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BUREAU OF AGRICULTURAL RESEARCH

*Improving the Way People Live through R&D*



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## 3 **MESSAGE FROM THE DIRECTOR**

## 5 **INSTITUTIONAL UPDATE**

- BAR Profile
- New R&D Directions and Priorities
- BAR Gets ISO 9001:2000 Certified
- Awards and Recognitions

## 21 **PROGRAM HIGHLIGHTS**

- Intensification of the Community-based Participatory Action Research Program (CPAR) and Establishment of Agribusiness Development Projects (ADPs) in Regional Integrated Agricultural Research Centers (RIARCs) and Other R&D Stations
- Commercialization of Appropriate Agriculture/Fisheries (A/F) Technologies
- Institutional Development Program
- Support to Basic and Strategic Research
- Knowledge Management Program
- Information and Communication Technology Program
- Intellectual Property Management Program
- Agriculture and Fisheries Policy Research and Advocacy Program

## 59 **ANNEXES**

- BAR Organizational Structure
- 2006 Management and Staff List
- Institutional Partners
- Acronyms



The R&D situation for agriculture in the Philippines presents many challenges and opportunities. A significant proportion of these challenges has been taken solely by BAR through its determined effort to create a unified national R&D agenda which are translated into specific programs with major impact on the farmers and fisherfolk.

BAR recognizes the shift in research paradigm wherein modern science is brought to bear on the problems of the poor by anchoring new technologies on traditional wisdom embedded in agriculture and fisheries. Timely, relevant, and responsive agricultural research would, therefore, result in the selection of strategic choices in terms of commodities, the tools to improve these commodities and forging of strong partnerships and alliances with other institutions.

This feat cannot be done without the support coming from the representatives from the agriculture and fisheries sectors. We are cognizant that as a coordinating agency, we must take the lead, but we cannot do it alone. We need the help of others.

We, at the R&D community, have the “science and the knowledge” but apart from these, we also need to efficiently translate this knowledge into something more concrete and applicable; something that our people will be able to use to improve their lives. Despite the various constraints involved in preparing research priorities, our commitment to R&D excellence is unwavering. We continue to improve the process by making consultation with concerned sectors as a regular activity of BAR. We find new ways and methods to implement R&D programs that are relevant to the needs of our intended clients.

I must point out that, our government will ensure that R&D is at the core of our efforts to reconstruct and develop the socio-economic status of the country. This is necessary to ensure that the benefits of research are part of our response to the challenge of poverty eradication and underdevelopment. Marking milestones does not merely rely on counting the years that passed but it also entails looking back and seeing the important things we have planned and how we were able to successfully accomplish them.

The 2006 *Annual Report* of BAR heightens our deep commitment to not only give importance to R&D in agriculture and fishery but also to the way and means we are able to translate effectively the hopes and aspirations of the Filipino people. We take pride in these significant accomplishments.

  
Nicomedes P. Eleazar, CESO IV  
Director

Barangay  
Mesa



# institutional update



*The organization of farmers and their communities has become more urgent considering the needs of making business out of agriculture.*



# INSTITUTIONAL UPDATE



Facade and inside of the RDMIC Building located along Visayas Avenue, corner Elliptical Road, Diliman, Quezon City.

## BAR PROFILE

Agriculture and fishery research and development (R&D) plays a crucial role in promoting a nation's economic growth, improving environmental quality, and ensuring innovative socio-political policy environment. The role played by R&D affects the lives of people across the country. Far from simply transforming a theoretical idea into adoptable technologies, R&D takes the lead in enabling people improve the way they live. This is the challenge that the Bureau of Agricultural Research (BAR), one of the nine staff bureaus of the Department of Agriculture (DA), took in a heartbeat.

## Mandate, Mission, and Vision

BAR was created in 1987 through Executive Order (EO) 116 to ensure that all agricultural research is coordinated and undertaken for maximum utility to agriculture. It is mandated to tap farmers, farmers' organizations, and research institutions, especially the state colleges and universities (SUCs), in the conduct of research for the use of DA and its clientele, particularly the farmers and fisherfolk.



