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Agraryo Trade Fair 2005

BAR showcases technologies

BAR Director Nicomedes P. Eleazar (left) and National Agribusiness Corporation President Allan A. Javellana share a light moment during the opening of the 2005 Agraryo Trade Fair held at Megamall Trade Hall 2.

The Bureau of Agricultural Research (BAR) participated and was one of the sponsors in this year's *Agraryo Trade Fair* (ATF 2005) held on 8-12 June 2005 at the Megatrade Hall 2, 5th level, Bldg. B, SM Megamall. The trade fair was part of the activities during the17th anniversary of the Comprehensive Agrarian Reform Program (CARP).

Now on its 4th year, the fair showcased and featured the best products from different agrarian reform beneficiaries such as food items, crafts and accessories, equipment and implements. With the theme *"Agraryo Trade Fair 2005: Gateway to Global Market,"* the trade fair sought to intensify product development and promotions both at the local and national levels and exposure to the international market. The activity also aimed to converge and complement efforts among farmers, national government agencies and civil groups to produce globally competitive products in support of the government's thrust of promoting enterprise development.

The exhibitors include

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BAR funds DA-ICRISAT-FFF watershed project

In a bid to help arrest upland degradation owing to the pressures of livelihood that depend on watershed agriculture, and to give upland farmers alternative livelihood opportunities, the Department of Agriculture, through the Bureau of Soil and Water Management (BSWM) and the Bureau of Agricultural Research (BAR), is initiating a project that seeks to improve marginal farmers' livelihood through a community-based watershed management project.

DA Secretary Arthur Yap, Federation of Free Farmers (FFF) President Leonardo Montemayor, and Director General William D. Dar of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) signed the memorandum of understanding (MOU) for the project, *Community-based Watershed Management Approach in Improving Livelihood Opportunities in Rainfed Areas,* at the West Tower Bldg., Philippine Stock Exchange, Ortigas

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IN THIS ISSUE

Seeing beyond

Two friends who were classmates in college and had not seen each other since then met at the lobby of a government office accidentally one day.

"You bet it has been such a long time."

"That's true. And did we meet here for the same purpose?"

"I am putting up an agribusiness so I am working for my permit. I worked abroad and have just returned home."

"So, you are investing your money in the project."

"That's true. How about you?"

"We are in the same boat."

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The two friends went on to share their experiences. They attended an investors' forum conducted by a government agency tasked with research and development and were convinced that by commercializing one of the technologies presented there is no more need for them to go back abroad and work for another country. It is high time that they spend their energies and talent for their own country and people. They are filled with hope and enthusiasm as they start working toward their dream. Their paths are not strewn with roses, as they will soon find out, for the process of technology commercialization has just begun. The concept is old but the will to do it is just beginning with honest-to-goodness effort.

Seeing beyond, there are many things more to straighten out as one turns an innovation into an enterprise and as appropriate and commerciable technology is moved from research and development to the market.

As one of the country's experts on technology commercialization said, all strategies should revolve around identifying products and services that will lead to defining the market users and ensuring that efforts are directed towards translating everything into peso values. Technology commercialization then becomes an elusive and difficult pursuit. But it can be done. It needs patience, coordination, and linkages among all sectors involved. It even includes all the agencies of government that issue permit to entrepreneurs. They, too, should have clear-cut policies to avoid frustrations on the part of the entrepreneurs as they work for the necessary permits and licenses.

There are other considerations as we move on toward technology commercialization. One, the technology must be acceptable to the market, resulting in a profitable business. What is in it that would be acceptable to consumers? By all standards and parameters in research and development and through technology assessment, the technology is useful, appropriate, and has good potential. But to be commerciable, it should also be assessed by persons with commercial and business expertise. This could mean that in the assessment of the technology, these types of people be included in the team that goes around to validate the technologies in the field. The issue on intellectual property rights should be looked into as we see beyond the process of technology commercialization.

