

Responding to a more holistic community-based initiatives



CPAR DOCUMENTATION TEAM

In response to the greater challenges of agricultural development, all BAR efforts will be focused and emphasis will be on two major areas: making its programs adheres to community-based approach; and incorporating dynamic and responsive knowledge management in agriculture and fishery.

This was revealed by Dir. Nicomedes P. Eleazar during the consultation-workshop on community-based initiatives for effective and efficient R&D management on 27-29 November 2007 at the RDMIC Building,

Visayas Ave., Diliman, Quezon City.

Dir. Eleazar mentioned that BAR would ensure that its efforts particularly the programs and support services encompass a complete and holistic approach that is client-driven, business-oriented, market-oriented, and community-based.

This encourages all key players and stakeholders in agriculture and fisheries development to re-align and focus their efforts considering that these are already existing and proven mechanisms and strategies that have

been implemented as early as July 2007.

Accordingly, this is the manifestation of BAR partners and clientele who are more than willing and to take the risks and challenges in improving the conditions of the communities.

BAR also came up with a new development modality for community-based initiative using information communication and technology for improved R&D implementation.

The *e-K Agrikultura* is a unified program ensuring and enhancing the timeliness, relevance, and usefulness of the new agriculture and fisheries sector through the expansion of opportunities for development, empowerment and emancipation of people and communities.

BAR ensures that all its activities will support the main goal of the Department that is making “knowledge for development” and using its direction as – “Agriculture and Fisheries RDE/E is business-oriented sharing impact-oriented information for dynamic and responsive development.” (Marlowe U. Aquino, PhD)

Setting direction of social research in agriculture/fisheries landscape

After re-visiting the social aspect of development, the Bureau of Agricultural Research (BAR) shares its direction in the conduct of social research and development. These are based on the emerging new challenges in the global agriculture and fisheries landscape.

Understanding in detail the trends and directions of agriculture and fisheries in the 21st century and the evaluation of the implementation of the Agriculture and Fisheries Modernization Act of 1997 (AFMA) or Republic Act 8435 specifically in research and development, several items set the trend in incorporating the social dimension in the conduct of research.

Using the R&D outputs, question is set on how these affect and direct the course of development in this ever changing world. BAR listed major areas to be considered in

future R&D project conceptualizations and preparations. These are: 1) globalization and commercialization; 2) technology management including development and commercialization; 3) knowledge management in research and extension/education system; and 4) community development.

These areas are integrated into research themes that highlight social interactions, relationships, transformation and reforms and social movements along



RITA DELA CRUZ

people, communities, and industries.

Also included are complex issues of development that agro-fishery

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Sweet sorghum program launched in Bicol; BIARC spearheads commercialization



ELIANE GRACE NAGPALA

RCD Head Tito Z. Arevalo (right) with technical staff from TCU, Judyann H. Guevarra (left), and BIARC Manager Elena de los Santos (2nd from left) visit sweet sorghum test station in Cararayan, Naga City.

Sweet sorghum can also thrive in Bicol! This was revealed from the initial results of the “Sweet sorghum technology evaluation and commercialization program in Bicol Region”.

Through a collaborative undertakings of the Bureau of Agricultural Research (BAR), the Mariano Marcos State University (MMSU), and the Bicol Integrated Agricultural Research Center (BIARC),

a project was implemented as an expansion of the varietal screening of sweet sorghum for nationwide adaptability and replicability in all regions of the country. This is in response to the goal I priorities of the Department of Agriculture (DA) which is to develop idle lands for agribusiness and in accordance to the passing of Biofuels Law.

The sweet sorghum is a potential source of ethanol for producing biofuels. Several livelihood products can also be derived from the different parts of the plant. Products such as wine, vinegar, jaggery, syrup, cookies, pops, and flour can be obtained from sweet sorghum while livestock feed and organic fertilizer can be derived from the crop.

Program expansion

In general, the project is an expansion of the program on sweet sorghum varietal testing of BAR and MMSU. Five varieties of sweet sorghum namely: SPV-422, NTJ-2, ICSV-93034, ICSV-700, and ICSV-93046 were found to

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BAR supports DA's initiative on climate change

Secretary Arthur C. Yap, together with Bureau of Agricultural Research (BAR) Director Nicomedes P. Eleazar and BAR-Research Coordination Division (RCD) Head Tito Z. Arevalo, represented the Department of Agriculture (DA) during the First National Conference on Climate Change Adaptation held recently at Albay Astrodome, Legaspi City.

Hosted by the Provincial Government of Albay, in collaboration with the Department of Environment and Natural Resources (DENR), Environmental Management Bureau (EMB), United Nations Programme, Asian Development Bank (ADB), World Bank, and World Agro-Forestry Center, the event is in response to the commitment of President Gloria

Macapagal-Arroyo during the 62nd Session of the General Assembly of the United Nations.

Policy and decisionmakers from national government agencies, local government units (LGUs), state colleges and universities (SCUs), business sectors, international organizations, and religious groups graced the event. Representatives from the ten government agencies and also from the international institutions

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

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Sweet sorghum...from page 1



Engr. Salvador Albea (left) of the Tropics Agro Industries Incorporated shows the polished seeds of sweet sorghum grains that passed through his fabricated polisher.

