the current administration, particularly on rice self-sufficiency, and to add further guidance and directions in preparing

the CorPlan, Dr. Carmencita V. Kagaoan, chief of the Program Development Division (PDD) presented "The Philippine Food Staples Self-Sufficiency and NFA Roadmaps for 2011-2016".

Finally, a working draft of the BAR Corporate Plan for 2011-2016 was presented and deliberated on for finalization. Leading the discussions were Dir. Eleazar and Asst. Dir. Teodoro S. Solsoloy who enjoined everyone to throw in their brightest and freshest ideas into the pot. The finetuned CorPlan which was the output of the activity will be finalized and packaged for early dissemination.

Asst. Dir. Solsoloy delivered the culminating BAR message for the activity. ### (Rita T. dela Cruz)

demand in both the local and export markets resulting to fast commercial growth of mudcrab culture in the country.

For the CPAR project, the introduced technology is the pen culture or the use of net enclosures in mangroves or tidal zones. This is easy to construct, simple to operate, and requires low investment cost which is appropriate in creating livelihood opportunities for coastal communities. This practice is also environment-friendly as it improves the growth of mangroves in the area.

In the seafood market, selling underweight mudcrabs is discouraged as they should be of good size to command a good price. The bigger the mudcrab, the better is the profit, hence fattening is the key to profitable mudcrab production.

Mudcrabs are carnivorous and

many fishpond farmers depend on trash fish as feed. "But we encourage our fisherfolk cooperators to feed them with cheaper and readily available feed components such as snails which can be readily picked from rice fields or the *bagungon* which they can get in milkfish ponds. This way, we can do away with feeding them with trash fish, which attain commercial value when full grown, or with other fish fry and juveniles," Abrera explained.

*Bagungon* are large univalve snails with heavy tall shells that resemble the shape of a little telescope. These telescope-looking shells which feed on organic debris are usually found on exposed mudflats where algae are also situated and are rich in protein. They are considered a nuisance in brackishwater fishponds because they inhibit the growth of natural food and compete with the stock for food.

## Benefits from the CPAR project

The cooperators of the project were provided with initial inputs for which they put up the counterpart of labor including the pond preparation and rehabilitation. Among the inputs provided to them were 70,000 *bangus* fry, 2,500 crablets, equipment for the culture production, and training and seminars on the technologies introduced in the project. Monitoring of the survival rate of the milkfish fry until the fingerling size showed good results which can be attributed to the application of proper technology intervention and the commitment of the cooperators in the project.

"The participation of the Provincial Fishery Office and the local government was crucial to project success since they provided technical support as well as the regular monitoring and evaluation in the area. The LGUs, led by the municipal mayor of Magsaysay and the provincial governor, have already indicated their continued support for this project," revealed Abrera.

Mr. Pedro Pido, one of the CPAR project fishpond beneficiaries and chairman of the Santacati cooperative, was thankful for the initial investments and technical assistance provided to them by the project. One of the important benefits from this CPAR project is that, more than anything else, "it gave us hope and a positive outlook so that our group could start again", he said. "Since we are adopting the modular approach in milkfish, we can harvest any time depending on the size demand. We can harvest every 45 days depending on the market demand. Right now, we can sell our produce in the local market of San Jose or sell them house-to-house during the harvest season," Mr. Pido added.

The town of Magsaysay is barely 15 kilometers away from San Jose, the next town where the Occidental Mindoro airport is located that has regular commercial flights to Manila which the Coop can take advantage of particularly in marketing their harvested mudcrabs in Metro Manila or even abroad as export.

According to Abrera, the benefit of the CPAR project is not limited to the coop members. "What we want here is the multiplier effect of the project, for other communities to emulate and adopt the technologies we have introduced for the total production in the area to increase." ###



Photo: JLAPITAN

## MARICULTURE PARK

... operates much like the industrial estates on land, with the investors setting up or renting fish cages to grow high value marine species such as milkfish, siganids, and seaweeds. These "industrial parks on the sea," include basic facilities like a mooring system that are set up in areas identified by marine technologists as ideal for fish farming.



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

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

### PRODUCTION TEAM

**Managing Editor/Layout:**  
**Consulting Editor:**  
**Writers/Contributors:**

Rita T. dela Cruz  
Victoriano B. Guiam  
Ma. Eloisa H. Aquino, Rita T. dela Cruz, Patrick R. A. Lesaca  
Miko Jazmine J. Mojica, Angelito A. Paguio, Jr.  
and Amavel A. Velasco  
Ricardo G. Bernardo and Anthony A. Constantino  
Victoria G. Ramos  
Julia A. Lapitan  
Dr. Nicomedes P. Eleazar, *CESO IV*

ISSN 1655-3942  
Copyright Bureau of Agricultural Research, Department of Agriculture 2010.  
For subscription and inquiries please contact us: Tel. Nos: +63 (2) 928-8505, 928-8624, 920-0234  
local numbers 3011, 3026, 3027 Fax No. +63 (2) 927-5691  
Email: [acd@bar.gov.ph](mailto:acd@bar.gov.ph)  
Articles are also available online visit our official website: <http://www.bar.gov.ph>





Modular pond system for milkfish implemented in the CPAR site in Magsaysay, Occ. Mindoro.