# INSTITUTIONAL UPDATE

## modern agriculture



In 1997, the role of BAR in agriculture and fisheries R&D management was strengthened and affirmed through the enactment of the Agriculture and Fisheries Modernization Act of 1997 or AFMA (Republic Act 8435). It is a landmark law that tasked BAR with orchestrating the National Research and Development System in Agriculture and Fisheries (NaRDSAF) and developing new modalities in R&D. NaRDSAF is aimed at a system that is strengthened through an organized collaboration and partnership among government agencies, state colleges and universities, the private sector, and industry. With the execution of Executive Orders 127 (1999) and 338 (2000) the functions of BAR were reinforced and expanded in the central coordination and management of agriculture and fisheries R&D programs. The objective is to help bring about an optimized R&D system, manned by adequate and trained scientists that will enable the agriculture and fisheries sectors compete in the global market.

As the lead government agency for agriculture and fisheries R&D, the Bureau is committed to consolidate, strengthen, and develop the agriculture and fisheries R&D system for the purpose of improving its effectiveness and efficiency by ensuring customer satisfaction and continuous improvement through work excellence, teamwork and networking, accountability, and innovation.

BAR envisions a stable and progressive future for the Filipinos through excellence in research and development in agriculture and fisheries and transform the agriculture and fishery industries from a resource-based to a technology-based industry. In doing so, BAR must develop informational, knowledge-based strategies, methods, and technologies that can make the sector productive and competitive.

***BAR envisions a stable and progressive future for the Filipinos through excellence in research and development in agriculture and fisheries***

## R&D Thrusts and Strategies

The Bureau adopts the following R&D thrusts :

- 1. Expand the production base and enhance productivity and profitability in agriculture and fisheries**  
Enhance the productivity and profitability in agriculture and fisheries through research and development, particularly in the generation of technologies and information on genetic improvements in crops, livestock, and fisheries, as well as better production and management practices, market accessibility, and marketing efficiency.
- 2. Resource sustainability and protecting biodiversity**  
Support innovative agricultural and fisheries research programs on tapping the full potential of the natural resources while promoting sustainability from these environmental gains; work for the conservation and protection of the country's plant and animal germplasms, biodiversity, and other natural resources in agriculture and fisheries.
- 3. Global competitiveness**  
Support research and development programs on export crops and products from agriculture and fisheries while at the same time improving on existing products for global markets, programs that include establishing and improving quality standards.
- 4. Poverty alleviation and people empowerment**  
Support R&D programs that will generate investments for agribusiness ventures, thereby generating employment in the rural areas. These include support programs on improving agricultural and fisheries supply chains to assure lower production costs and competitive pricing; nurturing an information and knowledge system to promote people empowerment through accelerating the use of productivity-enhancing and sustainable technologies; and providing easy access to technology and information on agribusiness development while encouraging the participation of major stakeholders.



# INSTITUTIONAL UPDATE

In the pursuit of its vision, mission, and mandate, BAR is guided by an eight-point strategy, to wit:

1. Allocate resources for the conduct of applied and on-farm researches (OFRs) following the farming systems perspective to fast track technology promotion and adoption thereby creating immediate impact on the lives of farmers and fisherfolk. Collaborative researches will be enhanced between DA research implementing units and agricultural colleges and universities.
2. Foster cooperation with other government line agencies and active partnership with the LGUs, NGOs, POs, and other concerned institutions in the regional level, specifically on the planning and implementation of Community-based Participatory Action Research (CPAR) and technology commercialization activities.
3. Support research and development projects with direct bearing on the development of small and medium enterprises; more important, focusing on the income-generating capabilities of resource-poor farmers and fisherfolk. In addition, rural-urban linkage on agriculture will be studied.
4. Develop and strengthen collaboration among existing R&D systems at the national and local levels to enhance sustained growth in agriculture.
5. Develop and strengthen the DA R&D's capability on human resource and infrastructure.
6. Strengthen planning and implementation of an integrated and unified agriculture and fisheries R&D agenda and program for increased effectiveness and efficiency of the delivery of agricultural services.
7. Develop mechanisms using information and communication technology (ICT) and conventional means to enhance sharing and exchange of relevant information and technologies to fast track decision-making and technology adoption and commercialization.
8. Advocate policies that promote sustained growth in agriculture and fisheries, including strategies on increasing R&D investments.