Flat bed dryer which is powered by a cyclonic furnace and can accommodate 6 tons of sweet sorghum grains.

suite Philippine conditions based from the results obtained at the sweet sorghum pilot testing sites in MMSU, and are ready for commercialization and varietal testing among the regions.

Varietal testing in Bicol

Headed by Dr. Elena de los Santos, the Bicol Integrated Agricultural Research Center (BIARC) was first to do the varietal testing among the other regions.

An initial varietal testing was started in field-testing station in BIARC during the 2006 dry season that lasted for six months (November 2006 to April 2007). The preliminary results showed that stalks production, grain yield and sugar content were highest on SPV-422 as compared to the four other varieties.

Following the preliminary varietal testing is the on-farm testing of the sorghum varieties, representing a particular agro-environment. Testing stations were established in the towns of Cararayan, Pili, Calabanga, Canaman and Goa in Camarines Sur.

Prospects

BIARC has set its track on the region-wide commercialization of sweet sorghum after proving through the preliminary implementation of the project that growing sweet sorghum in Bicol is feasible. This includes the development of village-level technologies in producing molasses, organic fertilizer, pops from sweet sorghum grains and sweet sorghum macaroons from the crop. Also, the commercial production of the crop in

a 300-hectare land and the establishment of three mini-distilleries in three strategic locations in the region are being projected.

As an offshoot of the implementation of the sweet sorghum project, the Tropics Agro Industries Incorporated initiated a 5-hectare commercial production for grain sorghum with plans for 60-100 hectare expansion for the next cropping season. Engr. Salvador Albea, the owner of the private company, is also preparing to establish an ethanol production plant for their sweet sorghum plantation. The conduct of a technology forum to convene a sweet sorghum industry in Bicol is being planned between the Tropics Agro Industries Incorporated and BIARC. (Ellaine Grace L. Nagpala)



Fabricated polisher

e-K Agrikultura: Innovative development strategy launched

MARLOWE U. AQUINO, PhD



In line with the launching of the Philippine National Innovation Strategy during the National Innovation Summit on 26 November 2007 at the Makati Shangri-la, the Philippines took a major shift in its development strategy for global competitiveness by unleashing the innovative spirit of Filipinos for globalization.

This is translated through the changing nature and scope of innovation such as openness, collaborative effort, multi-discipline and global responsiveness. This could be achieved through strong partnership of business, government and the academe in making innovation work for development.

The activity was organized and sponsored by the Department of Science and Technology, Asian Institute of Management – Policy Center, Intellectual Property Office – Philippines and IBM Company. It was attended and participated by government, non-government organizations, private sector and industries, civil society, and media.

DA initiative

The Department of Agriculture (DA) through the Bureau of Agricultural Research (BAR) presented its share in making the agriculture as one of the prime mover of development. DA's

strategy is the *e-K Agrikultura*. Ground works have been started and activities will take place early next year. Expected outcome will be more focused and attuned to DA programs.

The *e-K Agrikultura* is a unified program aimed to enhance the delivery of accurate agriculture and fisheries information to users' for appropriate decision making and business development. It is a dynamic, interactive, and responsive modality using information communication and technology to improve, enhance, coordinate and manage the e-learning of all agriculture stakeholders. Also, it is used as a development strategy to make agriculture a business activity through the utilization and application of information and knowledge for enterprise and agribusiness development. ICT initiatives and programs for people, communities and industries, incorporate the value of responsibility and accountability.

Goal, vision and mission

e-K Agrikultura is “Kagalingan sa Agrikultura tungo sa Kabuhayan, Kasaganaan at Kaunlaran.” With emphasis on effective and efficient R&D management, BAR will be tapping experts in the field of information communication and technology,

community development, agribusiness and marketing and development management.

Goal: Knowledge for Development -

“Utilize the Agriculture and Fisheries Information for Unified and Optimal Application in Research, Development, Extension, Policy, Agribusiness and Marketing, Regulatory and Management”

Vision: Institute an efficient and effective information and knowledge management system for agriculture and fisheries development

Mission: Organize and systematize agriculture and fisheries information and knowledge for optimal application, utilization and exchange among users and partners

Components

There are four major components of *e-K Agrikultura*. These are: information and knowledge products preparation, dissemination and management's enhancement of community-based knowledge systems; expansion of the e-Pinoy FARMS, and development of commodity production resource management system (C-PREMS); and strengthening and maintenance of e-Partnerships for agriculture and fisheries development.

Implementation

At the on-set of 2008, the *e-K Agrikultura* will be implemented nationwide. Institutional assistance and support from the DA-Agribusiness and Marketing Assistance Service (AMAS), Information Technology Center for Agriculture and Fisheries (ITCAF), and Agricultural Training Institute (ATI) will be tapped to attain the development goal of research, development, extension and education. This will be supported by technical expertise of the members of the National Research and Development System for Agriculture and Fisheries (NaRDSAF) particularly the national and regional research centers and institute including state universities and colleges including non-government organizations and the private sector.