Pedro Pido, one of the CPAR project fishpond beneficiaries, explains the benefits from pen culture mudcrabs (King Crabs).



of bangus and even other aquaculture species.

#### Modular pond system for milkfish

To culture milkfish (*Chanos chanos*) in brackishwater ponds, the project introduced the technology of using the *modular pond system*, the culture of milkfish from fingerlings to marketable size. It is carried out in three stages: nursery, transition, grow-out using ponds with progressively increasing sizes with a ratio of 1:2:4 for the rearing ponds.

Abrera explained that from the initial stocking, the milkfish are reared

for at least 30 days in each module and are moved periodically from one module to another by inducing them to swim against the current. Hence, it is important that there is a sufficient buffer stock of milkfish fingerlings (at least 25 grams each in size) in the stunting ponds. Meanwhile, vacated compartments are prepared for 15 days for the next stocking. "This technology allows extra croppings with 6-8 per year without depleting the natural food supply," he added.

Just like swine or poultry-raising, 60-70 percent of the operational cost in aquaculture goes to

feed, according to Abrera, hence an efficient fish feeding system is important. For the milkfish culture, the project introduced the use of natural food including *lab-lab* (complex of filamentous and unicellular blue-green algae and diatoms) and *lumut* (filamentous green algae). The project favored the use of *lab-lab* as the main feed component since it was found that it is better in supporting growth and is easily consumed by milkfish.

A foreign-funded study conducted in the Philippines also found the same result on *lab-lab*. Results showed that milkfish fed with *lab-lab* had a higher growth rate than fish relying on *lumut*. The finding suggested a higher metabolizability and nutritional quality of *lab-lab* over *lumut* due to higher quality of dietary protein, trypsin inhibitors are absent and it has more retinol precursors.

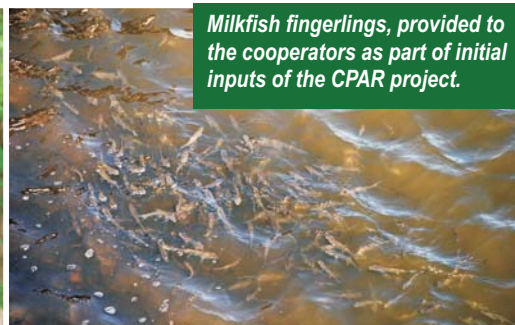
"Moreover, since we don't give them commercial feeds, it is safe to say that what we are harvesting here is organically-produced *bangus* which is in accordance with the Organic Act of 2010. This organic culture system is an advantage for our fisherfolk in Magsaysay," Abrera added.

#### Pen culture of mudcrabs

Mudcrab (*Scylla spp.*), popularly known as *alimango* or *mangilawod* (king crab), has a great



Mr. Roberto Abrera, RFRDC manager of BFAR 4B, explains how the CPAR project was able to assist many fisherfolk in Magsaysay.



Milkfish fingerlings, provided to the cooperators as part of initial inputs of the CPAR project.



Crablets for pen culture

## Co-culture system potential of sea cucumber and sea urchin assessed

Sea cucumber (*Holothuria scabra*) and sea urchin (*Tripneustes gratilla*) farming belong to the fisheries sector too.

Perceiving the need to "expand options" for marine aquaculture and improve management of local "invertebrate fishery" resources, Dr. Marie Antonette Juinio-Meñez, a marine ecologist from the University of the Philippines-Marine Science Institute (UP-MSI), conducted a research on the viability of co-culture system of sea cucumber and sea urchin as supplementary livelihood for fishermen.

Dr. Meñez said that co-cultured pens under field experiment fronted relatively lower sea cucumber survival unlike in the laboratory. Relatively higher total organic matter content of the sediments were however observed, both in field and lab tests, in set-ups with sea urchins compared to those without sea urchin.

"Co-cultured sea urchin and sea cucumber may be feasible, but increase in organic material in the sediment also increased potential predators or competitors," said the researcher.

Meanwhile, to improve the growth of sea cucumber in the hatchery, the marine ecologist from UP-MSI



Sea cucumber (*Holothuria scabra*)

focused on improving algal food in the hatchery, understanding the feeding ecology of post-settled juveniles and determination of mixed diets in the hatchery.

Another aspect of the study was the improvement of field grow-out methods to increase growth and survivorship of hatchery-raised sandfish (sea cucumber) juveniles. This included the identification of potential predators; characterization of predator avoidance

mechanisms; effect of conditioning (sand and predator) on the growth, survival and burying behavior of sandfish; biochemical analysis of *saponin* in sandfish.

Noting that invertebrate fishery resources poses high demand and market value and high mariculture potential of local species with the Philippines being strategically proximate to major world markets, Dr. Meñez recommended to develop strong invertebrate culture industry and to build efficient regional hatcheries and ocean systems that will enable small farmers to compete with big businessmen.