# INSTITUTIONAL UPDATE

## NEW R&D DIRECTIONS AND PRIORITIES

In consonance with the twin goals of the DA as stated in the Medium-Term Philippine Development Plan (2004-2010), which are: i) Development of at least two million hectares of new land for agribusiness in order to contribute to two million out of the 10 million jobs targeted as a legacy by 2010; and ii) Making food plentiful at competitive prices where the cost of priority “wage goods” and other important non-wage goods shall be reduced, the Bureau accordingly set its priority commodities for R&D as follows:

- Priority commodities for Goal 1 are rice, corn, livestock, fisheries (bangus, tilapia, seaweeds, others), HVCC-food (pineapple, pili, sugar, coffee, mango, durian, banana, onion, cassava, citrus, vegetables, garlic), and HVCC-non-food ( abaca, rubber, coconut, tobacco)
- The priority commodities for Goal 2 include the following:
  1. For Priority 1 (wage goods), this includes rice, yellow corn for feeds, pork, chicken, egg (chicken), tilapia, bangus, vegetables for upland which are ingredients for chopsuey and lowland which are ingredients for pinakbet.
  2. For Priority 2, this focuses on export winners such as mango, pineapple, abaca, and rubber.
  3. For Priority 3, this includes the regional champions.





# INSTITUTIONAL UPDATE

As reflected in the eight-point strategy, the Bureau sets the following R&D priority areas for 2006 and beyond with the aim of contributing to the development of the country through research and development:

## 1. **Intensification of Community-based Participatory Action Research Program (CPAR) and Establishment of Agribusiness Development Projects (ADPs) in the Regional Integrated Agricultural Research Centers (RIARCs) and other R&D stations**

This priority area addresses the weak link between research and extension. As a priority area in R&D, it has the ultimate goal of increasing total farm productivity and income within the context of a sustainable production system following the farming system approach. The marriage of the On-Farm Research (OFR) and the Participatory Rural Appraisal (PRA) paved the way to CPAR. It gives technology transfer a local face where a farming community finds its local farming issues are being addressed through site-specific farming solutions. This priority area is also in support of the Department of Agriculture's Goal 1 which is to develop at least two million hectares of new land for agribusiness to contribute two million out of 10 million jobs by 2010. Agribusiness development projects are established in vacant, underutilized, and unutilized areas of R&D stations to showcase new technologies and farming systems for agribusiness enterprises. This would eventually lead to generation of employment and income for the DA stations and to the clientele, farmers, and fisherfolk.

CPAR is a platform for technology assessment that involves the participation of the community together with the experts and researchers in identifying the most appropriate technologies that would eventually meet the community's priority needs. It tackles farmers' priorities, strategies, resource allocation, and the biophysical and socioeconomic environments under which the farm household operates.



# INSTITUTIONAL UPDATE

## 2. **Commercialization of Appropriate A/F Technologies through the National Technology Commercialization Program (NTCP)**

To close the gap between R&D technology transfer and commercialization, BAR is implementing its technology commercialization program to facilitate the commercialization and utilization of newly developed technologies. This is done through DA-BAR's National Technology Commercialization Program (NTCP), which envisions that technologies are strategically transferred and placed in areas and communities that need them the most. Through this program, the impact of the research results is realized and technology transfer is enhanced for the benefits of the farmers and fisherfolk.



The NTCP highlights research and development breakthroughs and mature technologies generated and developed by R&D institutions. It serves as a vital tool for the development of enterprises and the improvement of agriculture and fisheries-related industries anchored on appropriate activities emphasizing technology transfer, promotion, adoption, utilization, and commercialization. Moreover, NTCP covers the transformation of agriculture and fisheries from a resource-based to technology-based interventions. The market-driven approach for a more holistic and integrated development is also strengthened, providing the sectors with technologies that encourage total farm or community development with the support of the government, non-government organizations, private sectors, and commodity-specific industries.