Projects will be focused on the goals, vision and mission of the development strategy highlighting agriculture as business. Communities will have a share of this initiative by making agriculture relevant to their livelihood activities be it on crops, livestock and poultry, fisheries, product development and processing. These are vital to community progress. BAR envisions that the implementation of *e-K Agrikultura* will be process-based and information-based resource management initiatives.

CIIF, FFF sign MOA to boost coconut competitiveness in the country

NICANOR DEL ROSARIO III



(L-R) Edgardo Amistad, president of UCPB-CIIF Finance and Development Corporation; Danilo Coronacion, president/CEO of CIIF Oil Mills Group; Jesus Emmanuel Paras, DA undersecretary for Operations; and Leonardo Montemayor, president of FFF sign a Memorandum of Agreement (MOA) to boost coconut competitiveness in the country.

The Coconut Industry Investment Fund (CIIF) Oil Mills Group and the Federation of Free Farmers (FFF) signed a Memorandum of Agreement (MOA) to operationalize the various components of the Coconut Farm Development Program (CFDP), a comprehensive development program to boost the coconut industry.

The program hopes to bring about countrywide development through the promotion of efficient, competitive and sustainable coconut farming systems. The program has four main components: 1) establishment of nurseries, 2) coconut intercropping, 3) coconut value-adding, and 4) operation of agribusiness service kiosk.

The agreement was signed on 20 November 2007 during the "Coconut Farm Development Program Implementation Workshop" held at the Information Technology Center for Agriculture and Fisheries (ITCAF) Conference Room, Department of Agriculture (DA) Compound, Quezon City.

The workshop was conducted to serve as an activity to level-off expectations and set overall directions towards the efficiency, transparency, accountability, and sustainability in managing the program.

Signing the MOA were CIIF Oils Mills Group President and CEO Danilo M. Coronacion and FFF President Leonardo Q. Montemayor. The agreement was signed in the presence of DA

Undersecretary Jesus Emmanuel M. Paras (in behalf of Secretary Arthur C. Yap), Commission on Higher Education (CHED) Commissioner Saturnino M. Ocampo, Jr., UCPB-CIIF Finance and Development Corporation President Edgardo C. Amistad, and Optiserve Technologies, Inc. CEO Cheryl Marie U. Natividad.

CIIF Oils Mills Group, a private association of accredited oil mills operating all over the country, tapped several networks of farmers' organizations to assist in the implementation of the program at the ground level. Specifically, the aim is to develop 1.3 million hectares of agribusiness lands and to increase the

productivity of coconut farm systems by providing small coconut farmers and their families' livelihood, employment, and income opportunities.

As stated in the MOA, the coconut program seeks to address the issue of ensuring substantial supply of coconuts/copra which is required in meeting the annual demand of CIIF Oils Mills Group amounting to 867 metric tons per year and subsequently increase farmers' yields within two years.

Prior to this agreement, the CIIF Oil Mills Group signed a Memorandum of Understanding (MOU) with the FFF, small coconut farmers cooperatives/organizations, non-government organizations (NGOs), educational institutions, and local government units (LGUs) to form a national network called, FFF-CFDP Network, to implement the coconut program.

In the implementation of the coconut program, members of the network adopted a strategy of clustering to develop 3,000 hectares of agribusiness land per cluster within the allotted three-year period for the project.

To open up alternative markets and allow coconut farmers to receive higher returns, farm productions from the CFDP funded projects will be consolidated through the Agribiz Group and link it to institutional buyers/markets here and abroad. This will also ensure that the proceeds from the program's investments will be sustainable and its success replicated in other parts of the country.

Aside from the workshop and the MOA signing, the activity highlighted biofuels development programs such as that of sweet sorghum, which the DA is currently promoting. Dr. Heraldo L. Layaoen, vice president for administration, planning and external linkages of the Mariano Marcos State University (MMSU) and overall coordinator of the DA-BAR Sweet Sorghum Project, presented "Business Prospect in Sweet Sorghum for Biofuels". This is in view of the prospect that sweet sorghum could be use as an intercrop for coconut and could provide coconut farmers with additional income. Although there is no study yet to provide this claim, Dr. Layaoen and President Montemayor both agreed that this would not compete with the production of coconut. To promote this opportunity, Dr. Layaoen distributed 60 kilos of sweet sorghum seeds to cooperative representatives and coconut farmer-participants. (Rita T. dela Cruz)



Above: Dr. Heraldo Layaoen lectures on the potentials of sweet sorghum. Below: Mr. Rizalino Tady one of the recipients of a bag of sweet sorghum donated by MMSU and DA-BAR for coconut farmers to try.

Solsoloy receives Dr. Priscilla C. Sanchez Award for excellence in research

Nothing beats a pat on the shoulder after a job well done. Getting an actual award for it, is a different story altogether.

This year looks like a good year for the Bureau of Agricultural Research (BAR) as honors and awards start to pour in. This time it's Assistant Director Teodoro S. Solsoloy receiving the Dr. Priscilla C. Sanchez Award for excellence in research from the International Society of Southeast Asian Agricultural Sciences (ISSAAS) Philippines.

