



ASEAN members meet to address food security and emergency response



Liason officers from various DA and DENR agencies and BAR Dir. Nicomedes P. Eleazar (backrow, far right), MISD Head Alvin Bernardo V. Divinagracia (backrow, third from left), and BAR-IRU Staff Rudyard Roxas (front row, middle) pose for a souvenir photo.

Thirteen agriculture and forestry ministers met to discuss progress of joint activities on the region's preparedness in responding to large scale emergencies and food

security.

Ministers of the 10-member Association of Southeast Asian Nations (ASEAN) including ministers of China, Japan and the Republic of Korea discussed on 30 September 2005

renewal of commitments on cooperative programs in the areas of food, agriculture and forestry.

The 27th ASEAN Ministers on Agriculture and Forestry (AMAF) and 5th AMAF Plus Three meetings at Taal Vista Hotel in Tagaytay City was chaired by Agriculture Secretary Domingo F. Panganiban. The Agriculture Secretary called for unity among ASEAN member countries, amid problems confronting agricultural developments in the region.

One such problem that struck the region is the outbreak of highly pathogenic avian influenza (HPAI). Commonly called bird flu, HPAI has been plaguing the poultry industry in the region since 2003. Estimates placed industry losses at \$1.2 billion in Thailand, \$200 million in Vietnam, \$170 million in Indonesia, and few millions in Cambodia, Lao PDR and Malaysia.

see ASEAN meet...page 2

ASEAN ministers satisfied over agri progres

The ASEAN Ministers of Agriculture and Forestry and the Ministers of the People's Republic of China, Japan and the Republic of Korea held their fifth meeting in Tagaytay City, Philippines, 30 September 2005 under the chairmanship of H.E Mr.

Domingo F. Panganiban, Secretary of Agriculture, the Philippines.

The Ministers expressed satisfaction on the steady progress and encouraged a speedy implementation of joint activities in agriculture, fisheries, and forestry that have been carried out between

see Ministers...page 4

IN THIS ISSUE

	page
ASEAN members meet to address...	1
ASEAN ministers satisfied over...	1
Editorial notes: September to ...	2
BAR staff participate in Kyusei...	3
Panganiban inducts new set of...	4
AO 25 certifies veggies and fruits ...	5
Intellectual property encompasses...	6
BAR leads in AF intellectual property...	7
GIS seen to boost seaweed...	10
Hybrid chickpea: Poor farmers' most...	11
Seminar enhances BAR staff...	12

It is at the onset of the month of September that we begin to count the days to festive December.

We, Filipinos, embark into the last four months of the year—gleefully branding them the “ber” months—while anticipating the perks the last quarter brings along with its chilly air: work bonuses and throngs of balikbayan relatives coming home to celebrate the holidays in the country. Parties also harass our calendar schedules.

For us at BAR, September marked a silent way to look forward into the future. Our activities primed us not only for the coming months but also for the years to come. We engaged in capability building activities to identify and address future challenges that will confront our country's agriculture sector.

We started the month with demonstrating the capacity of the Geographical Information System (GIS) to determine suitable areas for seaweed production which is gaining importance as an export commodity and as ecological panacea. Next, we learned

September to remember

Alvin Bernardo V. Divinagracia, Ph.D.



the intricacies of nature farming and assessed how useful it is as an alternative production system for Philippine agriculture. Then, we strengthened our intellectual property management through developing our IP work plan and strategies with the help of European expertise.

The last week of September, we engaged our key staff into activities like knowledge management, environmental resource planning, rural-urban accessibility, and community planning to appreciate the impending concerns that the agriculture sector will face. Also, we were called upon to help organize and prepare the Philippines' position for the 27th ASEAN Ministers

of Agriculture and Forestry (AMAF) and the 5th AMAF Plus Three meetings hosted by the Department of Agriculture (DA) in Tagaytay City. The ministerial meeting was quite significant since it tackled emerging threats to agriculture in the region like the emergency rice reserve as part of the disaster preparedness and response, and the highly pathogenic avian influenza or bird flu. Finally, a feature on hybrid chickpea that would help improve the production of our farmers in terms of yield and profitability.

Indeed for BAR, the future is now. Read on as we give you a glimpse of what is in store for the agriculture and fisheries R&D in the years to come. ■

ASEAN meet...from page 1

The ASEAN ministers pledged \$2 million for the establishment of a regional fund, the ASEAN Animal Health Trust Fund (AAHTF), in a bid to protect

the livestock industry from viruses such as avian influenza, foot-and-mouth disease, and hog cholera.

Recognizing the vulnerability of East Asia region to disaster, such as earthquake and tsunami (or even the devastating landslide in Quezon), the ministers agreed to permanently establish the East Asian Emergency Rice Reserve (EAERR) following an evaluation of its pilot project. Since its conception in 2004, EAERR has been mobilizing reserves

from existing national stock of member-countries.

The AMAF Plus Three requested for a full agreement regarding the actual release of earmarked stock particularly in disaster prone areas such as Indonesia and the Philippines.