Seeing beyond, there are many things that can be done now that technology commercialization has become a formal and important program of the Department of Agriculture. As in other countries, the improved varieties of fruits and vegetables can be licensed to entrepreneurs such as individual growers and seed producers or even cooperatives and other business enterprises that want to go into seed production or producing the fruits and vegetables themselves. The harvest of research results and technologies through the years show that many of these can be commercialized. For instance, the antigen that was developed by a regional partner has potentials of being produced and marketed in the country instead of importing. We, too, have the tomato developed by the Central Luzon State University (CLSU), the peanut developed in Region 2, the rice varieties for the lowlands and the cool elevated areas in the country. The exotic **Ballatinaw,** a rice variety grown only in the highlands of Abra that

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ATDC model facility rises in Pampanga

United Pharmachem President Elpidio Duca (second from left) and BAR Director Nicomedes Eleazar (second from right) lead the MOA signing.

The Bureau of Agricultural Research signed a Memorandum of Understanding with United Pharmachem, a private business entity, for the establishment of an Agribusiness Technology Development Center (ATDC) based in Mabalacat, Pampanga, at the BAR Conference Room, 31 May 2005.

United Pharmachem, represented by its president and chief executive officer, Elpidio Duca, engages in agricultural enterprises for feed ingredients such as feed chemical additives, supplements, and premix products.

The ATDC is a modern facility where testing and evaluation of new technologies will be undertaken and demonstrated. Through ATDC, BAR and United Pharmachem hope to help uplift the living conditions of Filipino farmers by introducing to them new technologies and varieties of crops, breeds of animal, farm machineries and equipment, and postharvest processing facilities.

The model facility to be built in Mabalacat will be provided for and equipped with modern facilities for experimentation and technological demonstration of newly introduced crop varieties and animal hybrid. New high-yielding varieties of rice, corn, fruits, ornamentals, and vegetables will be introduced from China or from other sources, and tested under Philippine conditions. Seed production technologies of foreign crop will also be developed to help improve the local seed production systems.

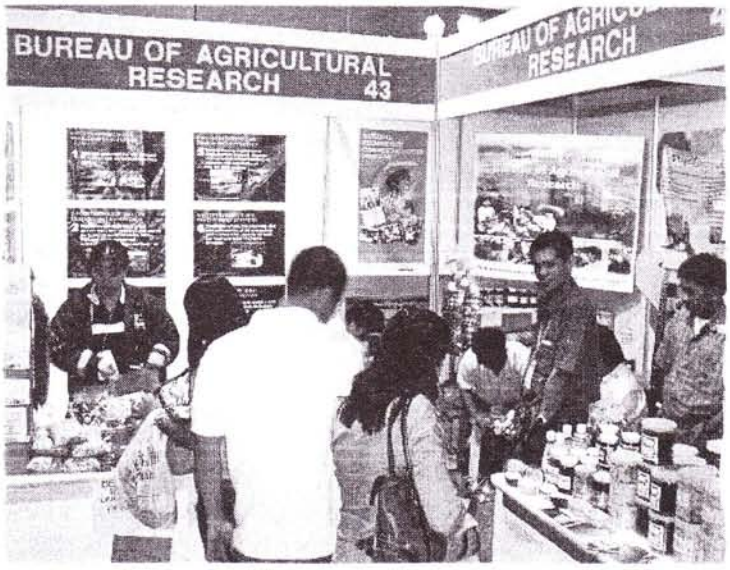
The signatories for BAR were Director Nicomedes P. Eleazar, Programs Development Division Head Carmencita V. Kagaoan, and Research Coordination Division Chief Rolando V. Labios. The United Pharmachem was represented by President and CEO Elpidio T. Duca, and Center Farm Manager Alex Co. *(Ma. Lizbeth J. Baroña)*