The award was presented during the 7th ISSAAS National Convention held at the SEAMEO Regional Center for Graduate Study and Research in Agriculture (SEARCA), UP Los Baños, College, Laguna.

The Dr. Priscilla C. Sanchez Award for excellence in research is bestowed to a distinguished individual in recognition of his/her contributions to agricultural research and leadership in creating a niche in the scientific community.

Other sets of awards are leadership excellence and recognition of scientific cooperation. These awards are given on a biennial basis since its inception in 2005. The award was named after Dr. Priscilla C. Sanchez, founder and organizer of ISSAAS Philippines and a world renowned expert

in biological researches and famous for her discovery of two species of bacteria: *Caldivirga maquilinensis* and *Caldisphaera lagunensis*, both inhabit the mudspring in Mount Makiling, Los Baños, Laguna.

This year's awardee, Dr. Solsoloy is no greenhorn in the field of science. He holds a PhD degree in entomology with cognates in management and agronomy from the University of the Philippines Los Banos (UPLB). He pioneered the research and development of the now famous, *Trichogramma chilonis*, an effective biological control agent against the cotton bollworm, *Helicoverpa armigera*. The commercialization of this agent contributed to the reduction in chemical sprays and ultimately the cost in cotton production.

He developed the Insect Pest Management (IPM) package of technology that is anchored on a sound monitoring system for utilization by cotton stakeholders. He also spearheaded the development of training manuals on IPM, cotton production and management and techno guide on flower weevil management strategies.

Never a newcomer in terms of getting recognitions from different scientific organizations, Dr. Solsoloy has received quite a handful of them



Dr. Teodoro S. Solsoloy

ISSAAS

over the years.

His alma mater recognized his excellence awarding him the Most Outstanding Alumni in Research. The Batac Science Community gave him a plaque of recognition as a scientist.

In 1998, he was awarded the Outstanding DA Employee in Research and was likewise chosen as one of the three awardees of the *Gawad Saka* Outstanding Researchers of the year.

ISSAAS Philippines is an organization formed in 1994 whose main objective is to encourage a holistic approach to problems and to promote the progress and development of science and technology related to agricultural sciences.

The society is comprised of scientists, technical experts, and others who shared the goals of ISSAAS in the broad field of agricultural sciences and whose activities are within the Southeast Asian (SE) region.

Among its member-countries are Indonesia, Japan, Malaysia, Thailand, Vietnam, and the Philippines. The central office is in Vietnam, the home country of the Society's current President Nguyen Viet Tung of the Hanoi Agricultural University. (Rita T. dela Cruz)



Dr. Teodoro S. Solsoloy (center) poses with Dr. Priscilla C. Sanchez (4th from right), Dr. Roberto F. Rañola, ISSAAS vice president- Philippine chapter; and other officers and board members of ISSAAS during the awarding ceremony in SEARCA, Laguna.

PhilRice launches a national scientist-authored book on rice



Dr. Bienvenido O. Juliano (center), author of *Rice: Chemistry and Technology* gives a copy to DA Usec Jesus Emmanuel Paras (right) during the ceremonial launching of his book. With them is PhilRice Executive Director Leocadio Sebastian (left).

In celebration of the Rice Awareness Month, the Philippine Rice Research Institute (PhilRice) conducted a seminar and ceremonial launching of the book, "Rice Chemistry and Quality" authored by national scientist, Dr. Bienvenido O. Juliano.

The activity was held on 22

November 2007 at the FOS Conference Room, Department of Agriculture (DA) Building, Diliman, Quezon City.

The book, an updated version of the 1985 internationally-published "Rice: Chemistry and Technology" which Dr. Juliano edited, consists of 10 chapters describing (almost) all the aspects of rice chemistry and grain

quality. Considered a world authority on rice grain quality, the book summarizes 40 years of Dr. Juliano's rice research experience.

Rice production and utilization, structure and gross composition of the rice grain, chemical constituents, nutritive value of rice and rice diets, processing, grain quality evaluation, varietal quality types, processed products, including topics on rice by-products such as bran, hull and straw were thoroughly discussed in the book.

In a presentation by PhilRice Development Communication division head, Diadem B. Gonzales, she quoted a book review by Dr. Narpinder Singh of the Guru Nanak Dev University in Punjab, India describing the importance and relevance of this book. "This is a very valuable book covering basically all aspects relevant to rice chemistry and quality."

Following the ceremonial book launching, Dr. Juliano gave a seminar on the 12 facts and fallacies about rice.

In his speech, Dr. Juliano said that, "This book is a work of love." He received no royalty just to make the production as cheap as possible and so that more people could afford it. The book is being sold for 400 pesos.

The National Rice Awareness Month in the Philippines is celebrated every November following Proclamation No. 524 signed and issued by President Gloria Macapagal-Arroyo. (Rita T. dela Cruz)

Using e-Learning modality as development strategy

The use of information communication and technology (ICT) today is getting waves not only in business and trade, education and tourism but also in national defense, medicine, religion and spirituality, and most recent in agriculture and fisheries.