"Despite of being the second largest sea cucumber exporter in the world, the [invertebrate fishery] industry is ironically undervalued in the country and is currently collapsing," said Meñez. "Hatchery production of seedstock can help optimize production and enhance recovery of depleted wild stocks."

Sea cucumber, also called sandfish, is an highly-valued food item in China while sea urchin is valued for its roe and gonad in Japan and Taiwan.

Dr. Meñez's study on "Refinement of Sea Cucumber (*Holothuria scabra*) Culture Techniques and Assessment of Co-culture System for Commercially-Important Echinoderms" is a project funded by the Bureau of Agricultural Research. ### (Angelito A. Paguio, Jr.)



Sea urchin (*Tripneustes gratilla*)



# BAR, BFAR tie up for a fisheries livelihood opportunities in Quezon



(left photo) Farmer-beneficiaries and researchers from BFAR 4A conduct the PRA for the CPAR to be implemented in the selected sites. (right photo) BAR Dir. Nicomedes P. Eleazar delivers his message during the activity. Photos: MEGARCES

With the objective of establishing new fisheries livelihood opportunities in Sariaya, Quezon, the Bureau of Agricultural Research (BAR) and the Bureau of Fisheries and Aquatic Resources Region 4A (BFAR 4A) conducted a Participatory Rural Appraisal (PRA). This was followed by an assessment of the area, an offshoot activity with the initiative of Rep. Irvin Alcala of the 2<sup>nd</sup> District of Quezon to assist small fisherfolk in the area.

PRA is the first step in the conduct of a Community-based Participatory Action Research (CPAR) program. CPAR, which is one of BAR's flagship programs, aims to assess the existing resources of the identified area that can be harnessed to implement interventions and to identify possible problems that may be encountered and in which solutions can be developed beforehand.

The pre-identified technologies for Sariaya were oyster and mudcrab culture situated in Brgy. Bignay 2. However, based on the PRA, only mudcrab culture was found to be feasible in the area.

According to the municipal

agriculturist, Ernesto Amores, the area has previously been tried with oyster culture at Nabutas River but the trial indicated slow growth rate of oysters due to high salinity and poor water exchange.

"The Institutional Development Program of the local government (LGU) can take charge in organizing the fisherfolk into a cooperative. The deployment of personnel support/counterpart of the LGU may depend on the final proposal," Amores added.

As agreed, a proposed CPAR project titled, "CPAR on Crustaceans and High-value Finfishes in Ponds and Cages", is to be implemented. This focuses on mudcrab and grouper culture in fishponds. Grouper culture will replace oyster culture as it was found more feasible and has a higher market value.

Brgy. Bignay 2 and Brgy. Kiling are the selected project sites to be managed by a fisherfolk organization already existing in the areas. They will be re-organized by the concerned LGUs.

Mr. Tito Arevalo, BAR regional coordinator and Mr. Hannibal Chavez, RFRDC manager for BFAR 4A,

conducted an orientation on CPAR for the stakeholders, presenting its implementation, process flow, and role of the fisherfolk organization.

The fisherfolk were grouped and tasked to identify the resources present in their barangay.

A Coastal Resource Map for each barangay was crafted identifying the important resources that can be seen in the area such as *bangus* fingerlings, prawn post-larvae, grouper fingerlings, fishpond areas, mangrove areas, and local river and estuary.

Among the fisherfolk problems cited during the PRA included the lack of capital and fishing equipment, and a boat. The community hoped to acquire support from BAR, BFAR, and other agencies on this end.

Culminating the activity was the presentation of the workshop output to BAR Director Nicomedes P. Eleazar. In his speech, the director stressed the importance of having an organized fisherfolk cooperative which is a primary requirement for CPAR project. He added that members of a full-pledged Cooperative should undergo training on cooperativism. ### (Ma. Eloisa H. Aquino)

# Small fishpond farmers benefit from CPAR on milkfish, mudcrab

Story and Photos by:  
RITA T. DELA CRUZ



The site used to be an abandoned fishpond farm that was hardly managed by a group of small fishermen who try to make their ends meet. Due to the lack of capital and the technical know-how on appropriate aquaculture management, this 93-hectare fishpond has remained idle and unproductive for awhile—until a Community-based Participatory Action Research (CPAR) project came into Magsaysay, Occidental Mindoro.

The Regional Fisheries Research Development Center/Bureau of Fisheries and Aquatic Resources (RFRDC/BFAR) Region 4B introduced the technology on the culture of milkfish and mudcrab to the fishpond farmers in the area. One farmer-beneficiary is Santacati Small Fishpond Farmers Multi-purpose Cooperative (SSFMPMC).

The CPAR project titled, "Culture of Milkfish in Brackishwater Ponds and Pen Culture of Mudcrab in Mangrove in Magsaysay, Occidental Mindoro" was funded by the Bureau of Agricultural Research (BAR). This is in line with its commitment to fast-track aquaculture technology promotion and its adoption among fishfarmers in order to increase productivity and income of the fishing communities.