Agraryo Trade... *from page 1*

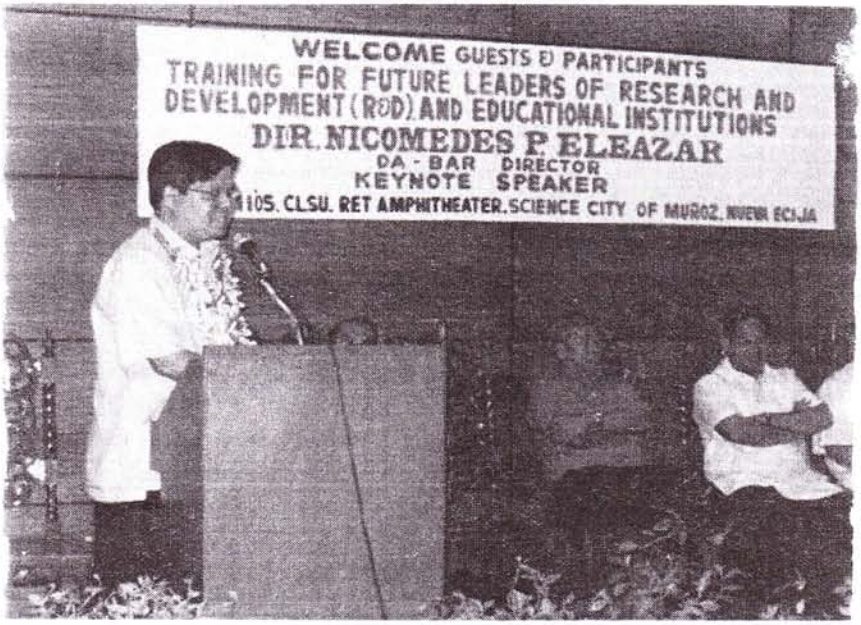
farmers organizations, support government agencies, non-government agencies (NGOs), financing institutions, producers and manufacturers of processed food, growers and processors of fresh fruits and vegetables, postharvest technology providers, and support programs and projects.

Aside from the trade fair and exhibits, there were seminars and demonstrations, special product setting, and photo exhibits.

BAR Director Nicomedes P. Eleazar with exhibit representatives, Ms. Julia Lapitan, Mr. Nicanor del Rosario, and Mr. Ricardo Bernardo of the Management Information System Division-Applied Communication Section graced the opening of the trade fair. *(Rita T. dela Cruz)*



Director Eleazar keynotes leadership training



Bureau of Agricultural Research (BAR) Director Nicomedes P. Eleazar served as the keynote speaker for the launching of the leadership-training program at CLSU on June 10, 2005. Speaking before the leader-participants, Director Eleazar identified the most basic ingredient of an effective leader, which is being able "to motivate and inspire others to achieve shared objectives". The leadership training, a joint undertaking of the Central Luzon State University (CLSU), the SEARCA Fellows Association of the Philippines, Inc., and the Association of Colleges of Agriculture in the Philippines, Inc., was initiated to train R&D and educational institution leaders into becoming "effective, sustainable, and accountable administrators of their organizations". The activity titled *"Training for Future Leaders of R&D and Educational Institutions"*, emphasized the quality and importance of higher education in orchestrating institutional and organizational change.

Citing CLSU as one of the most capable state universities that could impart its knowledge on leadership, Director Eleazar further shared his views on decision-making in an organization.

He challenged the future leaders and participants to make their marks in history in the coming years and become the country's top men and women in their chosen careers. And as elements of change themselves, the participants were encouraged to formulate action plans for implementation.

The activity lined up established leaders and experts from different academic fields to serve as speakers in the training. Among the resource persons was President of Pamantasan ng Makati Prof. Tomas B. Lopez who discussed "Dimensions of higher education administration". Dr. Fortunato A. Battad, CLSU president emeritus talked on "Resource generation and management". Other resource speakers include Executive Director of Commission on Higher Education (CHED) William C. Medrano ("Enhancing and sustaining quality of higher education"), CLSU professors, Dr. Eduardo G. Marzan ("Development of personal action plan") and Dr. Soledad M. Roguel ("Evaluating higher education").