The Ministers expressed their sincere appreciation to the Philippine government and its people for the warm hospitality and the excellent arrangements made for the meeting. The AMAF meeting is a concerted effort of the Department of Agriculture (DA) and its attached agencies and staff bureaus and the Department of Environment and Natural Resources (DENR) with the assistance from the Department of Foreign Affairs (DA) and the Philippine National Police (PNP). (Rudyard R. Roxas)

BAR Chronicle

A monthly publication of the
Bureau of Agricultural Research
RDMIC Bldg., Visayas Ave. cor. Elliptical Road
Diliman, Quezon City 1104

Editorial direction: Alvin V. Divinagracia

Managing editor/Layout: Rita T. dela Cruz

Staff writers: Maria Lizbeth Severa J. Baroña, Rita T. dela Cruz, and Miko Jazmine J. Mojica

Contributing writer: Angela E. Obnial and Rudyard R. Roxas

Print manager: Ricardo G. Bernardo

Circulation: Julia A. Lapitan and Victoria G. Ramos

Editorial consultant: Virginia A. Duldulao, Ph.D.

Adviser: Dir. Nicomedes P. Eleazar, CESO IV

For subscription and questions, contact the:

Applied Communication Section

3/F RDMIC Bldg., Visayas Ave., cor. Elliptical, Rd. Diliman, Q.C. Tel.no. 928-8505 local 2043

or e-mail at misd-acs@bar.gov.ph

Note: Articles contained in this publication may be used or reprinted with permission from the editor.

BAR staff participate in Kyusei nature farming international workshop



Participants during the International Workshop on Kyusei Nature Farming and Effective Microorganism (EM) Technology, Saraburi Province, Thailand, 29 August – 1 September 2005. BAR staff who participated were: Mr. Amador Macabeo of the Research Coordination Division (back row, extreme left) and Mr. Joell Lales of the Office of the Director (backrow, 2nd from left).

Mr. Amador Macabeo and Mr. Joell Lales of the Bureau of Agricultural Research (BAR) are two of the participants from Asia and the Pacific who attended the International Workshop on Kyusei Nature Farming and Effective Microorganism (EM) Technology at the Saraburi Nature Farming Center, Saraburi Province, Thailand, 29 August – 1 September 2005. Kyusei nature farming is a new farming system that benefits crop, livestock, and poultry in terms of increased yield and farm sustainability.

Mr. Macabeo and Mr. Lales attended field demonstrations on vegetable, rice, and orchard production, recycling farming, livestock, and aquaculture. They were given hands-on training at the EM Bokashi Demonstration Unit, Saraburi Center on EM preparation

using cow/chicken dung under both aerobic and anaerobic conditions. Treating kitchen garbage with EM was also demonstrated. After the training workshop, the participants were toured to various sites using EM technology. Different products such as organic shampoo, mosquito repellent, and essential oils were showcased at the sites.

The principles of Kyusei Nature Farming and the use of EM Technology are applied at the Kyusei Farming Center in developing high soil quality and improving crop and livestock productivity while enhancing environmental management. The combination of this kind of farming and the EM technology is a system of farming that does not use chemicals, which can pollute the ecosystems, in turn producing high yields while preserving the environment.

Started by Mokichi Okada in

Japan, Kyusei Farming blends all components of agricultural ecosystem to provide healthy foods to all living things while maintaining the ecosystem's sustainability. EM, on the other hand, was developed at the University of Ryukus, Okinawa, Japan in the early 1980s by Dr. Teruo Higa, a horticulturist. It is composed of lactic acid bacteria, yeast, and phototrophic bacteria found in all natural ecosystem. Its benefits include enhancing crop yields in organic systems, developing soils and its ability to sustain crops, and enhancing fermentation/decomposition of organic matters neutralizing the production of offensive odors. This combined system of agriculture does not have any pathogenic, toxic, or genetically modified microorganism making it safe for human use and to the environment.

As a potential complement to DA's Tipid Abono Program managed by the Bureau of Soils and Management (BSWM), the EM technology is seen as beneficial to overall farm productivity. A proposed collaboration using EM technology with the *Tipid Abono* program can also pave the way to a more organic agriculture system in the Philippines and consequently, protecting the environment.

The Asia Pacific Natural Agricultural Network (APNAN) organized the training workshop while the Sara Buri Kyusei Nature Farming Center conducted the training on extending Kyusei nature farming using EM technology in Thailand. (*Angela E. Obnial*)

Panganiban inducts new set of PAJ officers

Department of Agriculture Secretary Domingo F. Panganiban inducted the newly-elected officers of the Philippine Agricultural Journalists (PAJ), Incorporated at the Aberdeen Court in Quezon City, September 23.

The DA Secretary underscored the pivotal role that PAJ plays in bringing to the public the upsides and pitfalls of the effort to develop the agriculture sector. He told his audience of the years when the public was in total darkness on agricultural issues because the press then never mentioned anything about the sector.

The Secretary said that the agricultural upheaval that the country experienced in the pre-martial law years, which culminated

at a high note with the success of *Masagana 99* project, was the pivotal moment in agricultural journalism's history. It was during this time, he said, when newspapers start having agricultural sections.