According to Roberto R. Abrera, RFRDC manager and the project leader, the general objective of the project is to promote and showcase technologies on the culture of milkfish in brackishwater and pen culture of mudcrab in mangroves using the CPAR concept. This has involved the participation of the stakeholders together with experts and researchers in identifying the most appropriate technologies to meet the community's priority needs.

The project has two components: 1) culture of milkfish in brackishwater ponds, and 2) pen culture of mudcrab in mangroves. These introduced specific technologies designed to increase production of milkfish and mudcrabs in the area and equip the members of SSFMPMC with the technical know-how to achieve and sustain improved incomes.

## Magsaysay as CPAR site

Occidental Mindoro has around 6,000 hectares of brackishwater fishponds, of which around 2,000 are privately-owned and 4,000 are leased out by the government. In Magsaysay alone, there are more than 2,000 hectares of fishponds, hence, it was

chosen as the CPAR site. This will serve as the model farm to other fishpond operators in the area.

Magsaysay is also noted as a major *bangus* fry collection ground. *Bangus* fry are caught from the wild during hatching season. This was another reason to choose Magsaysay as the site for beneficiaries and fishpond operators in the area as it can be a ready source of fry resources including crablets.

Magsaysay, with its lush mangrove cover, is also suited for mudcrab culture due to the still abundant population of king crabs which are of high-value.

Another advantage, according to Abrera, is that "Magsaysay is one area identified by BFAR 4B as a mariculture park or mariculture zone, the establishment of which is one of the banner programs of BFAR. Mariculture parks are specially designated areas where we introduce and implement modern aquaculture production."

This has good implications for the farmer-beneficiaries since they can now explore the possibility of raising *bangus* fry up to fingerling size as a surplus in excess of the requirements of their areas. They can sell these in the mariculture parks which lack fingerlings



## Sec. Alcala underscores vital role of info officers in promoting DA programs



Agriculture Secretary Proceso J. Alcala, guest speaker, delivers his message to DA information officers present during the DA Family PIO Consultative Meeting and Planning Workshop at the BSWM Convention Hall. Photo: RDELACRUZ

Agriculture Secretary Proceso J. Alcala, guest of honor during a consultative meeting of public information officers (PIOs) held on 7-9 December 2010 at the BSWM Convention Hall, underscored the importance of information officers as conduits of relevant and updated information on the Department's latest initiatives and programs.

The activity was spearheaded by the Agriculture and Fisheries Information Service (AFIS), led by Director Noel O. Reyes, who welcomed the participants. According to him, the consultative meeting was called in an effort to brief and orient the DA information officers on the new management's directions and directives. He also asked the information officers to keep the communication lines and channels open particularly for regular updates and success stories on the agency's activities in line with the DA's major programs and initiatives. The hope is to develop an efficient, effective and working network among PIOs in spreading the good news and keeping the public updated.

"No matter how good the intentions of the DA are in helping farmers and fisherfolk, the general public will remain clueless about our projects if these are left unannounced. As information officers who are tasked

to disseminate needed information, you are vital instruments in making the people know and feel the true programs of the DA," Sec. Alcala said.

To realize this, Sec. Alcala specifically instructed the group to translate various information education communication (IEC) materials on the latest technologies into various dialects that would be easier for farmers and fisherfolk to

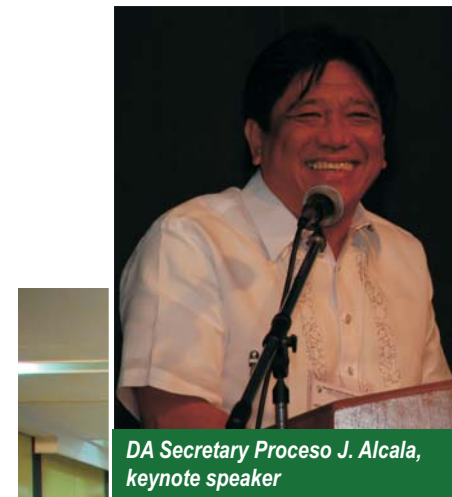
understand and appreciate. Likewise, this goes true for news bulletins, and segments aired on the radio or shown on television.

The three-day consultative meeting and planning workshop featured presentations and discussions on the current thrusts and programs of the DA that included: 1) Agri-Pinoy Program (DA Undersecretary Bernadette Romulo-Puyat), 2) DA Rationalization Plan (Agricultural Training Institute Asst. Dir. Alberto Maningding), 3) DA Fisheries Program (Bureau of Fisheries and Aquatic Resources Asst. Dir. Gil Adora), 4) Agri Pinoy Trading Posts (Sentrong Pamilihan ng Produktong Agrikultura ng Quezon Foundation Dir. Ariel Mañalac), 5) DA Foreign-assisted Projects (Engr. Roy Abaya of the Special Projects Coordination and Management Assistance Division), 6) DA Corn Program (Mr. Gary Rubio), 7) Rice Program (Mr. Glenn Estrada), 8) DA-HVCC Program (Ms. Arriane Aldeza), and 9) DA Webpage and IT initiatives (Ms. Liliosa Carmona of the Information Technology Center for Agriculture and Fisheries). ### (Rita T. dela Cruz)



Sec. Alcala and DA-Information Office Dir. Noel O. Reyes (right) pose with the information officers from various DA-Staff Bureaus, including BAR.