Dr. William D. Dar, director general of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) closed the activity on the second day. The training also included a campus tour of CLSU. *(Angela E. Obnial)*

Beyond... *from page 2*

can now be grown in the lowlands is one example of a variety that can be licensed to an entrepreneur. Along with these prospects are institutional arrangements to push technology commercialization forward, easing the pains that a beginning enterprise will undergo. This is going ahead but if we do not dream and have a vision of the future, then the status quo is not broken. We remain running in place instead of breezing against the wind.

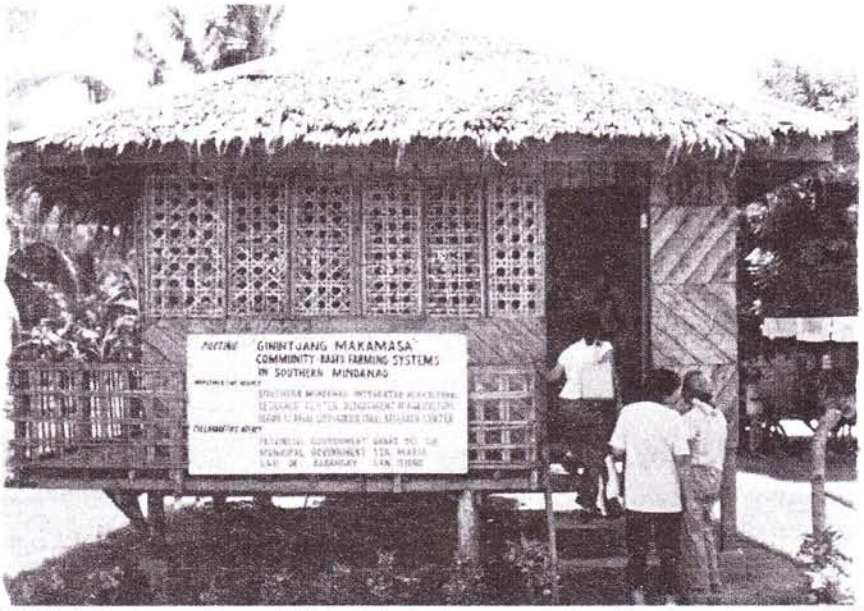
The beginning is always difficult. But there is no problem that is insurmountable. ■

Commercializing technologies

by MIKO JAZMINE J. MOJICA

"Yes, the program has long been overdue, but with the DA family's earnest and concerted efforts, we, in the Bureau of Agricultural Research have faith that we could play an important role in improving the living conditions of our farmers and fisherfolk through the promotion of mature technologies that would increase their income and sustain their livelihood."

These were the words echoed by BAR Director Nicomedes P. Eleazar in the recent consultation-briefing on the National Technology Commercialization Program (NTCP) held at BAR with representatives of the different attached agencies and bureaus of the Department of Agriculture (DA).



BAR Tech Com team visits a model bahay kubo for the community-based farming systems, a SMIARC assisted project in Sta. Maria, Davao del Sur.

The NTCP was established in consonance with the twin goals of DA geared towards creating more jobs and making wage goods affordable. Sen. Ramon Magsaysay III is the chief supervisor for the program, while the task of directly supervising the BAR activities for the NTCP is delegated to DA Undersecretary Edmund J. Sana.

In response to the prevailing need of fulfilling the commercialization of at least 26 technologies this year, BAR has expedited the conduct of its NTCP activities through consultation-briefings, technology assessment training course, and nationwide field visitation and validation of mature technologies.