He encouraged the agricultural press to help the country sell its poultry products to the world market by "ventilating the fact the we are the only country in Asia that is bird-flu free". The countries that import poultry from Asia and are wary of the disease would be interested in this fact, and that the agricultural media can very well take care of this.

He also brought up the need to promote the use of hybrid rice varieties for 'higher productivity, higher grain quality, and ultimately, higher quality of life'.

Quedancor President Nelson Buenaflor, in a message, concurred that the public has to be told that there are people working hard for the agriculture sector. He said it is about time to dispel the myth that those in the government "are doing nothing" for the people, because it simply is "not true".

National Press Club President Antontio Antonio said that he has strong personal connections with agriculture—and it is well-being • —having been raised by a farmer himself.

Newly-elected PAJ President, Sonny Galvez called on all members of the PAJ to pool efforts for the development of both the association and the agriculture sector. (*Maria Lizbeth Severa J. Baroña*)

Ministers...from page 1

China, Japan and the Republic of Korea and ASEAN in the various areas aiming to broaden and deepen Plus Three cooperation.

The Ministers of China, Japan and the Republic of Korea noted the activities of the Vientiane Action Programme (VAP) and expressed their full support to its implementation. They agreed to strengthen their efforts in assisting ASEAN to narrow the development gaps within ASEAN, and between ASEAN and the Plus Three countries, particularly in the areas of agriculture, fisheries and forestry.

The Ministers recognized the necessity for conserving the natural environment; preserving the social and cultural tradition of rural communities while promoting a

sustainable development in agriculture, forestry and fishery sectors. Moreover, the Ministers recognized that agriculture, which is the foundation of each and every society, should be maintained and developed to secure a stable supply of safe foods to their own peoples.

They noted the good progress made in conducting the activities of the pilot project in the East Asian Emergency Rice Reserve (EAERR). Following the Ministers' agreement in principle last year on the mobilization of the existing national stock earmarked for the Asia Emergency Rice Reserve under the ASEAN Food Security Reserve Agreement, countries are at various stages in their internal consultation to determine their allocation for the

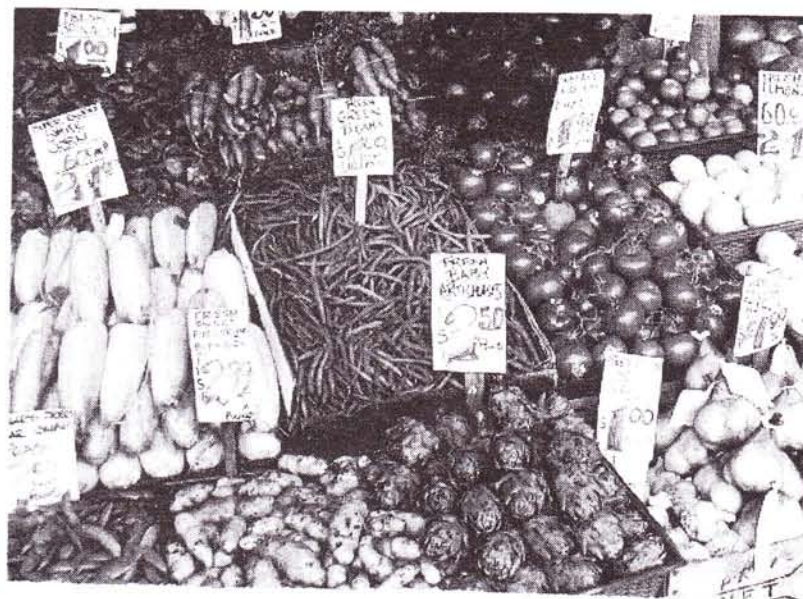
reserve stocks for the EAERR.

The Ministers also agreed to emphasize the importance of converting the EAERR into a permanent scheme on a voluntary basis following an evaluation of the pilot project. This is to facilitate quick response during food needs following devastating disasters such as the tsunami that affected Indian Ocean rim countries in 2004.

They welcomed the Poverty Alleviation and Malnourishment Eradication Projects that have been initiated in an ASEAN Member Country. The objective of these projects is to provide food assistance to strengthen household food security,

see Ministers... page 9

AO 25 certifies veggies and fruits farming practices



The Department of Agriculture (DA) through the Bureau of Agriculture and Fisheries Product Standards (BAFPS) signed Administrative Order No. 25, *Guidelines on the Certification of Good Agricultural Practices (GAP) for Fruits and Vegetables (FV) Farming*. The AO stipulates the importance of systematically identifying and establishing management practices to minimize chances of external and internal contamination from the time the products are harvested until they get to the table. The code of GAP is enforced by DA throughout the country in close collaboration with the stakeholders, thus a need for providing specific guidelines to have a GAP certification.