## Phl Coconut industry summit held; role of R&D highlighted



DA Secretary Proceso J. Alcala, keynote speaker



PCA Administrator Oscar G. Garin, presents the Coconut Industry Roadmap (2011-2016)



BAR Director Nicomedes P. Eleazar, opening remarks



Opening program of the Philippine Coconut Industry Summit held at the PSSC Auditorium, Quezon City Photos: NDELROSARIO III

In a bid to assess the status of the coconut industry as to its competitiveness, constraints, and prospects in the local and international markets, the Department of Agriculture (DA) hosted the Philippine Coconut Industry Summit on 9-10 December 2010 at the Philippine Social Science Center (PSSC) Auditorium in Commonwealth Avenue, Quezon City.

With the theme, "Stable direction leading to the overall equitable gains of a responsive coconut industry," the activity served as an occasion for coconut industry stakeholders to convene and formulate the industry's future directions, strategic R&D efforts, and

achievable targets in a consultative manner.

Bureau of Agricultural Research (BAR) Director Nicomedes P. Eleazar, in his opening remarks, stressed the importance and contributions of the coconut industry in the agriculture sector. "*Sinasabi na ang industriya ng niyog ang isa sa may pinakamalaking potensiyal para sa pag-angat ng kabuhayan ng mga mamamayan sa pamamagitan ng productivity enhancement, diversification, at value-adding na kung mapapamalagaan nang mabuti at epektibo ay maaring maging daan tungo sa pagsulong ng kanayunan at paglikha ng maraming trabaho para sa*

*mga maliliit nating magsasaka,*" he said.

BAR is working hand-in-hand with the Philippine Coconut Authority (PCA) in funding research for improved technologies to make coconut farmers more productive.

Dir. Eleazar presented the coconut R&D objectives of the bureau based on the National Research and Development Extension Agenda and Programs (NRDEAP) for 2011-2015.

"*Upang mapataas ang ani, ilan sa mga "researchable areas" na n-identify ay ang pag-aaral sa: 1) nutrition management; 2) integrated pest management; at 3) evaluation and utilization of genetic diversity of coconut. Samantala, upang mabigyan*



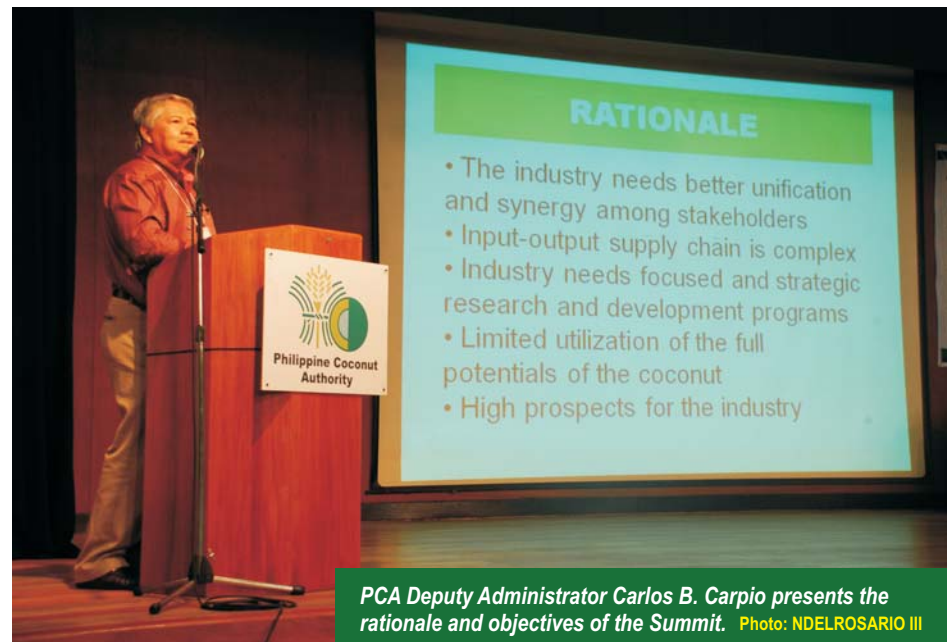
*naman ng katugunan ang mga problema sa limitadong paggamit ng mga bagong produkto mula sa niyog, ilan sa mga iminumungkahing “deliverable technologies” ay ang mga sumusunod: 1) development of new varieties identified for specific marketable products; 2) identification of efficient and high-quality products for competitiveness; 3) development of alternative sources of energy; and 4) maximum utilization of by products and waste products.”*

Meanwhile, PCA Administrator Oscar G. Garin talked on the proposed Coconut Industry Roadmap for 2011 to 2016. He emphasized the role of R&D to improve competitiveness through product quality improvement and strategic research.