NTCP briefing and consultation

The objective of the consultation-briefing with DA agency heads was to solicit comments and suggestions from them regarding BAR's prepared concepts and guidelines for the NTCP and to systematically delineate the roles of each agency in the technology commercialization process. Present in the meeting were representatives from the Bureau of Postharvest Research and Extention (BPRE), Philippine Carabao Center (PCC), Agribusiness and Marketing Assistance Service (AMAS), Fiber Industry Development Authority (FIDA), Bureau of Plant Industry (BPI), Philippine Coconut Authority (PCA), Agricultural Training Institute (ATI), Bureau of Agriculture and Fisheries Product Standards (BAFPS), Congressional Oversight Committee on Agriculture and Fishery Modernization (COCAFM), Cotton Development Authority (CODA), Livestock Development Center (LDC), Philippine Rice Research Institute (PhilRice), and Bureau of Soild and Water Management (BSWM).

Director Eleazar, who gave a short opening message during the briefing, answered the issues and concerns raised by the representatives of the DA bureau and agency heads. Dr. Marlowe U. Aquino, national coordinator for the NTCP, presented the program framework that consists of objectives, expected outputs, target beneficiaries, support staff, and the program's components and principles. These were developed from the earlier workshop and orientation conducted with representatives from regional DA units, field offices and SUCs, consultation-briefing with TechCom experts Drs. Bessie Burgos and Manuel Bonifacio, Director Nicomedes Eleazar, Undersecretray Edmund Sana, and Sen. Ramon Magsaysay III.

During the consultation-briefing, the DA agency representatives aired their concerns, one of which is on intellectual property rights (IPR) for technologies that are to be commercialized. The socio-economic aspect of adopting the technology was also clarified because it was found that a lot of the technologies promoted for commercialization are not supported with a cost and benefit analysis.

Another matter that came up

see next page...

were the incentives that could be given to the innovators or developers of the technologies to motivate them to develop appropriate technology for commercialization. Moreover, the role of the private sector/investors in the success of the program was recognized as significant in promoting the technology.

Technology assessment as part of the technology commercialization process was considered by the group as a decisive procedure in validating the technology before it is commercialized.

Technology assessment training course

The core team created by BAR to handle the NTCP must have the capability and skills to handle the commercialization of technologies. They must learn the method and process of technology assessment. Technology assessment determines the degree of maturity of the technologies and identifies the loopholes and needed intervention before a particular technology is ready for commercialization.

Thus, the BAR team for NTCP participated in a technology assessment training course at the JICA Training Hall of the Agricultural Training - Institute, Quezon City on 7-10 June. The trainers are the technology commercialization experts of PCARRD, among them Dr. Bessie M. Burgos. They provided lectures and conducted workshops on the step-by-step application of tools and techniques used in assessing a particular technology.

Joining of forces

Since the training course was also participated in by some of the technical staff from ATI's central and regional offices, BAR had the chance to coordinate with ATI as to its role in the program. ATI also has a unit mandated to do technology commercialization through an Executive Order signed by DA Secretary Arthur Yap. Nevertheless, both ATI Director Asterio Saliot and Assistant Director Alberto Maningding expressed their full support and cooperation to the program.

Meanwhile, the consultation-briefing with the DA bureaus and agencies gave BAR and ATI the chance to further clarify their functions in the program. Director Eleazar explained that the responsibility of BAR is to identify and promote the technologies that are ready for commercialization. ATI builds the capacity of the small farmers and fisherfolk (marginalized sector) who will adopt the technologies after their training. On the other hand, the roles of other DA agencies and bureaus include market matching, identification of commercializable technologies in their area of responsibility, and other functions that would support the activities to be conducted by BAR.

Field visitation and validation

To facilitate the identification of mature technologies for commercialization, the BAR team has conducted the second phase of its nationwide field visitation and validation of mature technologies in Regions XI and XII. The team coordinated with the Mindanao Rural Development Program (MRDP), Central Mindanao Integrated Agricultural Research Center (CEMIARC), Southern Mindanao Integrated Agricultural Research Center (SMIARC), and University of Southern Mindanao (USM) offices for the identification of mature technologies that have potential for commercialization. The team, led by Dr. Marlowe Aquino, presented the background of the NTCP as well as its thrusts and activities. Through the assistance of the three offices, the team has identified the following commerciable technologies: banana chipping, integrated farming systems, and the *bahay kubo* technology. Both the farmers and the agricultural leaders in Regions XI and XII expressed their interest and support in the implementation of the NTCP. The team is currently setting their workplan to schedule the conduct of similar field visitation and technology validation in other regions.