Specifically, the objectives of the GAP certification include: 1) increase the market access of horticultural products both in the local and foreign markets; 2) empower farmers to respond to the demands of consumers with specific criteria to

achieve food safety and meet quality standards; 3) facilitate farmer adoption of sustainable agricultural practices; 4) uplift GAP-FV farmers profile as member of the nationally recognized list of vegetable farmers who are setting the benchmark for the production of safe and quality fruits and vegetables; and 5) enable consumers to exercise the option of buying quality fruits and vegetables from traceable and certified sources.

The Guidelines established the rules and bases applied by DA for grafting, maintaining, and withdrawing GAP certificate to individual growers or farms in the fresh fruit and vegetable sector or to their Produce Marketing

Organizations (PMOs) that market or trade the produce.

The GAP Certification Committee is composed of the directors of DA attached agencies, representatives from the private sector, non-government organization (NGO), and the academe. The Committee is chaired by BAFPS and co-chaired by the Bureau of Plant Industry (BPI).

Its members include: Fertilizer and Pesticide Authority (FPA), Bureau of Animal Industry (BAI), Bureau of Soil and Water Management (BSWM), and GMA-High Value Commercial Crops (HVCC) Program. The main tasks of the Committee include: 1) review and approve applications; 2) endorse to the Secretary a list of applicants and issue a GAP certificate; 3) review and approve any changes in standards and fees; 4) hear appeals; 5) annual review investigations of complaints about abuses in the production and sale of products that do not adhere to GAP; 6) determine penalties for abuse of standards or mark, negotiate satisfactory settlement of complaint and reimbursement for the investigation cost; and 7) designate qualified national and regional inspectors. (Rita T. dela Cruz)



“Before, my thoughts regarding intellectual property (IP) bordered on the tangible; an innovation that led to a product or a procedure that is developed to enhance a technology. But now, it is clear to me that even the process of technology commercialization or the simple information dissemination is IP. In totality, IP encompasses products of the mind.” Dr. Andrea B. Agillon, head of the Intellectual Property Rights Office (IPRO) of the Bureau of Agricultural Research (BAR), explained in a gist when asked about the highlights of the recent international seminar on intellectual property held in France where she participated.

International seminar on IP

The Intellectual Property Office of the Philippines, acknowledging BAR as a leader in agriculture R&D and intellectual property management, granted the Bureau the opportunity to intensify its competence in the field of IPR through the seminar that focused on IP management and agricultural technology.

The seminar, participated in by at least 16 countries including Albania, Brazil, Colombia, Croatia, Mexico, Morocco, Zimbabwe, Thailand, and the Philippines among others, was held on Sept. 19-23 at the Institut Européen Entreprise et Propriété Intellectuelle (IEEPI) in Strasbourg, France. The event was jointly organized by the European Patent Academy of the European Patent Office (EPO) based in Munich, Germany, Institut National de la Propriété Industrielle (INPI) in Paris, France, and the IEEPI.

During the 5-day seminar, the delegates were able to grasp the concept of IP within the agricultural context, the important role of IPR in technology transfer, and IP assets and management. Research partnerships and agrotech were discussed as well as the structure of partnerships involving agricultural research through the relation of the Consultative Group on International Agricultural Research (CGIAR) and the national agricultural

Intellectual property encompasses products of the mind

by MIKO JAZMINE J. MOJICA



Participants from different countries during the international seminar on intellectual property held in France. Representing the Philippines was Dr. Andrea B. Agillon, head of the Intellectual Property Rights Office (IPRO) of the Bureau of Agricultural Research (third from left).

research systems.

Highlights

During the seminar, workshops were conducted in between the lectures on IP management, which included developing an IP workplan and strategies. According to Dr. Agillon, the workshops were relevant and helpful especially in developing our own approach and policies on IPR in the country.

She explained that there are three steps to measure whether a certain product of the mind is patentable. Is it a novelty? Is there an inventive step? Does it have commercial application? The seminar upgraded the participant's skills in determining the novelty of the product through "prior art" search. This step determines if a certain product claiming patent is original and does not have patent from any part of the world. They were introduced to internet searches in freely

available patent databases plus practical search examples as well as getting translations of non-English patents to English using the appropriate tools, keywords, and classifications. She said, however, that our country has yet to develop a readily accessible database on patented technologies.

Dr. Agillon explained "claim drafting", one of the crucial steps in patent application where the applicant enumerates the actual claims of his IP. These are the bases by which the patent examiners anchor their substantive examination; to determine the suitability of patent protection for a certain IP. This was tackled during the seminar focusing on claim interpretations including plant patents, traditional breeding, genetic engineering, plant varieties, seeds, and products derived from agricultural processes.

see Intellectual...page 10

BAR leads in AF intellectual property and technology management

by MARLOWE U. AQUINO, Ph.D.

As the agriculture and fisheries (AF) sectors face new challenges in Philippine development, new directions and strategies were set to address them. One of the strategies articulated and operationalized by the Bureau of Agricultural Research (BAR) of the Department of Agriculture (DA) is on intellectual property and/or technology management. This strategy is not new but BAR is dead serious this time in making it as part of the regular R&D activity of its DA-National Research and Development System in Agriculture and Fisheries (NaRDSAF) member agencies.