## 3. **Institutional Development Program**

### 3.1 Human Resource Development Program (HRDP)

The HRDP as a priority concern in R&D includes degree and non-degree programs that aim to develop a critical mass of researchers in agriculture and fisheries. This program focuses on major



# INSTITUTIONAL UPDATE

activities such as the administration of the DA-NaRDSAF scholarship program and thesis and dissertation assistance. It also includes non-degree programs and merit and incentive system. The DA-BAR NaRDSAF Scholarship Program is a facility tapped by R&D agency employees in pursuing higher studies. The program has four major aspects: 1) Degree Scholarship Program, 2) Thesis/Dissertation Assistance Program, 3) Non-Degree Assistance Program, and 4) Education Program for DA Conferred Scientists.

The *Degree Scholarship Program* aims to develop a cadre of highly competent researchers and research technical staff equipped with a graduate degree in agriculture, fisheries, and other related fields relevant to the attainment of a more efficient and effective R&D system.

The *Thesis/Dissertation Assistance Program*, on the other hand, has been extending thesis and dissertation support since 1993 out of its Grants-in-Aid fund. This is part of DA-BAR's effort to strengthen the DA's research system. The thesis or dissertation should address major problems and issues in agriculture, fisheries, and related fields.

The *Non-Degree Assistance Program* extends funding support for attendance/participation in agriculture- and fisheries-related R&D short-term trainings, conferences, symposia, seminars, and study tours. This is in support of the overall HRD plan to modernize the agriculture and fisheries sectors, and to strengthen the National R&D System.

The *Education Program for DA Conferred Scientists* was created by BAR to increase productivity as career scientists. It aims to provide supplementary financial support for scientists to enhance their technical capabilities toward excellence in service to Philippine agriculture and fisheries. This is in support of the implementation of the Scientific Career System under the Department of Agriculture of which BAR serves as Secretariat, which is an Educational Program for DA Conferred Scientists.



**BAR scholars: Dr. Windell Rivera of UP-NSRI and Ms. Joan Marie Agarcio of PhilRice.**

# INSTITUTIONAL UPDATE

## 3.2 R&D Facilities Development Program

This program is also known as the Institutional Development Grant (IDG) Program, which is a funding facility for the acquisition of scientific equipment, renovation and construction of research facilities, and other critical needs of R&D centers under the NaRDSAF. BAR's IDG Program aims to strengthen the institutional capacities of member-agencies of the national, regional, and provincial RD&E networks through the upgrading and acquisition of priority facilities and equipment.



The DA is tasked with approving policies for the operationalization and continued strengthening of the institutional capacities, efficiency, effectiveness, and integration of the RDE system, including the setting up of a monitoring and evaluation system (M&E) of its various components. It is also tasked with giving priority and to facilitate the funding of the facilities necessary for research such as farm laboratories and development of agricultural machineries/mechanization technologies in the countryside.

## 4. **Support to Basic and Strategic Research**

The DA-BAR provides support for the conduct of basic research on priority areas being implemented by DA national research centers and state universities and colleges to address emerging issues in agriculture and fishery R&D.

## 5. **Knowledge Management Program**

The program focuses on the dissemination of information as well as the development of scientific information into multimedia R&D information packages. It provides support to scientific societies and universities in the areas of scientific publication, meetings, and trainings, as well as in the development of scientific libraries and web pages. In this program, BAR has concentrated in producing information



# INSTITUTIONAL UPDATE

packages such as BAR publications, all print materials from newsletters to R&D digests and annual reports. Setting up of exhibits in science fairs and conferences is also part of this program. Moreover, it conducts seminar series in coordination and partnership with state universities and colleges and other R&D agencies.

One of its components is the Scientific Publication Grant (SPG), which aims to support scientific and professional societies and agencies in publishing their research outputs through multimedia packages. The program centers on technology updates disseminated to farmers and fisherfolk as well as to other program stakeholders.

## 6. Information and Communication Technology Program

This program aims to support the needed information in the fulfillment of BAR's mission of making agriculture useful to farmers and fisherfolk. As per AFMA, BAR coordinates the establishment and maintenance of a strong and responsive R&D information system for agriculture and fishery. Part of the program is to provide interconnectivity among agencies and clientele. This is done through the Agriculture and Fisheries Research and Development Information System (AFRDIS), which provides IT facilities and equipment as well as technical assistance to R&D agencies.