This was revealed during the Philippine e-Learning Society's 7th National e-Learning Conference held at the College of Medicine, University of Santo Tomas, Sampaloc, Manila. The activity carried the theme, "Learning about technology: e-Learning with technology for the academe and industry."

Dr. Erlinda C. Pefianco,



executive director of SEAMEO INNOTECH and keynote speaker of the conference, emphasized that the key solution to work is on the universal access to information via the Internet which enables sharing and exchange of information electronically.

She further mentioned that, the access of quality education could now be

obtained informally and formally by people involved in information and communication process. This, should be supported by continuous professional education and training.

Given these two important aspects, it should be known that these are aids to development activities. People and organizations involved in information technologies must develop competency skills which are useful in the academe, employment and business sectors. As long as these are addressed properly, development will occur in the different sectors of the society making it a strategy for productivity, profitability, competitiveness and sustainability. (Marlowe U. Aquino, PhD)

BSWM, BAR conduct community governance and dev't training



BSWM

One of the best ways to get one's work done in every stage of project implementation is to involve the people in the community.

This was the observation of the team heading the project on Community-based Watershed Management in one of their pilot sites in

Talibon, Bohol. The project is funded by Bureau of Soils and Water Management (BSWM) and Bureau of Agricultural Research (BAR).

Based on the enthusiasm and desire of the community, the BSWM and local government of Talibon decided to conduct a local training on governance and development for its project beneficiaries.

The training aimed to institutionalize the principles of community development focusing on the role of support services and institutions and to improve community participation in the implementation of community projects.

During the training, the local

people believed that one way to operationalize the livelihood opportunities and skills learned from the BSWM staff is for them to be involved in social preparation, community education, capability-building and social action. Thus, they are being empowered and this leads to a better project ownership.

As soon as the project is completed and the community is organized, it will initiate programs and activities.

In relation to this training, it was noted that the BSWM conducted specialized skills trainings on bio-fertilization, food processing, crop production management and fishery product development.

These trainings boosted the morale of the community to act and develop several livelihood projects to increase their production and profitability including sustainable development using local resources and capabilities particularly strong leadership, community cohesiveness and social capital. (Marlowe U. Aquino, PhD)

Last week of November is Nat'l Biotech Week

Recognizing the importance of biotechnology in agriculture and agri-food, Department of Agriculture (DA) Secretary Arthur C. Yap announced the last week of November as the annual celebration of the National Biotechnology Week. This was stated in Proclamation No. 1414 which was made official through an endorsement signed by President Gloria Macapagal-Arroyo and seven other Cabinet members led by Secretary Yap.

Prior to this proclamation was the successful implementation of a National Biotechnology Week which was held every first week of July in 2005 and 2006. This helped in the further promotion of biotechnology as a strategy for the country's development particularly in farm productivity and agri-food production.

In terms of biosafety regulations, it earned the Philippines its status as a model country.

For agriculture, biotechnology plays a crucial role, which the proclamation itself affirms, mentioning that "Biotechnology

sustains increased crop yields and farm productivity and enhances the quality, value and suitability of crops for food and other uses that are complementary to modern agriculture."

Aside from agriculture, other important applications of modern biotechnology include human healthcare, environment, administration of justice through DNA analysis and similar techniques. Biotechnology is now recognized as an important tool in assisting the fast and fair administration of justice through forensic DNA analysis and similar DNA technologies.

In the field of environment, biotechnology also plays a crucial role including the protection of water quality, conservation of topsoil, improvement of waste management techniques, reduction of chemical pesticide usage, production of renewable energy, and biotechnology-based products and cleaner manufacturing processes.

Consequential to the proclamation, President Arroyo also created a National Biotechnology Week Committee to be co-chaired by DA Secretary Yap and Department of



Science and Technology (DOST) Secretary Estrella F. Alabastro.

Members of the Committee include the secretaries of Department of Environment and Natural Resources (DENR), Department of Health (DoH), Department of Trade and Industry (DTI), Department of Education (DepEd), and Department of the Interior and Local Government (DILG). They were also the Cabinet members who signed the endorsement for Proclamation 1414. (Rita T. dela Cruz)

Test tube buffaloes, more to come



photo from PCC

With the success of the test tube technology developed by the Philippine Carabao Center (PCC) in producing superior quality buffaloes, the Bureau of Agricultural Research (BAR) of the Department of Agriculture (DA) and the office of Senator Ramon Magsaysay Jr. released funding support to continue the project, "Propagation of Genetically Superior Water Buffaloes through Embryo In Vitro Production (IVP) and Embryo Transfer (ET) Techniques". PCC has produced

genetically superior water buffaloes both at institutional herd and in the villages. The test tube buffaloes, born in April and December 2002 are now at their breeding ages and the females have delivered twice within five years after their births. Milk production of the resultant test tube females ranges from 8 to 15 liters of milk per day, a production found highly beneficial to the farming families.