The strategy is a combination of three major programs highlighting research and development (R&D) outputs into workable and attainable



Dr. Marlowe Aquino, head of TCU

activities. These are intellectual property rights, technology promotion and commercialization, and enterprise development and agribusiness ventures. Each of these major programs is provided with technical and operating activities in support to the DA banner programs.

The Challenge

Mandated to ensure effective and efficient conduct of R&D activities in the country, BAR incorporated support services and activities wherein DA-NaRDSAF member agencies and interest groups can avail of.

Agricultural and fishery scientists and researchers working on novel and original researches with commercial applications are encouraged and advised to get in touch with BAR for protection, patenting and licensing of their work. This is also true for technology generators and developers that support commodity industries and businesses. This is a two-way exercise wherein partnership and collaboration are fostered for better program implementation. This initiative is backed by other DA units and institutions.

Within the DA system, the Agricultural Training Institute (ATI) is tapped to take the lead in the training and extension support activities regarding this initiative; the

Agribusiness and Marketing Assistance Service (AMAS) for marketing and agribusiness support; Bureau of Agriculture and Fisheries Product Standards (BAFPS) for quality product standards including the postproduction and processing activities; and the different DA R&D implementing units (staff



Dr. Andrea Agillon, head of IPRO



bureaus and attached agencies) and selected state universities and colleges (SUCs) for technology generation, development, testing and sourcing. On the other hand, financial and business institutions will be identified by BAR to establish partnership on activities specifically credit, promotion and advertisements and, enterprise developments.

Being the overall coordinating agency, BAR makes representations to international and local programs with similar interest to make the agriculture and fisheries sectors at *par* with those of the neighboring countries in the Southeast and Asian regions, and a more pro-active and market-driven sector making technologies and R&D outputs work for people, industries, and communities.

Our Capability

As an 18-year old institution BAR is more capable in terms of its institutional capability and human resource compared in the past. On top of its work, BAR management is effective in its resource generation and management, partnership and linkage, networking and collaboration.

Two complementing units,
see BAR leads...page 8

BAR leads...from page 8

directly under the Office of the Director, orchestrate the programs on intellectual property and technology management. The Intellectual Property Rights Office (IPRO) is managed by Dr. Andrea B. Agillon. She is a Doctor of Philosophy graduate in horticulture from the University of the Philippines Los Baños (UPLB). The IPRO head is quipped with knowledge and skills gained while working at the ASEAN-Postharvest Horticulture Training and Research Center, and exposure as she goes on representing the country in international seminars on intellectual property management. BAR becomes more ready to embark on the protection, patenting, and licensing of agricultural and fisheries technologies. Dr. Agillon is supported by equally able staff, Atty. James Dennis C. Gumpal and Mr. Jayson O. Villamor, who provide legal assistance and technical expertise relevant to the operations of agriculture and fisheries R&D.

The BAR-IPRO is complemented by a new unit, Technology Commercialization Unit (TCU), headed by Dr. Marlowe U. Aquino. Like Dr. Agillon, Dr. Aquino is also a graduate of UPLB in Community Development. Dr. Aquino's exposure to community work, human interactions and program management makes him the right man for the job on technology commercialization. His expertise is anchored on development and knowledge of social change which require human interventions. Dr. Aquino is supported by technical staff handling specific sectors, namely: Ms. Digna L. Sandoval (crops), Mr. Anthony B. Obligado (livestock), Ms. Andressa D. Gutierrez (fisheries) and, Ms. Jennilyn C. Razonable (administrative support). Dr. Manuel F. Bonifacio serves as technical consultant for the group. The TCU



DA Usec Segfredo Serrano and BAR Dir. Nicomedes Eleazar during the opening exhibit of the 1st agriculture and fisheries techno forum.

now implements the National Technology Commercialization Program (NTCP) of the Bureau.