Based on the roadmap, strategies included: 1) conduct medicinal and nutritional researches to ultimately prove the health benefits of coconut oil, 2) develop new high-value and emerging products from VCO, coconut sap products, galactomanan from macapuno, etc., and 3) conduct market research and promotion of emerging high-value products and by-products from coconut.

The first day of the activity was devoted to plenary sessions on the coconut industry's assessment and outlook, the current state of coconut production in the Philippines, coconut products and marketing, and industry policy and investment.

A workshop was also conducted with the participants organized into five groups to discuss production, processing, marketing, policy and investment, and farmers' concerns. Each group was tasked to make projections and propose medium (2011-2016) and long-term strategic plans (2016-2025). These will serve as the inputs to a strategic plan *cum* unified



PCA Deputy Administrator Carlos B. Carpio presents the rationale and objectives of the Summit. Photo: NDELROSARIO III

roadmap that will be developed for the coconut industry.

PCA Director Cesar Villariba Jr., DA Assistant Secretary for Operations Edilberto de Luna, PCA Board Member Pons Batugal, and Scientist and former DOST Secretary, Dr. William Padolina, served as a panel of commentators during the presentation of the workshop outputs.

Dr. Padolina talked on the importance of establishing a coconut research institute - a "world class" institute that will conduct strategic studies and research on the medical uses, marketing, and processing of coconut to increase its competitiveness.

The two-day activity was attended by stakeholders from various sectors such as the producers represented by coconut farmers, private seed garden owners, and government agencies; the industry sector that

included oil millers, desiccated coconut producers, oleochemical companies, coir processors, virgin coconut oil (VCO) producers, biofuel companies, and other product processors; and the industry support sector made up of traders and exporters, private R&D institutions, non-government organizations (NGOs), and local government units (LGUs).

Culminating the event was a message from Agriculture Secretary Proceso J. Alcala who talked about the importance of involving the LGUs to fast-track the implementation of identified projects. He suggested that the roadmap include projections to be prepared every six months to show the impacts of the interventions on the lives of coconut farmers.

The two-day event was organized and sponsored by the DA-Operations Service, PCA, and BAR. ### (Ma. Eloisa H. Aquino)

***There is a need to establish a "world class" coconut research institute that will conduct strategic studies and research on the medical uses, marketing and processing of coconut to increase its competitiveness.***  
~ Dr. Padolina



Sectoral consultation and workshop. Photo: NDELROSARIO III

## BAR, STIARC project on tamarind wins award in 18<sup>th</sup> Annual Fruit Symposium



Project proponents, Rosemarie Olfato (left) and Virgilia Arellano (right) with Aida Cariño (center), regional technical director for Research, DA-RFU 4A during the 18<sup>th</sup> Annual Fruit Symposium held at Bohol Island State University, Tagbilaran City, Bohol. Photo: courtesy of STIARC

The project titled, "Enhancement of Tamarind Industry in Lobo Batangas" implemented by the Southern Tagalog Integrated Agricultural Research Center (STIARC) and funded by the Bureau of Agricultural Research (BAR) through one of its banner programs, the National Technology Commercialization Program (NTCP), won third place during the recently concluded 18<sup>th</sup> Annual Fruit Symposium in Tagbilaran City, Bohol. It was chosen out of the 31 papers presented under the development category. Presenting the winning paper were project proponents: Virgilia Arellano, Rosemarie Olfato, and Merly Tuazon.

The proponents collaborated with the Big A Multipurpose Cooperative based in Biga, Lobo, Batangas for the project. Lobo is known for hectares of tamarind plantations, hence tamarind is the OTOP (one town, one product) of the municipality.

According to the Office of the Municipal Agriculturist, in 2005, Lobo has 12.17 ha tamarind plantation planted sporadically in the hilly and mountainous areas with a production of 146.87 tons raw materials.

The techcom project sought to fully enhance the tamarind industry in Lobo and to uplift the living condition of the tamarind farmers. The proponents said that one of the existing constraints of the tamarind industry in Lobo is marketing.

Marketing is limited mainly to sari-sari stores, very few mini-groceries, store stands at bus stop areas and cannot penetrate the big groceries and supermarkets due to a lot of required documents and lack of nutrition facts on the labels.

Through the project, the existing products of the Big A Cooperative which consists of tamarind wine, tamarind balls, and sweetened tamarind were enhanced.

Ms. Arellano said that the enhancement came in the form of modifying existing procedures and processes. For tamarind wine, they used *Saccharomyces ellipsoideus* instead of the ordinary baker's yeast. This modification resulted to an increase in the alcohol content of the wine from 1 percent to 12 percent. She added that for tamarind balls, the best sugar ratio and end-point of cooking were determined and standardized which resulted to softer texture of the balls and a more acceptable sweet-sour ratio. As for the sweetened tamarind, soaking time and best sugar ratio were also established giving a

more favourable taste to the product. Sensory evaluation was done to determine the acceptability of the products.