BAR also provides training on Geographical Information System (GIS) among DA staff and bureaus and other R&D agencies. Likewise, BAR established the *Agritech Online* and *BAR Online* that utilize the Internet in providing interconnectivity among the different clients.



# INSTITUTIONAL UPDATE

## 7. Intellectual Property (IP) Management

IP management applies to all directly assisted and contracted agricultural research and development activities. The IP Management System encourages agricultural innovation and creativity by promoting a healthy and conducive environment for the generation and creation of intellectual property.

The IP Management System ensures the management and protection of intellectual properties (IPs) generated from NaRDSAF agencies. Scientists and researchers are directly assisted in the preparation and submission of papers to the Intellectual Property Office (IPO) through prior article search and documentation, claim drafting, legal counsel, and coordination. Through BAR's advocacy, all researchers will be fully aware of the benefits provided by IP protection.



**IPR seminar at BAR.**

## 8. Agriculture and Fisheries Policy Research and Advocacy Program

With this program, BAR implements/coordinates with researchers/scientists of leading state universities and colleges (SUCs) and other concerned institutions in the conduct of impact assessments and policy researches pertaining to agriculture and fisheries. The Bureau collects and processes primary/secondary data and information, monitors and evaluates the country's agriculture/fisheries situation, including market issues, and provides recommendations on the development of comprehensive strategies addressing emerging policy problems and concerns. It formulates policy recommendations on scientific innovations and technology use to help promote the goals of the Department of Agriculture (DA).



# INSTITUTIONAL UPDATE

## BAR GETS ISO 9001:2000 CERTIFIED

At first, BAR wanted the bragging rights. But as the process of getting certified for ISO 9001:2000 progressed, it became clear that beyond the feeling of being a “cut above the rest,” being an ISO-certified stirred something deeper - a personal and professional commitment to quality.

During the certification process, BAR staff members underwent trainings on: 1) Introduction to Quality; 2) Interpretation of the ISO 9001:2000 standards; 3) Internal Quality Auditing; 4) Documenting the Quality System on Policies, Procedures, and Work Instructions; and 5) Document and Data Control.

Selected BAR staff members were also provided hands-on training on the conduct of an independent audit by performing a pre-assessment of the Quality Management System of BAR.

In July 2006 BAR was awarded the ISO 9001:2000 certification by the TUV-SUV Philippines.





# INSTITUTIONAL UPDATE

## AWARDS AND RECOGNITIONS

### Director Nicomedes P. Eleazar receives recognition as past LDC executive director

As one of the past directors of the DA-Livestock Development Council (LDC), BAR Director Nicomedes P. Eleazar was recognized for his stint as deputy executive director from 2000 to 2001. He was recognized for his exemplary performance in effectively sustaining the initiatives under the *Ginintuang Makamasa* Livestock Program. The awarding was done during the 30th anniversary of LDC held on 28 March 2006 at the BSWM Convention Hall.



### BAR receives Aduyon Award for partnership in agriculture

In recognition of BAR's long-standing collaboration with the Benguet State University (BSU), the Bureau received the *Aduyon Award for Partnership in Agriculture* during the awarding ceremony of BSU's 90<sup>th</sup> foundation anniversary held on 29 June 2006. The ceremony took place at BSU's gymnasium in La Trinidad, Benguet, well known as the strawberry capital of the Philippines.

BAR's partnership with BSU dates to 1999, when it first implemented its three-year high impact projects (HIPs) in collaboration with SCUs.

# INSTITUTIONAL UPDATE

## Dr. Solsoloy is appointed new BAR assistant director

Dr. Teodoro S. Solsoloy is appointed assistant director of the Bureau of Agricultural Research (BAR) effective January 2006. As assistant director, he heads the research support services directorate for the smooth operations of R&D programs and assists in overseeing regional and national R&D programs particularly R&D policy concerns. Prior to his appointment, Dr. Solsoloy was a detailed staff from the Cotton Development Administration (CODA). At BAR, he served as head of the National Programs Division (NPD) that was responsible in coordinating the implementation of the national R&D programs of the country. He was head of the Governance, Impact Evaluation and Policy Division (GIED) that was responsible for technology impact assessment and policy studies.