The male test tube buffaloes are now being used for breeding purposes. Some are being used as semen donor for nationwide artificial insemination program while others are being used as

breeders of identified herds. This enables the propagation of the superior genetic buffaloes in the country today.

The project involves production of riverine buffalo embryos at the satellite Embryo Biotechnology Laboratory of PCC in India. The embryos were produced from collecting eggs of slaughtered riverine buffaloes. Eggs were matured inside an incubator, fertilized it with semen from genetically superior-progeny tested bulls, and developed the embryos to the pre-implantation stages. Pre-implantation embryos were cryopreserved by slow-freezing technique, and were stored in liquid nitrogen and transported to the Philippines.

This year, a research team from PCC went to India under the DA-BAR/Sen. Ramon Magsaysay funding support to re-operate the satellite laboratory and produce the embryos. The team returned in the Philippines with the first batch of embryos stored in dry shippers containing liquid nitrogen. The embryos are now at PCC headquarters in Munoz, Nueva Ecija and are ready for transfer to recipient buffaloes.

Recipient buffaloes could be served out of either natural or synchronized estrus (or *paglalandi* in Tagalog). Natural estrus is the *natural na paglalandi* while synchronized estrus involves the injection of hormone to bring the buffaloes together in estrus at the same time.

Farmers with female buffaloes that are living in a 25 km radius from PCC Headquarters in Munoz Nueva Ecija can avail of the embryo transfer services out of the natural estrus of their buffaloes. All they have to do is to coordinate with PCC.

The transfer of embryo to recipient buffalo is done on the 7th day after observation of estrus. Interested farmers could inform the PCC if their buffaloes are in estrus so that their buffaloes can be scheduled for embryo transfer.

PCC can be contacted at telephone numbers 044-456-0731 local 417 or 412 for the Embryo Transfer services.

For embryo transfer services out of synchronized estrus techniques, some identified farmer cooperators in Region III are scheduled for the services. Expansion of embryo transfer services is yet to be addressed due to limited number of technical manpower that could carry out the project. (Dr. Danilda Hufana-Duran of PCC)

Setting directions...from page 12

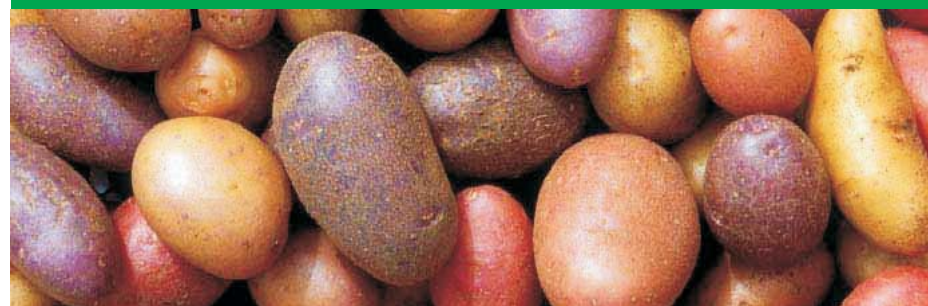
business must be responsible on areas such as poverty, environment, population, growth, change and globalization. If these are placed and considered in social research, the possibility to make a better community will be attained alongside productivity, profitability and sustainability variables visible.

Specific topics to be covered include: agro-fishery rural communities, participation on development, changing food systems, blending of environment and agriculture with tourism, responsiveness on biotechnology

on policy advocacy and governance, changing roles of communities as affected by globalization, climate change and social injustices, and the use of information communication and technology by farmers and fisherfolk and their communities.

These are some researchable areas which social scientists, researchers and development practitioners can execute and illustrate competence through creativity, relevance and scientific manner. (Marlowe U. Aquino, PhD)

2008 IS INTERNATIONAL YEAR OF POTATO



www.potato2008.org

To raise people's awareness on the importance of potato in agriculture and to address global issues of hunger, poverty and threats to the environment, the United Nations General Assembly has recently declared 2008 as the International Year of the Potato (IYP).

This was made official during an official launching ceremony, coinciding with the observation of the 2007 World Food Day, with the theme "Right to food". To lead its implementation is the Food and Agriculture Organization (FAO).

So why potato? Potato, being grown worldwide and considered one of the most efficient subsistence crop ever cultivated, is expected to play an important role in meeting the global challenge of food security and malnutrition. This role is also crucial since the world's population will continue to grow and in the next two decades, put pressure on our land and water resources.

Potato feeds the hungry. Hence,

it is a good strategy to provide nutritious food for the poor. Growing potato is advantageous for developing countries where land is limited and labor is abundant.

Nutrition-wise, potato is rich in carbohydrates, which is an essential source of energy. Potato has the highest protein content, around 2.1% on a fresh weight basis and protein of a fairly high quality, with an amino-acid pattern that is well suited to human requirements. Likewise, it is very rich in vitamin C and contained a fifth of the recommended daily value of potassium.

According to FAO (2007), world potato production has increased at an annual average rate of 4.5 percent over the last 10 years, and exceeded the growth in production of many other major food commodities in developing countries, particularly in Asia.