These improved products now come with new label designs complete with nutrition facts, it also has expiry date through shelf life and microbial determinations and complete with barcodes for commercialization purposes.

STIARC also conducted various market linking and promotional activities for this project. Through the project, the marketing aspect was observed to have increased. Return on investment is 40 percent, 42 percent, and 50 percent for tamarind balls, sweetened tamarind, and tamarind wine, respectively. The sales of the Cooperative also increased by an average of P118,426.63 per year covering the periods of 2007-2009.

Aside from winning in the award in the symposium, the tamarind wine was awarded the "Best Beverage" (wine category) during the 8<sup>th</sup> Agraryo Trade Fair in 2009 while, the tamarind balls was awarded "Best Processed Food" (sweet/delicacy category) in the 9<sup>th</sup> Agraryo Trade Fair in 2010.

STIARC also partnered with the local government and other agencies such as the Department of Agrarian Reform, Department of Science and Technology, Department of Trade and Industry, Municipal Agrarian Reform Office and the Municipal Agriculturist Office. ### (Amavel A. Velasco)



Photos: RDELACRUZ



# ASC students “storm” BAR

Dr. Jose Rizal once said, “*Ang kabataan ang pag-asa ng ating bayan*”. With this famous line, the concept of the youth having a key role in nation-building has become institutionalized. It is therefore important to inculcate in the youth the values of nationalism and acquiring a sense of direction in the pursuit of their chosen field or career in life.

Empowering students through the provision of quality education with proper exposure in their chosen fields can make the difference in national well-being. More young doctors could possibly mean more doctors in the barrios or in the far-flung areas. More young engineers could develop local technology that could be the basis for new industries. Agricultural productivity could be improved and sustained if we had more young people studying agriculture.

In the case of agriculture students, giving them proper exposure in their field can help create the learning paradigms and appreciation to agriculture.

Under this notion, a contingent of more than 130 agriculture students and faculty staff-members of the Apayao State College - Agriculture Department, “stormed” the Bureau of Agricultural Research (BAR) as part of their four-day educational field trip.

The Apayao State College (ASC) is a public college based in the province of Apayao in Northern Luzon. It is mandated to provide education in the arts, agriculture, and natural sciences as well as in technological and professional fields. Its campus is located in San Isidro, Luna, Apayao.

The educational field trip is an approach to enhance the learning



Student-visitors from Apayao State College watching the BAR Primer during the brief orientation. Photo: RBERNARDO

capabilities of the students by getting acquainted on realities in the field. This is thus an added opportunity for them to learn the dynamics of the business of agriculture.

Day two of their ‘*Lakbay Aral*’ landed the group in the bureau. Ms. Julia Lapitan, head of BAR’s Applied Communication Division (ACD), facilitated the visit and served as emcee. BAR Assistant Director Teodoro S. Solsoloy attended the orientation with a welcome message. Dr. Solsoloy commended the ASC for having 240 agriculture students currently enrolled which is huge considering that other agricultural colleges have lower enrollees. He encouraged the students to continue on in their chosen field and, in the future, contribute to the betterment of Philippine agriculture.

The orientation program included showing of the BAR Primer, an audio-visual presentation on the current R&D thrusts and programs of the bureau, and an open forum. Ms. Lapitan also shared the many on-going activities and

accomplishments of BAR, being the research arm of the Department of Agriculture (DA).

Also present in the orientation were BAR staff including, Dr. Carmencita Kagaoan, head of the Program Development Division; Mr. Victoriano Guiam, head of the International Relations Unit; Ms. Ligaya Santos, assistant head of the Research Coordination Division; Ms. Evelyn Juanillo of the Technology Commercialization Unit; and Mr. Bernardo S. Manuel of the Information Management Unit.

ASC students and faculty were also toured around the Technology Commercialization Center and the Scientific Library System section of BAR.

The ASC delegation led by Dr. Angelito Reñosa and Agriculture Department Head, Rowena Gasmeña.

Other DA agencies that were visited by the ASC included the Philippine Carabao Center in Munoz, Nueva Ecija; DA Central Office; Bureau of Animal Industry; and Bureau of Soils and Water Management in Quezon City.

In Los Banos, the contingent visited the International Rice Research Institute (IRRI); UPLB’s Institutes of Biotechnology and Plant Breeding, College of Engineering and Agricultural Technology; Postharvest Research and Training Center, and the Animal Science Cluster units.

The visitors also visited the Central Luzon State University (CLSU); PhilRice and the congress of the Republic of the Philippines.

