



“Working for agriculture is both rewarding and challenging” **-Secretary Lorenzo**

The hush that followed Secretary of Agriculture Luis P. Lorenzo's entrance to the seminar hall was a prelude to a speech that saw more fervent hopes in the country's agriculture industry.

Lorenzo was a guest speaker at the *Regional R&D Management Meeting, National Extension Agenda and Community-based Participatory Action Research (CPAR) Forum* at the Bureau of Soils and Water Management (BSWM), June 11.

“I congratulate the Bureau of Agricultural Research for organizing this activity and for being instrumental in our continuous effort to share valuable knowledge with our clients and the public, and I would like to thank you all for being here,” Secretary Lorenzo said.

He recognized the presence of the regional partners in the seminar and told that their presence is a sign of their desire to learn further and dedication to their work, and their desire to uplift the

life of the Filipino farmer.

“While the R&D system has all the possible means to collect data and information from farmers, the extension system is responsible in relaying the information to the countryside. It is still the best alternative in terms of cost efficiency and speed. The extension system, having a direct and more extensive contact with farmers, can provide up-to-date data and information to help improve the relevance of research,” he stressed.

Lonely journey

He said that working for the agriculture industry is a rewarding endeavor but it is not without challenges.

“It was a lonely journey, but I soon realized that what I was working for is worth every effort.”

He went on to cite the efforts of those who have dedicated most of their career life with the department.



DA Secretary Luis P. Lorenzo

“If you work well outside the bounds of what is required of a government worker, it is because you know in your hearts that what you are working for is worthwhile, and it changes the lives of people. For that, I congratulate you all.”

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From farming back to farming

by Virginia A. Duldulao, Ph.D

What distinguishes an individual to be considered successful? Many factors can be cited and surely one of these could spell the difference. In search of a success story in the Bicol Region when I was part of a team that went to evaluate CPAR projects, we identified a female corn farmer. And yes, I had written about her and published the story. But surely there are other

players in agriculture who can make this field better and could be considered successful. We came across another without intending to.

After traveling a long narrow but cemented road in Masbate going to the CPAR sites, the group decided to drop by the mayor's house for the group from BAR to meet him.

"He has been our ardent partner in our programs since he became the mayor. His number one priority is agriculture," our Masbate technicians told us. What is a few minutes anyway to know what he is doing for agriculture, especially that we needed a strong partnership with the local government units to be on the ground. We conceded and so we stopped at a new and unfenced house. There was a government vehicle ready to start but was only waiting for the most important passenger and there were some people waiting. They were going to visit projects. Yes, but first, he is going to meet us.

Someone got out of the house and instructed the driver to wait. He is

the municipal mayor of Cataingan, Masbate— Atty. Felix L. Cabataña. Even at the start of his first term as mayor, he already embarked on agriculture prospects for his municipality.

"The population of Cataingan is predominantly farmers and my vision is to help the majority because they are the ones who really need help," Mayor Cabataña said. The municipality extended credit to the farmers but alongside this service was the development of credit consciousness among them: what is borrowed is to be paid. There was no limit on giving fertilizers to the farmers but all these were paid for. Again, before the farmers could avail of the fertilizers, they had to undergo training on the proper use. He requires them to have their soil analyzed so that they use the proper kind of fertilizer and application rate. There had to be no trial and error in their use of fertilizer especially that this input is very expensive in that place. (We took a motorized boat to reach Masbate.) Foliar fertilizers were also introduced but the farmers prefer the inorganic ones since they already knew how to use them and had been satisfied with their performance.

With a rugged terrain and a harsh climate for agriculture, it is still worthy to note that the town, even the whole province, could still produce an average of five to six tons per hectare of corn. The farmers found the planting of white corn, the



Atty. Felix L. Cabataña (with white cap), municipal mayor, Cataingan, Masbate

Tinigib variety, more profitable. Mayor Cabataña said that the town is self-sufficient in corn and even has surplus that is sold to other municipalities.

"We have about 100 hectares planted to rice and we grow this side by side with corn. We even tried mungbean but we don't have the technology," the mayor remarked.

"It is fulfilling to be a mayor when the constituents give their cooperation. We are an agricultural and third class municipality but I am happy to see that our farmers are

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Winning the farmers' hearts and minds is the key - Navarro



Dr. Rex L. Navarro of ICRISAT

It's all about hearts and minds. This essentially sums up how Dr. Rex L. Navarro of the International Crops Research Institute for the Semi-arid Tropics (ICRISAT) described a successful adoption of technology, and consequently, an improved standard of living of farmers.