## Corn-based technologies win 36th CSSP Best Poster Award

The poster titled “Enhancing the Adoption and Utilization of Corn-based Technologies by Corn Farmers Through Partnership with Local Government Units and Private Industries” authored by Rolando V. Labios of the Bureau of Agricultural Research (BAR), Drs. Romeo V. Labios and Artemio M. Salazar of the University of the Philippines (UPLB) won the Best Poster Award (Extension Category) during the 36th Crop Science Society of the Philippines (CSSP) scientific conference held in Puerto Princesa City on 9-12 May 2006. This is part of the project titled “Systematic Coordination of On-Station and On-Farm



# INSTITUTIONAL UPDATE

Corn Research, Development and Extension Programs in the Philippines,” which is being implemented through the National Corn RDE Network and funded by GMA Corn program through BAR. The award was given for the project's significant depiction of adopting and utilizing corn-based technologies by farmers through collaborative efforts from various government agencies, state colleges and universities (SCUs), local government units (LGUs), and private industries.



**Mr. Ricardo G. Bernardo of ACS-MISD shows his merit winning entry in the IRRDB photo Competition.**

## **BAR's staff member wins merit prize in international photo competition**

Mr. Ricardo G. Bernardo of the Applied Communication Section-Management Information and Systems Division (ACS-MISD) of the Bureau of Agricultural Research (BAR) won a merit prize during the recently concluded “Global Rubber Photography Competition”. With the theme, *“The beautiful world of rubber”*, the photo contest was organized by the International Rubber Research and Development Board (IRRDB), a voluntary association of national research institutions from 16 countries concerned with R&D on natural rubber, which is based in Kuala Lumpur, Malaysia. Mr. Bernardo was one of the six merit prize winners and the only winner from the Philippines who took home a cash award of US\$500 on 13 November 2006 during the launch of the Global Rubber Industry, a coffee table book, in Ho Chi Minh City, Vietnam.



# program highlights



*We need to articulate in modern, compelling terms the best-kept secret of the enormous benefit the world has enjoyed from its investments in agricultural research.*



# PROGRAM HIGHLIGHTS

## INTENSIFICATION OF COMMUNITY-BASED PARTICIPATORY ACTION RESEARCH (CPAR) AND ESTABLISHMENT OF AGRIBUSINESS DEVELOPMENT PROJECTS (ADPs) IN REGIONAL INTEGRATED AGRICULTURAL RESEARCH CENTERS (RIARCs) AND OTHER R&D STATIONS

The intensification of CPAR in the regions is being coordinated by the Research Coordination Division (RCD). It facilitates the implementation, monitoring, and evaluation of mostly BAR-supported projects on agriculture and fisheries. These include networking and linkage development, on-station, on-farm, CPAR, R&D facilities, and other projects implemented by the DA's Regional Field Units (DA-RFUs), Bureau of Fisheries and Aquatic Resources (BFAR), and other R&D institutions nationwide.

BAR's goal to make use of research results more appropriate, timely, and relevant to the needs of the farmers and fisherfolk leads to incorporate participatory strategies and

approaches at the local level. More specifically, the adaptive and applied researches, particularly the CPAR implemented at the regional field level, were instituted in the selected provinces of the country. This created significant with the strong support of the local government units (LGUs)



**CPAR Corn Plus in Negros Occidental**



**CPAR technology evaluation and promotion in CEMIARC.**



# PROGRAM HIGHLIGHTS



**CPAR projects in ARMM**

units and farmers/fisherfolk organizations and associations. A total of 175 project sites were established serving 1,838 farmer/fisherfolk cooperators and more than 40 farmer/fisherfolk organizations and association. This figure shows that it covers a wide range of project sites in different agro-ecological and development zones.

and the DA Regional Field Units - Regional Integrated Agricultural Research Centers (RIARCs) and Regional Fisheries Research and Development Centers (RFRDCs).

The CPAR served as one of the most effective strategies used in making clientele participation with local and regional partners effective. For 2006, CPAR focused on the dissemination of information behind the different technologies demonstrated and adapted at the farmer's field, including fishery resources. The use of information to convey the essence of empowerment, self-reliance, and goal-oriented action of key players was the entry point for the CPAR to enhance information sharing and technology transfer, complementation, and collaboration.