The program's framework

At present, the team is focused on fine-tuning and finalizing the NTCP's framework and guidelines. The framework of the program is a rigorous process that involves several stages of technology assessment, packaging, promotion, and eventually, commercialization. When presented and discussed during the consultation-briefing with the DA attached agencies and bureaus, these stages elicited comments and suggestions. The participants were assured that these will be considered and incorporated in the final draft of the framework.

As a first step in the collaboration of DA agencies and bureaus for the NTCP, Director Eleazar requested that they submit a listing of commercializable technologies that they have identified in their area of responsibility so that BAR could start their assessment and validation. He also extended his gratitude to the participants for their support and cooperation to the NTCP and assured them that BAR is committed to the task of commercializing technologies that ultimately can improve the quality of life of the Filipino people. ■

Red spider mites on roses: The nemesis of beauty

by RITA T. DELA CRUZ

Who wouldn't like a rose or a dozen of them? Roses are lovely, any girl would agree. It's not only an expression of beauty but through time, roses have become the symbol of love, especially during Valentine's Day when they fill up every flower shop.

In the horticulture industry, rose is one of the most important flowers traded in almost all world markets because of its favorable value-to-weight ratio and high volume of sales. Roses are widely grown in La Trinidad, Benguet—the "Rose Capital of the Philippines." Looking over a vast plantation of roses is such a delight, and the variation of colors is such an enchantment.

But as they say, life is not always a bed of roses, especially if there are red spider mites, *Tetranychus urticae* (two spotted spider mite), that attack roses.

Knowing the nemesis

These creepy-crawly mites are almost microscopic and unless they come in large groups and one has a perfect vision, it's difficult to notice them. Closely examined, these mites are like dust spots or about the size of a period at the end of this sentence. They hide on the lowest portion of the leaves, in cracks or in other damaged parts of the plants.

These insects are dreadful as they have high tolerance for insecticides, which are only effective after two applications. It's not even appropriate to call them insects as they have four pairs of legs and no antennae. They love to suck the cell sap from the torn cells causing the foliage to topple. They have a pair of needle-like stylets which they use to rupture the leaf cells when they feed.

Among the common symptoms are discoloration of leaves, stems become corky, and the presence of cast skins and web in the affected areas. They are called spider mites because of their ability to produce web in the infested parts. However, webbing may not always be present depending on the species but with the *Tetranychus sp*, they can produce extensive webbing on the plant. The infested areas turn yellow, bronze or brown causing the leaves to bleach out and dry. Discoloration starts from the tip of the leaves until the leaves drop finally. Severe infestation may eventually kill the plant.

Managing the spider mites

Alarmed by the possible damage it could cause the whole rose industry, particularly in La Trinidad, researchers from the Benguet State University (BSU) headed by Dr. Lita Molitas-Colting of the Department of Entomology conducted several field trials to develop a technology in managing the two spotted spider mites (TSM). They determined the cultural management approaches in rose growing that minimize infestation and hopefully, identify miticides that farmers could use to manage the mite pest on roses.

Results of their work showed that water busting at 20-25 psi (pound per square inch) and pruning are effective in managing the TSM population at low level with minimal use of pesticides. The use of overhead irrigation of water busting dislodged almost 100% of the adult TSM. TSM thrive in very hot and dry weather and they seem to dislike moist conditions so it is wise to hose them down every couple of days with a forceful water spray.