Dr. Navarro, during the Knowledge Management Seminar Series held at the Bureau of Soils and Water Management (BSWM) Perez Hall gave a seminar on *"Leap-frogging Research-Extension-Farmer Linkages and Resource Mobilization for National Agricultural Research and Extension System (NARES)"* on 10 June 2004.

Through ICRISAT's mission of, "helping the poor of the semi-arid tropics through science with a human face and partnership-based research, increased agricultural productivity and food security, reduced poverty, and protection of the environment," they were able to develop strategies to reduce poverty, increase crop productivity and food security, and preserve the environment. He

reported that this was able to aid ICRISAT in their turnaround from turbulent times in the mid-90s, to being an award-winning research institution that it is today.

Dr. Navarro went on to present their "practical formula" on how to make these strategies work. He cited establishing a *clear vision*, and being able to *internalize these visions*.

They have a *capable team* that efficiently puts these visions into action and a work environment that *advocates decisiveness and the ability to take risks*. He also cited the importance of a work place where *humility*, being able to *admit mistakes*, *trust*, and *sense of humor* abound. He pointed out that people work better if they see a give and take of admission of mistakes and acknowledging of good work between and among superiors and subordinates.

RP-ICRISAT R&D collaboration

Dr. Navarro mentioned the areas where the Philippines and ICRISAT work together. These are: a) exchange of cutting edge technologies, new research methods, and scientific literature; b) capacity building for Philippine NARES staff; c) resource mobilization; d) planning and implementation of research and training programs on dry land agriculture; e) conduct of study tours, symposia, workshops, conferences and other scientific/technical activities; and f) provision of scientific, support staff

and logistics for in-country collaborative programs/projects.

He said that ICRISAT has been supporting the country's R&D effort by providing access to cutting edge technologies and other international public goods on dry land agriculture, and by giving training and technical expertise on dry land agriculture, knowledge management, information systems and resource mobilization. They also share information on the latest trends in international agricultural research, and ICRISAT was able to help identify donors and other funding sources for research and training; conduct symposia, workshops, and/or conferences and other scientific/technical activities; link the country with international, regional and sub-regional organizations in agricultural R&D; and promote and market joint research and training programs/projects to donors.

Dr. Navarro also said that the involvement of the private sector is also key to a successful agriculture modernization. He suggested tapping the business community, cooperatives, and civil society groups to help in the extension efforts.

He described how the Virtual Academy for the Semi-arid Tropics (VASAT) has worked for ICRISAT and their clientele, and which will be used as a model for an open academy for agriculture in the country.

"Linking research, extension, and the farmer is like trying to connect three very different worlds. It is not easy. But it must be done." was Dr. Navarro's challenge. (Ma. Lizbeth J. Baroña)

Knowledge management seminar and CPAR forum kicks off

The Department of Agriculture - Bureau of Agricultural Research (DA-BAR) conducted the *Knowledge Management (KM) Series and the Regional Research and Development (R&D) Management Meeting, National Extension Agenda, and Community-based Participatory Action Research (CPAR) Forum*. The activities were held at the Bureau of Soils and Water Management (BSWM) Convention Hall, Elliptical Rd. cor. Visayas Ave., Quezon City on June 10-11, 2004.

During the KM Seminar series, Dr. Rex L. Navarro, special assistant to the Director-General of the International Crops Research Institute in the Semi-Arid Tropics (ICRISAT), delivered two lectures. These lectures were: "Leapfrogging Research-Extension-Farmer-Linkages" and "Resource Mobilization for the National Agricultural Research and Extension System (NARES)".

Dr. Roger Barroga of the Philippine Rice Research Institute (PhilRice) briefed and updated the participants on the Open Academy for Philippine Agriculture (OPAPA). Mr. Ricarte Castro, BAR Information and Communication Technology Section head, discussed the Bureau's initiative under the Agriculture and Fisheries Research and Development Information System (AFRDIS), specifically the proposed Agritech Online.

In the afternoon, DA-Project Development Service Director Felix Jose Montes lectured on the DA-Official Development Assistance (ODA) Protocol. This lecture was



Dr. William C. Medrano (left) delivering his speech during the closing ceremony of the Knowledge Management Seminar.

followed by a talk on Grant Search and International Cooperation of DA-BAR, delivered by Mr. Victoriano Guiam, BAR Grant Development and International Cooperation Unit (GDICU) head. Dr. Esteban Godilano of the DA-BAR Technical Advisory Group (TAG), shared his expertise on the Geographical Information System (GIS).