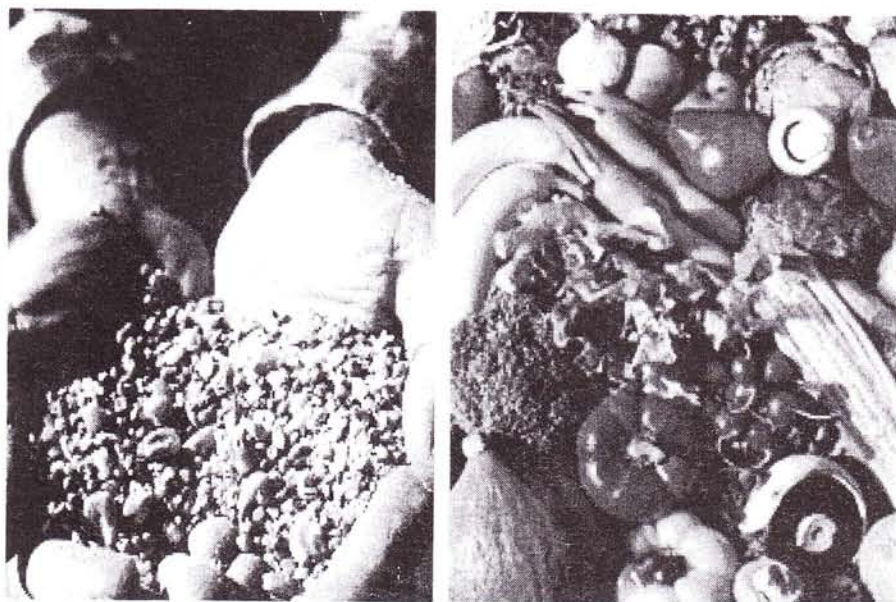
Both the IPRO and TCU are supported by the technical divisions of the Bureau. The Program Development Division (PDD) which oversees the national and regional programs in agriculture and fisheries particularly on program evaluation, R&D program packaging for external funding, institutional development, and collaboration and networking. The Research Coordination Division (RCD) ensures that all national and regional programs are implemented as planned with effective and efficient monitoring and evaluation systems while the Management Information Systems Division (MISD) handles the support services of these national and regional programs on information technology, knowledge management, applied communication, and information systems management. All technical divisions are further complemented by BAR's International Relations Unit (IRU), Agriculture and Fisheries Policy Research Unit (AFPRU), Planning Unit (PU) and the Administrative and Finance Support Staff for efficient R&D management for the Bureau and the DA-NaRDSAF

and its international linkages here and abroad.

Future Directions

In the future, BAR through its programs on intellectual property and technology management hopes to systematize R&D program planning, evaluation, implementation and intellectual property management, and strengthen the networks in terms of IP Management. It also aims to establish linkages, networks and partnership with financial institutions and other interest groups on technology commercialization, and improve systems management on information, knowledge and technology management for maximum utility of partners and clientele. Other future directions include: fostering linkage with international and local organizations for resource generation and professional exchange programs; enhancing community development, enterprise and agribusiness development for interest groups; and maintaining a high degree of professionalism for intellectual property and or technology management between and among members of the DA-NaRDSAF and its clientele. ■

Ministers...from page 4



Food Security in the ASEAN region

as well as to contribute to rice price stability in the region, or more specifically in a country. This is to be done through utilizing the unused stockpiled emergency rice reserve for a particular year.

The Ministers recognized the contribution of the ASEAN Food Security Information System (AFSIS) with respect to promoting the concept of regional food security and the importance of continued improvement in the details of food security data and information among ASEAN Member Countries and in the region. Capacity building activities throughout the region has improved cooperation in this area. The Ministers also agreed with the necessity to continue the projects after the implementation period.

The Ministers deliberated on the Highly Pathogenic Avian Influenza (HPAI) outbreaks which has become an important problem that requires an all out coordinated regional effort. In this regard the Ministers welcomed the Regional

Framework for Control and Eradication of HPAI in ASEAN endorsed by the 27th AMAF. Towards this end the HPAI task force will work closely with the international organizations such as FAO, OIE, and WHO.

They confirmed the deforestation and degradation of forests in Asian regions continues to be a critical problem. They affirmed the need for continuing cooperation and effective implementation of activities in the area of illegal logging, control of forest fires, and rehabilitation and reforestation of degraded lands to achieve sustainable forest management and to conserve forest ecosystems in collaboration with the international organization and the regional initiatives such as the Asia Forest Partnership.

The Ministers agreed to have their 6th meeting in Singapore in 2006 and noted that the 8th ASEAN and People's Republic of China, Japan and Republic of Korea Summit will be held on 13

December 2005 in Kuala Lumpur, Malaysia, during which the highlights of the Fifth Meeting of AMAF Plus Three will be reported.

They expressed their sincere appreciation to the government and people of the Philippines for the warm hospitality and excellent arrangements made for the Meeting.

Attending the meeting were: H.E Pehin Dato Dr. Awang Haji Ahmad bin Haji Jumat, Minister of Industry and Primary Resources, Brunei Darussalam; H.E. Dr. Chan Sarun, Minister of Agriculture, Forestry and Fisheries, Cambodia; H.E. Dr. Anton Apriyantono, Minister of Agriculture, Indonesia; H.E. Dr. Siene Saphangthong, Minister of Agriculture & Forestry, Lao PDR; H.E. Dato' Seri Haji Mohd. Shariff bin Haji Omar, Deputy Minister of Agriculture and Agro-Based Industry, Malaysia; H.E. Major General Htay Oo, Minister of Agriculture and Irrigation, Myanmar; H.E. Mr. Domingo F. Panganiban, Secretary of Agriculture, the Philippines; H.E. Mr. Mah Bow Tan, Minister for National Development, Singapore; H.E. Mr. Charal Trinvuthipong, Vice Minister of Agriculture and Cooperatives, Thailand; H.E. Dr. Bui Ba Bong, Vice Minister of Agriculture and Rural Development, Viet Nam; H.E. Mr. Niu Dun, Vice Minister of Agriculture, People's Republic of China; H.E. Mr. Takayuki TSUNEDA, Senior Vice-Minister of Agriculture, Forestry and Fisheries, Japan; H.E. Mr. Lee, Myung-soo, Vice Minister of Agriculture and Forestry, Republic of Korea and; H.E. Dr. Wilfrido V. Villacorta, ASEAN Deputy Secretary-General. (*Joint Press Statement*)

GIS seen to boost seaweed production

by MIKO JAZMINE J. MOJICA

The Bureau of Agricultural Research (BAR) through the National Technology Commercialization Program (NTCP) recently recognized the need to characterize and profile the commodities that will be commercialized using the Geographical Information System (GIS) technology. The aquaculture sector, specifically seaweed production, was identified as one of the priority commodities in which the GIS will be used. The GIS technology is a computer-assisted system that acquires, stores, manipulates, and displays geographic data.