The field trip ran from December 6 to 9, 2010. Dr. Zacarias Baluscang Jr. is the current President of ASC. ### (Patrick RA Lesaca)



# New R&D initiatives to boost soybean production on the way



TCU Head Anthony B. Obligado (2nd from left) and Ms. Rosie Aquino of DA-RFU 2 (2nd from right) and other members of the proposed Technical Working Group discussing the Soybean Roadmap for DA. Photo: EAQUINO



Mr. Dante De Lima, program director of the High Value Crops Development presents the draft of the Philippine Soybean Roadmap for 2010-2014. Photo: EAQUINO

To build a strong soybean production industry that is community-based and sustainable; and to establish a viable product processing industry through public-private partnership initiative, the Department of Agriculture (DA) is crafting the Philippine Soybean Roadmap for 2010-2014 titled, “Building sustainable soybean industry in the Philippines.”

Soybean, one of the most versatile among the high-value crops, can help solve the chronic problems of hunger and malnutrition. “With the present challenge of climate change, soybean, a legume that is a short-term, sun loving crop, has a great potential to adopt to extreme climate and, at the same time, be a source of healthy and nutritious food for the future,” said Dir. Dante S. De Lima of the High Value Crops Development Program (HCDP), in a presentation of the drafted soybean R&D roadmap at the Bureau of Agricultural Research (BAR).

The Department plans to expand soybean production in the country. Based on the roadmap, DA aimed to establish: 1) knowledge-based and farmer-friendly research facilities for soy bean production and its development in the strategic production areas in the country; 2) support

infrastructure and an incentive system that empowers small farming communities to become productive units of soya beans; and 3) strong partnerships with the private sector in the processing and marketing of soya-based products in the local and international markets.

“The resulting soybean program strives to develop improved soybean varieties that are resistant to biotic and abiotic stresses, and are favorably responsive to organic production management practices,” said Ms. Rosie Aquino of DA-RFU 2.

BAR, being the lead agency for coordination and funding of agricultural and fishery research, serves as the focal agency in the conduct of various R&D activities of the program.

These will be carried out with the University of the Philippines Los Baños (UPLB); Landbank; DA-staff bureaus including the Bureau of Plant Industry (BPI), Bureau of Soil and Water Management (BSWM), Agricultural Training Institute (ATI), Bureau of Agricultural and Fisheries Product Standards (BAFPS), Philippine Center for Postharvest Development and Mechanization (PhilMech); DA-attached agencies such as the Agribusiness and Marketing Assistance Service (AMAS), Agricultural Credit

Policy Council (ACPC); and selected DA-Regional Integrated Agricultural Research Centers (RIARCs) that will implement the projects.

“There should also be active participation from the local government units, non-government organizations, and other private sector organizations,” Mr. Delima added.

Demo trials will be established in key provinces of the country including Isabela, Batangas, Quezon, Mindoro Occidental, Negros Occidental, Negros Oriental, Bukidnon, Maguindanao, South Cotabato, Agusan del Norte, Surigao del Sur (Tago, San Miguel, Carmen and Nasipit), and Manambulan, Davao City.

Mr. Delima suggested to include Region 9, especially Zamboanga Peninsula, because the region focuses on white corn and has existing organic producers of corn. Soybean is excellent as an additional crop in the rotation cropping of rice and corn under a farming system.

Soybean will soon be planted in Isabela and Manambulan in Davao City as part of the adaptability tests of the R&D component.

The program is expected to generate employment, increase farmers’ productivity and income, and offer stable prices of raw materials to processors. ### (Ma. Eloisa H. Aquino)



# **BAR celebrates**

# **Christmas 2010**

The Bureau of Agricultural Research (BAR) celebrated the yuletide season with its annual Christmas party on 21 December 2010. The fun-filled whole-day activity was enjoyed by the whole BAR staff together with their families at the newly-built BAR Multipurpose Hall located behind the BAR building.

In the spirit of the season, an early-morning mass was celebrated to give thanks for a productive year that saw BAR setting accomplishments and milestones which have benefitted the agriculture and fisheries sector.

Afterwards, the children of the staff were treated to entertaining games and a magic show in the whole morning while the rest of the afternoon was dedicated to the much-awaited annual Christmas presentation of the BAR staff plus more fun and games, this time, for the adults.

For three years in a row, the Applied Communication Division (ACD)-Intellectual Property Rights Office (IPRO) team took home the grand prize with their song and dance number. Meanwhile, the Technology Commercialization Unit (TCU)-

International Relations Unit (IRU) team was tied with the Office of the Assistance Director (OAD)-Information Management Unit (IMU) team for the second prize. The Office of the Director (OD)-Planning Unit (PU) team bagged the third prize.

Now in its second year, the Christmas decorations contest using recycled materials drew creative and interesting creations from the BAR units and divisions. This year, the IMU bagged the first prize while ACD got the second prize, and TCU settled for the third prize. ### (Miko Jazmine J. Mojica)



Thanksgiving mass



Children's Christmas party



BAR Director Nicomedes P. Eleazar, delivers his message for the occasion.

## Divisional/Unit Presentations



PDD



ACD and IPRO



TCU and IRU



Admin



RCD



OD



IMU and OAD



Finance

Photos: EAQUINO, RBERNARDO, ACONSTANTINO, RDELACRUZ, NDELROSARIO III, MINOJICA, and AVELASCO