Furthermore, CPAR implementation was very successful in all regions with the use of technologies developed and refined by the RIARCs and RFRDCs. This is supported by strong partnership with the local government



**CPAR project on pesticide-free vegetables in SMIARC.**

# PROGRAM HIGHLIGHTS

Marginalized and indigenous groups are well-served by CPAR projects to address productivity, profitability, and sustained operations while enhancing the capabilities of the farmers/fisherfolk and their communities.



**CPAR seaweed project in Pilar, Sorsogon.**



**CPAR seaweed and grouper production projects in Palawan.**

In addition, CPAR projects supported the DA priority banner programs in the regions. Commodity-specific and location-specific features of agricultural and fishery products took the leap to make CPAR more responsive and relevant to farmers/fisherfolk needs. The projects covered a wide range of activities to address the diversity of commodities within specific areas and required agro-climatic condition. Rice and corn, which are the major banner programs of DA, served as the base crops integrated with high-value commercial crops of fruits, vegetables, rootcrops, and plantation crops, including the raising of livestock and poultry for local market and household consumptions. CPAR fishery projects were expanded in 2006 with seaweeds and milkfish as the priority commodities supported by processing and packaging activities. Indeed, the implementation of CPAR at the local level not only showed technical viability but also the economic feasibility with increased social acceptability to make technologies well utilized, applied, and adopted for increased product and profit.



# PROGRAM HIGHLIGHTS

Over the years, the implementation of research and development (R&D) programs and activities at the regional level has been considered relevant and effective in meeting regional needs and priorities. However, DA regional research centers and stations are constricted by meager resources to implement their R&D activities. To address this concern and to sustain R&D operations, BAR developed an approach for regional and local R&D operation and management. This is called the Agribusiness Development Project (ADP).

The ADP aims to support the limited regional R&D funds for continuous operations at the R&D centers. It is also a system that is instituted to put all regional R&D resources into effective use. The ADP is aimed at putting the efforts of the research center into a business activity while maintaining its goal of adaptive and applied research implementation. It is implemented in the vacant area within the R&D center or station which is utilized as demonstration area for seeds, breeding stocks, crop and animal production, and other commercial activities to support regional agriculture and fishery programs.

Within the year, at least 16 regional ADPs were established and implemented by RIARCs and/or RFRRCs. Other regions established two to three projects in their other stations showcasing relevant technologies which in turn became



**CPAR projects on pigeonpea (Region 1), diversified farming (Region 5), and ubi (Region 7).**

# PROGRAM HIGHLIGHTS

demonstration of production systems and activities. It was noted that corn, vegetables, rootcrops, and fruits were the business activities while maintaining healthy supply of planting materials from established nurseries. In addition, animal stocks were reproduced from small-scale animal raising and production in the different centers and stations.

Technology demonstrations became the focus of the ADP for this year. With a twist of business operation and opportunities at hand, the needed operating funds for other R&D operation were slowly being addressed. It is hoped that this strategy will continually revitalize the efforts that will enhance the R&D activities not just making profit but also an expression of skills supported by high level of motivation and commitment. Making regional R&D system work as a business venture and implementing the different ADP make it better not just for the researchers but also for the commodities that need to be promoted and commercialized.



**CPAR projects on sweet sorghum production in Region 1.**



**CPAR projects on rubber-based farming system in Zamboanga.**



# PROGRAM HIGHLIGHTS

## COMMERCIALIZATION OF APPROPRIATE AGRICULTURE AND FISHERIES (A/F) TECHNOLOGIES

The implementation of the DA-National Technology Commercialization Program (NTCP) in 2006 could be described as rewarding and challenging. From a mere conceptual and operational framework, the DA-NTCP translated this into projects and activities that utilized resources appropriately addressing the issues and concerns faced by agriculture and fisheries sectors.