A consultation-meeting was held at BAR on Aug. 31 to come up with a unified criteria for commercializing fishery technologies particularly seaweed production using GIS. The NTCP team organized the said meeting which was attended by seaweed experts from the University of the Philippines – Marine Science Institute (UP-MSI), University of the Philippines in the Visayas (UPV) in Miagao, Iloilo, and the Bureau of Fisheries and Aquatic Resources -



National Fisheries R and D Institute (BFAR-NFRDI), DA-BAR NTCP staff, and BAR GIS expert, Dr. Steve Godilano

During the consultation-meeting, Dr. Godilano presented the role of GIS in seaweed production and technology commercialization. Ms. Salvacion Ferrer, BFAR representative and national coordinator for the National Seaweeds Program, also gave a briefing on the current issues and concerns that face the seaweeds industry. After the presentations, an open forum was conducted to come up with the unified criteria. Twelve physical and four socio-economic criteria were formulated and



incorporated in the GIS-generated suitability maps on seaweed production. This initial outline, however, would still be subjected to regional validation to suit the needs of the different seaweed-producing areas.

The result of the regional validation of the suitability maps drawn will be determined once BFAR completed the regional profile on seaweed production. Aside from the production aspect of the seaweed industry, the marketing, processing, research and development, and policy and management decisions were also discussed in the consultation-meeting. September was set as the target date to develop a comprehensive plan for seaweed production.

According to the latest report of the Department of Agriculture's Agribusiness and Marketing Assistance Service (DA-AMAS) on the status of our seaweed industry, there is a fluctuating trend in our seaweed production over the last five years. Apparently, Tawi-tawi is the major producing area of seaweeds followed by Sulu and Palawan.

Intellectual...from page 10

Present needs

Opportunities such as this enable BAR to establish its authority in agriculture IPR and improve its policies regarding intellectual property. Moreover, it opens several chances to develop linkages with other countries that already have strong foothold on IPR. Still, there are needs that have to be satisfied to realize our

goals. Among them is the continuous information dissemination of this kind of service offered by BAR which is not limited to the R and D workers. Our Philippine representative explained that the public would be the end beneficiaries of IPR since it guarantees the suitability of a product developed and commercialized. ■

Hybrid chickpea: Poor farmers' most valued crop

by RITA T. DELA CRUZ

Chickpea (*Cicer arietinum*), like any other crop, is susceptible to pests and diseases. Imagine if scientists found scientific means to beat that. With the recent improvement in the genetic formation of chickpea, farmers can plant and harvest without the worry of production lost due to pest damage.

Scientists from the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) have succeeded in obtaining healthy hybrids of chickpea to improve its disease resistance, thereby boosting crop yields. ICRISAT is a non-profit international research organization based in India that is devoted to science-based agricultural development. Currently, it is being headed by Dr. William D. Dar, former Philippine agriculture secretary and the first Filipino appointed director-general of ICRISAT. The hybrid chickpea was developed through the embryo rescue and tissue culture methods. This was done by crossing a cultivated variety, *Cicer arietinum*, with the wild species, *Cicer bijugum*.

Chickpea is the third most important food legume in the world and is being grown in over 40 countries, including the Philippines. In India it is known as *Bengal gram*, in the Arab world, it is *homes hamaz*, in Turkey it is *nohud*, in Ethiopia, it is *shimbira* but here in the Philippines, it is our good 'ol *garbanzos*.

A large portion of the area (95%) allotted for the production and consumption of chickpea comes from developing countries. For the last two years, the global chickpea production reached 8 million tons from an area of 10 million ha. Among the three leading producers of chickpea are: India (64%), Turkey (8%), and Pakistan (7%) wherein it's considered

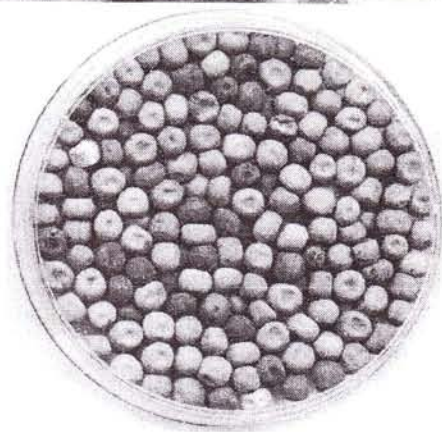


Chickpea bloom

as a staple crop.