The nursery management did not show any promising effect on the number of TSM. However, it enhanced the population of natural enemies. Researchers were also able to identify promising natural enemies associated with rose plants. These are Chilean predatory mite, lacewings, ladybird beetles, six spotted predatory thrips, *Paederus* beetles, *Staphylinid* beetles, and *Cecidomyid* flies, and even spiders. According to the researchers, if growers opt to go for biological control, the predatory mites should be considered since they are well accepted by farmers not only in developed countries but in developing countries as well, particularly Taiwan.

When it comes to the field efficacy of miticides, field trials showed that *Kutetsu* and *Agrimek* were significantly effective in controlling the eggs and adults of TSM. *Dicarzol* is another promising miticide against the eggs while *Tamaron, Diazol,* and *Selecron* were found effective against adults TSM. ■

This article is based on the study, "Integrated Management of Two-Spotted Red Spider Mites on Roses" by L.M. Colting, B.S. Ligat, J.P. Molitas, and C.S. Pagadan of the Benguet State University (BSU), La Trinidad, Benguet. This study was funded by the Bureau of Agricultural Research (BAR).

Other sources:

1. *Florida Insects 2001 @ http://www.floridagardener.com/critters/Insect_Pests/SpiderMites.htm*
2. *Spider Mite. 2005 @ http://cactusclinic.telenet.be/ca_spidermite.html*

ISO certification process continues for BAR

The Bureau of Agricultural Research (BAR) has resumed efforts to complete the process for ISO Certification 9001:2000 which it launched last year. Since BAR Director Nicomedes Eleazar believes that the certification is significant to the Bureau in maintaining a high standard operation, he ordered the continuation of the certification process. He assigned Dr. Alvin Divinagracia to lead the technical working group (TWG) on this particular activity.

The technical working group recently underwent training to gain knowledge on the whole ISO certification process from the requirements and their application to the responsibilities of the management system.

During the initial meeting of the group, they discussed 1) BAR's status in the ISO certification process, 2) quality policy, 3) objectives of the certification, 4) certification procedures, and 4) timetable of future activities.

Dr. Divinagracia said that out of the nine steps for ISO certification, BAR has already accomplished the first six steps. He said that the remaining three steps are critical because they include the development of three manuals. He added that the documentation of procedures is significant in the process since this will serve as a reference of all the accomplishments and setbacks in completing the certification process.

Recently, the TWG conducted separate conferences with each BAR division to discuss the ISO certification process and document the operation and management of each division. Through this activity, the BAR officials and staff were able to trace their own operation styles and identify the concerns and hindrances in performing all their functions efficiently.

The Bureau is given a three-month time frame to complete the ISO certification process. The Bureau contracted the Joseph Server and Associates, Inc. (JSA) as the Bureau's official consultant for this project. JSA is a private company that provides services such as business management, project execution and training services needed by companies to improve their competitiveness. *(Miko Jazmine J. Mojica)*

*BAR funds...**from page 1*

Center, Pasig City, 14 June 2005.

The signing was witnessed by BAR Director Nicomedes Eleazar, BSWM director Roger Concepcion, and ICRISAT watershed expert, Suhas Wani. The project aims to improve agricultural production and increase the income of rural farming communities through a sustainable soil and water use by means of a community-based watershed development and management.

The two-year project is being funded by DA-BAR and implemented by BSWM and the FFF in collaboration with ICRISAT, the provincial agrarian reforms offices, provincial environment and natural resources offices, and local government units in the project's pilot provinces.

Specific outputs from the project will be employment opportunities for the rural communities, best and sustainable practices in soil and water conservation, locally acceptable, ecologically sound, and sustainable land-use system, and farmers who are trained and knowledgeable in the utilization of technologies for watershed management.

Since most inhabitants of the country's upland areas practice subsistence farming, they depend greatly on rainfed agriculture, which in turn is a risk-prone agriculture practice usually characterized by soil erosion. The degradation of watershed areas and mountain ecology is one of the critical environmental concerns in the country today. *(Ma. Lizbeth J. Baroña)*

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