Based on the average production form 2000-2004, the world's top producer is China, contributing an average of 21.26% to total production, followed by Russian Federation (11%),

India (8%), USA (7%) and Ukraine (6%).

The Philippine production amounted to less than 0.5% of world production (FAO, 2004). Majority of the country's supply comes from the Cordillera (65%), Northern Mindanao (24%), the Southern Mindanao (10%), and other parts of the country (1%).

With the wide uses of potato and a low consumption of it, the Philippines must find ways to fully optimize its use especially with the popularity of French fries among fastfoods and restaurants making potato a highly demanded rootcrop. It is imperative that farmers find appropriate means to continuously produce more potatoes year-round.

Potato production has high income potential for farmers, especially those in Northern Luzon and Southern Mindanao where the bulk of the potato produced comes from.

However, owing to various constraints such as limited supply of quality planting materials, low quality of potatoes in terms of content and size, lack of technical know-how among our farmers, and postharvest handling, local production could not meet the market demand.

With the celebration of IYP in 2008, hopefully, the country will elevate its economic importance to farmers and the agriculture sector as a whole. (Rita T. dela Cruz with reports from FAO)

Sources:

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Clustered farming is envisioned to boost fruit industry

The recent 15th National Fruit Symposium of the Philippine Fruit Association headed by Dr. Virgilio Libunao highlighted the importance of quality fruits for domestic and export markets. The activity was held on 6-8 November 2007 at the BSWM Convention Hall, Elliptical Road, Diliman, Quezon City.

However, the question posted was on how to go about this. The answer – establishment, enhancement, and continuous capability building of those involved in clustered fruit farming. The idea came from DA Secretary Arthur C. Yap in his speech as read by Dr. Rene Rafael C. Espino, program director of the GMA banner

program for high value commercial crops.

Clustered farming is a very good strategy if all key players and stakeholders discuss strategies and initiatives and share the latest technologies to further improve the production capacities and expand markets here and abroad. These could be ultimately attained if government and private sector such as fruit farmers, processors, and exporters provide and exchange technical and logistic assistance in complying with global phytosanitary standards and sustainable supply of products (fresh or processed).

It also ensures that there is continuous support coming from the

government to the private growers particularly, farmers who need to comply with the requirements of the fruit supply chain.

This is to maintain not only the country's niche on traditional export winners like banana, pineapple, and mango but also to develop other market opportunities for emerging fruits like papaya and durian, among others.

Through the established clustered farms, all efforts of fruit enterprises and businesses will satisfy the required quality fruit standard and enhance people and community professionalism to be domestically and globally competitive. (Marlowe U. Aquino, PhD)

BAR participates in AFSIS seminar on food security

Through the collaborative efforts of the Bureau of Agricultural Statistics (BAS) and the Statistical Research and Training Research Center (SRTC), a national seminar on the ASEAN Food Security Information System (AFSIS) was conducted on 23 November 2007 at the Sulu Hotel, East Avenue, Diliman, Quezon City.

With the theme “Sustaining food security through a responsive information exchange system,” the seminar dealt with the role and importance of information system in addressing food security, and mitigating the problem of hunger and malnutrition.

Department of Agriculture (DA) Undersecretary Salvador Salacup keyed the event in behalf of Secretary Arthur C. Yap.

In his speech, Usec Salacup stressed the importance of ensuring food security given the alarming problem of hunger and malnutrition. He recognized that the implementation of AFSIS would contribute to the twin goals of DA—1) develop idle lands for agribusiness, and 2) reduce prices of wage goods in the market—which would eventually lead to food security.

The AFSIS project was introduced by Hon. Chaiwat Siripunya, consultant of the said project from Thailand.

AFSIS is an initiative of the Association of Southeast Asian Nations (ASEAN) and Japan with



Key officials of BAS with DA Usec Salvador Salacup (3rd from right) and Hon Chaiwat Siripunya of Thailand (3rd from left).

participation open to China and Korea. It was first launched in 2003. AFSIS aims to facilitate food security planning, implementation, monitoring and evaluation in ASEAN through the systematic collection, organization, management, analysis and dissemination of food security data and information. As it endeavors to upgrade the capacity of statistical agencies to efficiently supply statistics and information required for the planning and implementation of food security policies, it adopts two implementing strategies, namely: 1) human resource development, and 2) information network system development.

The project has successfully completed its first phase where it developed its database and launched the AFSIS website for publishing data in the internet (<http://afsis.oae.go.th>). AFSIS's database banks up-to-date food security related information of five major crops: rice, maize, soybean, sugarcane, and

cassava. The database contains information related to production, imports and exports, market prices, consumption, and stocks of each crop.

The project has also established the ASEAN food security information and training (AFSIT) center and provided member-countries with computer hardware together with the necessary software applications, and annual operating costs to develop information networks.

The second phase of AFSIS will commence in January 2008 and will continue to strengthen food security in ASEAN countries through a more enhanced food security information system.

Other highlights of the seminar included a presentation on the review of the information exchange systems on food and agriculture, the current state and future directions of the Philippine Agricultural Statistics (AGSTAT), and proposal on the establishment of the Philippine food security information system.