Chickpea is one of a poor farmer's valued crops. It is valued not only for its many uses but more for its nutritive seeds, which is very rich in protein. Chickpea seeds are eaten fresh (as green vegetables), parched, fried, roasted, or boiled. As snack food, it is used as sweet and condiments. It is prepared with pepper, salt, and lemon and is served as a side dish. The seeds are also grounded and the flour is used as soup, bread or *dhal*. *Dhal* is like a porridge or *lugaw*. It consists of split chickpeas without its seedcoat, dried and cooked into a thick soup. The young plants and green pods are consumed raw, eaten like spinach. Meanwhile, in Turkey and Latin America, a small proportion of canned chickpea is being used to produce fermented food.

Chickpea is not only consumed as human food, it's gram husks, and green or dried stems and leaves or milled seeds are used for animal feed. It has high nutritional composition and does not contain any



Chickpea seeds

specific major anti-nutritional factors. On an average, chickpea seed contains 23% protein, 64% total carbohydrates, 47% starch, 5% fat, 6% crude fiber, 6% soluble sugar and 3% ash. The mineral component is high in phosphorus, calcium, magnesium, iron, and zinc. Its protein digestibility is the highest among the dry edible legumes. The lipid fraction is high in unsaturated fatty acids.

Other innovative uses of chickpea include: seeds are used as a non-water resistant adhesive for

see *Chickpea...* page 12

Seminar enhances BAR staff capability

Several staff of BAR attended a seminar that sought to enhance their capabilities on agricultural and fisheries research and development management at the RDMIC Conference Room, September 28-29.

Specifically, the seminar aimed to: a) enhance technology commercialization capabilities of the Bureau, b) enhance the Department of Agriculture research managers' understanding of their roles in research and development and extension, c) identify strategies for effective private sector participation in research and extension, and e) formulate strategies for effective research management.

The modules to attain the

objectives were "Knowledge Management" (Dr. Serafin Talisayon); "Knowledge Management Strategies for the Promotion of Agriculture and Fisheries R&D: Views from the Private Sector" (Maria Corazon Lopez); "Environmental Resource Planning for Agriculture and Fisheries" (Dr. Nicomedes Briones); "Rural-Urban Accessibility in Technology Commercialization" (Dr. Primitivo Cal); "Community Planning for Sustainable Rural Development" (Dr. Gina Nilo); "Rural Accessibility: the IRAP Approach" (Mr. Lito Supangco). The seminar was done through cover-lecture discussions, group discussions, and open forum.

BAR Director Nicomedes Eleazar expressed optimism that the activity will be translated into quality output by BAR staff and officials in as

far as the DA and BAR's programs are concerned.

The seminar was conducted in support of BAR's agenda of developing demand-driven and market-led RD&E as well as to respond to DA's goals. The University of the Philippines Planning and Research Development Foundation, Inc (UP Planades) provided assistance in implementing and managing the conduct of activities during the training and study visits.

UP Planades is a non-stock, non-profit foundation engaged in research consultancy and extension services, academic development and training in environmental, and urban and regional planning related activities. (Maria Lizbeth Severa J. Baroña)

Chickpea...from page 1

plywood, extract of leaves can be a natural dye and cosmetics, acid from leaves is used as vinegar and suitable for medical purposes i.e. controlling diarrhea for infants. The starch of chickpea can also be used for textile sizing and finishing of silk, wool and cotton cloth.

In the hybridization of the chickpea, scientists from ICRISAT marked a breakthrough in cross breeding the many desirable characters of *C. bijugum*, particularly its resistance to *Ascochyta* blight, botrytis grey mold and pod borer, which is the leading nemesis among chickpea farmers. Scientists hope that with crossing the cultivated and wild chickpea, they expect to produce a hardy plant that enables to stand up against harsh weather and pest attacks.

The hybrid chickpea crop is

the third genetic crop that ICRISAT has introduced to the public and is now undergoing field trials suited for semi-arid tropics. Other crops earlier launched were: transgenic groundnut resistant to the Indian peanut clump virus in 2002 and the transgenic pigeonpea in 2003.

In a press statement, Dr. William Dar was hopeful that the breakthrough would result in the cultivation of improved chickpea that would eventually benefit the poor and marginal farmers.

For more information about the hybrid chickpea, please email Dr Nalini Mallikarjuna at n.mallikarjuna@cgiar.org

Additional sources:

1. "Technological breakthrough towards disease-resistant chickpea" ICRISAT Press Release. As retrieved from <http://www.icrisat.org/New&Events/News&Events.htm>
2. New Crop Factsheet on Chickpea. 1997. F.J. Muehlbauer and Abebe Tullu (contributors). Also available online through: <http://www.hort.purdue.edu/newcrop/Crops/CropFactSheets/>

BAR Chronicle

A monthly publication of the
Bureau of Agricultural Research
RDMIC Bldg., Visayas Ave.
Don Eusebio Road, Diliman
Quezon City 1104
PHILIPPINES

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