A business meeting on National Extension Agenda and Program was held the following day. This was presided over by Director Asterio Saliot of DA-Agricultural Training Institute (ATI). Dr. Rustico David of the BAR Project Development Division presided over the forum on the CPAR overview and performance and proposed CPAR management scheme.

BAR Director William Medrano and Dr. Danilo Baldos of BAR-TAG discussed the R&D policy thrust and direction and an overview of Integrated Regional Development Program (IRDP) planning. Philippine Council for Agriculture and Natural

Resources Research and Development (PCARRD) Planning Director Richard Juanillo gave a lecture on the framework for the Regional Consultation-Planning Workshop for the Integrated R&D Program.

Mr. Rolando Labios and Mr. Angel Morcozo reported on the Institutional Development Grant (IDG) and Information and Communication Technology (ICT) performances and updates, respectively, during the latter part of the forum.

About 100 Regional Integrated Agricultural Research Center (RIARC) managers, Regional Fisheries Research and Development Center (RFRDC) managers, Regional Technical Directors (RTDs) for research, consortium directors, DA-Office of the Secretary officials, staff bureaus and attached agency heads, ATI regional directors/superintendents, and BAR officials and staff attended the two-day affair. *(Likha C. Cuevas)*

PCA-Davao Research Center launches AFRDIS

The Philippine Coconut Authority (PCA)-Davao Research Center recently launched its own Agriculture and Fisheries Research and Development Information System (AFRDIS) with the blessing of its new facilities. This AFRDIS project is financially supported by the Bureau of Agricultural Research of the Department of Agriculture (DA-BAR). Attending the launching were: Mr. Carlos B. Carpio, PCA-RDEB deputy administrator, Dr. Danilo Baldos, DA-BAR technical adviser, Dr. Jocelyn Eusebio, PCARRD-Crop Research division chief, Romulo N. Arancon Jr., department manager of PCA-Davao Research Center, and Coconut Extension and Training Center (PCA-DRC/CETC), and Gerardo Santos, PCA-ZRC department manager. Other attendees include: research staff from PCA-

Albay Research Center and technical support staff from PCA-DRC/CETC.

AFRDIS is a joint project of PCA and DA-BAR that aims to establish a comprehensive information system for R&D in agriculture and fisheries among research institutions and stakeholders and to facilitate and promote the exchange and dissemination of R&D information and knowledge through networking. Likewise, it hopes to implement an efficient monitoring and evaluation system on AF R&D through automation and computerization.

As a preliminary activity of the project, members of PCA-DRC/CETC Information and Communication Technology (ICT) team led by Ms. Millicent I. Secretaria, scientist I and officer-in-charge of Agronomy and Soils Division of PCA underwent several ICT training/workshops to enhance

their technical capabilities and know-how for the project. Initially, a Local Area Network (LAN) connection was established within the DRC office facility through the PLDT-DSL Internet Server Provider.

With this project, PCA-DRC/CETC hopes to become a center of excellence that would play a vital role in providing important R&D information. This is a web-enabled system that serves as a virtual repository of coconut R&D data, information, technologies, and projects that could be accessed for national and global use.

The project will soon develop the PCA-DRC website wherein information systems developed by DA-BAR are installed. Likewise, a Geographical Information System (GIS) Laboratory is to be established. *(Press Release)*

Eleazar graces FPHAP first general assembly

The Fisheries Post Harvest Association of the Philippines held its first general assembly at the Bureau of Soils and Water Management (BSWM) Convention Hall, Elliptical Rd., Diliman, Quezon City on June 25, 2004. Guest speaker was BAR Assistant Director Nicomedes Eleazar.

In his message, Eleazar reiterated the importance of the FPHAP general assembly to the growth and development of the association. He also challenged the members to forge a strong network

and for FPHAP to lead in improving the fisheries post harvest industry. He further said that an improved fisheries post harvest can help in the economic reforms that the country has to implement to be competitive in the global market.

During the assembly, a lecture on Marine Bioactive Substances was delivered and this was followed by the ratification of FPHAP by-laws and election of officers.