Ms. Melissa Resma, head of the Information and Communication Technology Section (ICTS) and Mr. Rudyard Roxas of the International Relations Unit (IRU) represented the Bureau of Agricultural Research (BAR) in the said seminar. (Ellaine Grace L. Nagpala)

BAR supports...from page 1

presented their respective programs and activities.

Climate change is one of the emerging issues faced by the country today as it threatens agricultural and fishery production particularly food security. Thus, the Department has aligned and attuned its programs in order to mitigate possible impacts of climate change.

Secretary Yap instructed the different bureaus and attached agencies to identify possible interventions that would reduce the

adverse effects of climate change.

In particular, BAR is responsible for research and development (R&D) services. To date, the Bureau has been coordinating six R&D activities, in collaboration with other agencies like the Bureau of Animal Industry (BAI), Philippine Rice Research Institute (PhilRice), University of the Philippines Los Baños-Postharvest Horticulture Training and Research Center (UPLB-PHTRC), Central Luzon State University (CLSU), and MADECOR

Environmental Management Systems (MEMSI).

Projects include: 1) Biogas technology from animal waste; 2) Good Agricultural Practices (GAP); 3) Sweet sorghum for biofuels; 4) Use of improved crop varieties that are resistant to pests and diseases; 5) Organic-based agriculture *Agri Kalikasan* biorganic fertilizer production project and; 6) Mitigation of soil erosion of sloping agricultural lands. (Ma. Eloisa E. Hernandez)

APCC Forum highlights coconut for competitiveness

ELOISA HERNANDEZ



Dr. Marlowe U. Aquino (third from left), head of the Bureau of Agricultural Research and Management Information and Systems Division (BAR-MISD), represents BAR Director Nicomedes P. Eleazar during the coco forum on the need for regional cooperation to seize emerging opportunities. With him in the VIP table are: (L-R) Executive Director Romulo Alarcon of the Asian Pacific Coconut Community (APCC), Chairman Arthur Liqueiti, and Executive Director Federico Macaranas of the Asian Institute of Management (AIM) Policy Center.

In an effort to boost the country's competitiveness in the coconut sector, the Asian Institute of Management (AIM) Policy Center organized a forum on “Coco for Competitiveness: The Need for Regional Cooperation to Seize Emerging Opportunities” during the XLIV APCC Session/Ministerial Meeting on 9 November 2007 at the Swire Elan Suite, Greenhills.

The Bureau of Agricultural Research (BAR) served as one of the co-organizers of the event together with the Asia Pacific Coconut Community (APCC), Coconut Industry Investment Fund (CIIF), International Movement of Development Managers (IMDM), United Coconut Associations of the Philippines (UCAP), and the Philippine Coconut Authority (PCA).

Dr. Marlowe U. Aquino, head of the Management Information Systems Division (MISD) of BAR, delivered the opening remarks in behalf of Director Nicomedes P. Eleazar.

In his speech, Dr. Aquino highlighted the Bureau's efforts in increasing coconut farm productivity and farmers' income through the implementation of Community-based Participatory Action Research (CPAR) program wherein coconut technologies are fine tuned to a more applied and

adaptive means. He also discussed the National Technology Commercialization Program (NTCP) of the Department of Agriculture (DA) with BAR as the lead agency which touches on the global competitiveness of coconut.

CIIF President and CEO Danilo M. Concepcion in his opening remarks stressed the competitiveness of coconut in the Asia Pacific region which involves a dual approach: farm-side concentrating on “growing the volume”

(i.e., stable supply, predictable supply and acceptable supply) and market-side implying “adding value on the product”. This dual approach ensures transforming coconut from being a commodity to a high-value product.

Five proposals were presented for possible regional collaboration, namely: 1) A Collaborative Research Program to Develop a Clonal Regeneration Protocol in Coconut (Dr. Chito Protacio, University of the Philippines Los Banos); 2) Cocogreen Technologies Corporation: Product and Technology – A Countryside Employment Generation (Dr. Justino Arboleda, Cocogreen Technologies); 3) Market Development on the Use of Synthetic Coconut Resins (an innovative and green product) for surface coating industry (Mr. Luis Fernando, Kemwerke, Inc.); 4) The Challenge of the Future: Mainstreaming VCO (Ms. Girlie Sarmiento, Virgin Coconut Oil, Philippines) and; 5) Web-based Data Gathering on the Health Effects of Virgin Coconut Oil: A Novel Epidemiological Strategy (Dr. Fabian Dayrit, Conrado S. Dayrit Foundation).

APCC members from the Federated States of Micronesia, Fiji, India, Indonesia, Republic of Kiribati, Malaysia, Marshall Islands, Papua New Guinea, Philippines, Samoa, Solomon Islands, Sri Lanka, Thailand, Vanuatu, and Vietnam participated in the forum.

APCC is an inter-governmental organization that envisions on improving the socioeconomic conditions of the coconut growers, processors, traders and all those who depend on the crop and crop based industries, through promoting, collaborating and harmonizing of various coconut related activities. (Ma. Eloisa E. Hernandez)

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