FPHAP was organized during the National Conference on the Assessment and Compilation of

Fisheries PostHarvest and Marketing Technologies and Information. The National Fisheries PostHarvest and Marketing Research, Development and Extension (NFPHM-RDE) network sponsored this conference held in June 2003. According to Dr. Emilia S. Yap, NFPHM-RDE team leader, the network believes that the FPHAP will serve as an excellent venue for fisheries post harvest networking in the country. The Association has gathered the industry players from the research community, academe, and government and private sectors. *(Likha C. Cuevas)*

BAR shares GIS expertise with Ethiopian agriculturists

Four agriculturists from the Ethiopian Agricultural Research Organization (EARO) underwent a four-day training on Geospatial Information System (GIS) under the tutelage of Dr. Esteban Godilano, technical adviser of the Bureau of Agricultural Research (BAR) on GIS. The four agriculturists were: Akirmo Dammota, a weed science specialist,

Netsigie Dessaleg, Solomon Beneda, and Girma Kebede, all horticulturists.

EARO is the counterpart of BAR in Ethiopia. It is an autonomous government body of the Federal Democratic Republic of Ethiopia established to develop agricultural technologies that focus on the needs of agriculture and its beneficiaries. Like BAR, it coordinates research activities of agricultural research centers or higher learning institutes and other related establishments, which undertake agricultural research on contractual bases. It builds up a research capacity and establishes a system that makes agricultural research efficient, effective, and based on development needs.

Their training on GIS is a part of their six-month training facilitated by the University of the Philippines



Dr. Esteban Godilano, technical adviser of BAR on GIS (center) with the Ethiopian agriculturists.

From farming...

satisfied tilling the soil and getting something from their labor. *Kung saan ka galling, doon ka din babalik* (Where I came from, that is where I shall also go back)," Mayor Cabataña wistfully said.

The 54-year old mayor is the son of farmers who finished his Bachelor of Arts at the University of Southern Philippines and his Bachelor of Laws at the University of Visayas in 1975. He passed the bar exam that same year. He worked at the Department of Agrarian Reform then at the Bureau of Internal Revenue as legal officer. He was assistant provincial fiscal at Masbate City when he resigned to join politics in 1998.

This may not be a success story in the real essence but it can qualify as one if we understand it in the context of how a local government official can make his domain better by going above the odds and be scientific in his approach toward agricultural development.

Los Baños (UPLB). The training on GIS was made possible through Dr. Rene Rafael Espino of the Department of Horticulture of UPLB who is also the team leader for the Banana RDE Subnetwork of DA-BAR. *(Rita t. dela Cruz)*

Working for agriculture...

R&D and extension

He cited BAR's Community-based Participatory Action Research (CPAR) and its impact particularly among our poor farmers in the regions. It is through this program that we are able to address the "weak" research-extension-farmers linkage.

"In a client-oriented and industry-responsive agriculture research system, the R&D agenda must focus on the needs of our farming community. While the R&D system has all the possible means to generate data and information as well as develop technologies for

their knowledge to be useful, we must reach the farmer. It is through extension that this can be achieved. Extension also helps improve the relevance of research. Being in contact with farmers, the extensionists can also relay problems from the field to researchers."

Obviously referring to repercussions of the recently concluded elections, he went on and said that working for the country's farmers is an endeavor to be welcome again, with all its highs and lows, if given another chance.

"The government needs all the help it can get," Lorenzo concluded. *(Ma. Lizbeth J. Baroña)*

Getting into catfish farming



Recently, Asian catfish has become a popular gastronomic addition to the Filipino diet because of its tender and delicious meat. This encouraged more farmers and entrepreneurs to venture into catfish farming. Our scientists recommend catfish farming because catfishes are resistant to diseases, can be stocked at high densities, and can tolerate low water quality.

While catfish farming is certainly not an easy venture, it has become easier to start and manage a catfish farm with the wealth of information produced by scientists from the Southeast Asian Fisheries Development Center-Aquaculture Department (SEAFDEC-AD). Below is the basic information that one needs to know in starting a catfish farm.

The Asian catfish

The Asian catfish (*Clarias macrocephalus*) is a freshwater fish that is indigenous to the Philippines especially in the Bicol region, Palawan, and some areas in

Mindanao. It can be found in lakes, rivers, tributaries, and other freshwater bodies.

Sexes are separate in catfishes. Males have elongated urogenital papillae around the anus while females have a simple round opening. Asian catfish is distinguished from its lookalike- Thai catfish (*Clarias batrachus*) by the shape of the occipital process in the head. The occipital process is blunt or rounded in Asian catfish and pointed in the Thai

catfish. Also, the Asian catfish also has small white spots along the sides of its body.

However, this species became scarce with the introduction of exotic fishes such as the Thai catfish (*Clarias batrachus*) in the 1980s.

Feeding and breeding catfishes

Catfishes are carnivores, but they also feed on small bottom-dwelling animals, rice bran, kitchen refuse, fishmeal, or formulated feeds. In a SEAFDEC study, scientists found that catfishes fed on a SEAFDEC-formulated diet with 43% protein had similar reproductive and larval quality as those fed with 'trash fish.'

Catfishes mature after 6-8 months. Larger mature females produce more eggs than smaller females, each gravid female can lay 20-90 eggs/g body weight after hormone injection. Captive catfishes contain eggs and sperm the whole year but do not spawn by themselves. Artificial propagation involves inducing the gravid females to spawn by injection of different hormones, and manually stripping the eggs after

several hours. Before females are stripped of eggs, male catfish are sacrificed. The male reproductive tract is then dissected and macerated to obtain the milt to fertilize the eggs. Success in induced spawning depends largely on knowledge of: (a) the optimum dose of hormones to be used, and (b) latency period, the time between injection of hormones and stripping of eggs.

Four to five days after hatching, catfish larvae are stocked at 30 per liter in bigger tanks. They are fed natural food organisms such as newly hatched brine shrimp *Artemia* for three days, and the waterflea *Moina* for another four days.

Thereafter, larvae can be weaned to formulate diets that contain 44% protein. Feeding should be done twice daily to two- to four-week old catfish fry at a feeding rate of 20% body weight and to older fry at 5-10% body weight.

The nursery tank or pond should also be fertilized ten days before stocking of catfish fry. Fifteen-day old fry may be stocked at 200-800/m² in tanks and up to 1200/m² in ponds. More fingerlings can be obtained when the fry are grown in net cages suspended in either tanks or ponds. Fingerlings are harvested after 28 days, ready for stocking in grow-out ponds. (Junelyn S de la Rosa)

Source:

1. Nursery rearing of the Asian catfish, *Clarias macrocephalus* (Gunther), at different stocking densities in cages suspended in tanks and ponds, 2002 by Rudy Bombeo, Armando Fermin, and Josefa Tan-Fermin of the Southeast Asian Fisheries Development Center-Aquaculture Department (SEAFDEC-AD), Tigbauan, Ilo-ilo, Philippines
2. Seed Production of the native catfish (*Clarias macrocephalus*, Gunther) October 1999 by SEAFDEC

Two books added to corn literature



The Bureau of Agricultural Research (BAR) launched two books on corn during the closing ceremony of the National Extension Agenda and Community-based Participatory Action Research (CPAR) forum on 11 June 2004, Bureau of Soils and Water Management (BSWM) Convention Hall, Visayas Ave., Diliman, Quezon City. The launching was led by Department of Agriculture (DA) Secretary Luis P. Lorenzo, Jr. and BAR Director William C. Medrano.

The two books launched were: *Integrated Crop Management (ICM)* and the *Proceedings of the First Annual Philippine Corn Symposium and Planning Workshop*.

The manual is a comprehensive and useful reference

for technicians in teaching the farmers for increased productivity in corn producing areas. It contains integrated concepts and lessons on nutrient management and pest management and other cultural practices on corn. The publication of this 379-page manual was made possible through the support of the Grains Sector Development Program (GSDP), the facilitation and initiative of the Agricultural Training Institute (ATI), and the knowledge and experience provided in the manual by the National Corn RDE Network. The Knowledge Management Division (KMD) of BAR facilitated in the editing and printing of the book.

The proceedings is an output of the First Philippine Corn Symposium, the first gathering of

Web news



Four African presidents ok biotech

(<http://www.usda.gov/Newsroom/0271.04.html>)

EU council disapproves GM corn

(<http://www.europabio.org>)

Treaty on plant genetic resources' becomes law

(<http://www.fao.org/newsroom/en/news/2004/47027/index.htm>)

Plant enzyme function changes with cell location

(<http://www.bnl.gov/bnlweb/newsindex.html>)

Biotechnology seen paving RP rice security

(<http://www.searca.org/~bic>)

New study argues for major efforts to mitigate natural disasters through improved agricultural and environmental practices

(<http://www.futureharvest.org>)

RP government to expand hybrid rice planting

(<http://www.searca.org/~bic>)

important key players in the corn industry. Through this activity, an inventory and database of on-going and recently completed corn RDE projects were established. Likewise, activities in the regions and updates on corn technologies and new approaches were presented, including policy directions and recommendations.

The proceedings is a joint publication of the Philippine Corn Research Institute and the National RDE Network of BAR. KMD, in coordination with the Corn RDE Network, produced the new corn literature. (Rita T. dela Cruz)

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