Cognizant of its working philosophy, these projects and activities were ensuring the agriculture and fishery technologies maximum utility in terms of promotion and commercialization, including transfer, application, and adoption. Before its full scale implementation and operation, the challenge which was bestowed upon DA-BAR, which oversees the coordination and management of the DA-NTCP, was to determine if the approved document and operational guidelines would be understood and accepted by its partners through Department Administrative Order No. 3, Series of 2006, signed and approved on 6 February 2006 by then DA Secretary Domingo F. Panganiban.

The continuous efforts in improving and strengthening partnerships through linkage and networking made the DA-NTCP very dynamic and innovative. Given its success and recognition as a vehicle to translate technologies into business opportunities and improve the welfare of farming and fishing communities, it is undeniable that the program placed itself ahead of other programs in addressing agriculture and fisheries development.



# PROGRAM HIGHLIGHTS

## **Process Framework and Operationalization and Institutionalization of the Technology Commercialization**

### ***Technology sourcing and packaging***

This activity highlighted the agriculture and fisheries technologies identified and searched through collaborative work with national and international partner agencies and attendance in conferences, seminars, and symposia by the staff. The technologies were also sourced out based on technology commercialization projects supported by DA-BAR. Forty-two technologies were sourced and packaged. These are ornamentals (2), fruits and vegetables (8), coconut (7), fisheries (10), livestock and poultry (6), agricultural mechanization (5), and Korean biotechnology and agricultural engineering (5). All technologies have brief technology profile which was synthesized for the preparation of information communication and education materials. At this stage, technologies were initially evaluated as to applicability, utility, and adaptability to suitable areas of implementation.

### ***Technology promotion***

The need to organize, consolidate, integrate, and systematize the different agriculture and fisheries information and technologies for effective utilization and application was the basis for the institutionalization of the national and regional technology forums. These activities were supported by product exhibition of commodities with national and regional importance.

In 2006, three national technology forums were conducted to coincide with major DA and DA-BAR activities. The first forum was conducted during the





# PROGRAM HIGHLIGHTS



Farmer and Fisherfolk Month Celebration in May. This was attended by various stakeholders with interest in enhancing the capability of the farmers and fisherfolk using mature technologies. This was followed by the August forum to coincide with DA-BAR's 19<sup>th</sup> anniversary celebration. The activity highlighted activities related to strengthening partnerships for technology management, including promotion and commercialization of selected commodities. The third forum was held in October to coincide with celebration of the 8<sup>th</sup> National R&D Week and 19<sup>th</sup> National Research Symposium. The forum supported the utilization and application of agriculture and fisheries technologies on a more development-oriented and agribusiness perspective. All forums were uniquely implemented with interesting topics presented through seminar series, including product displays and fairs. Members of the DA-National Research and Development System for Agriculture and Fisheries (DA-NaRDSAF) member-agencies and private sector participated and supported the different activities.

In addition, five regional clustered technology forums were implemented in strategic locations in the country. These were: Mindanao Cluster V composed of Regions IX, XII, and ARMM held in Koronadal City, South Cotabato on 12 July 2006 which was hosted by DA-RFU XII and DA-BFAR ARMM; Mindanao Cluster IV composed of Regions X, XI and CARAGA held in Davao City on 17 August 2006 which was hosted by DA-RFU XI and DA-BFAR X; Visayas Cluster III composed of Regions VI, VII, and VIII held in Iloilo City on 6-7 September 2006 which was hosted by DA-RFU VI and DA-BFAR VI; Luzon Cluster II composed of Regions III, IVa, IVb, and V held in Lipa City, Batangas on 25 October 2006 which was hosted by DA-RFU IVa and DA-BFAR IVb; and Cluster I Luzon composed of Region I, II, and CAR held in Batac, Ilocos Norte on 16 November 2006 which was hosted by DA-RFU I and DA-BFAR I.

# PROGRAM HIGHLIGHTS

The regional forums provided the venue for technology generators and developers from the different staff bureaus, attached agencies, regional field units, state universities and colleges in the regions and other organizations to present various technologies on crops, livestock and poultry, fisheries, and agricultural mechanization.

Forty-nine technologies were presented in three national and five regional forums. These technologies are centered on agricultural crops (20), livestock and poultry (9), fisheries, including processing (17), and small machinery and equipment (3). Technologies presented highlighted their contribution to the improvement of production systems, postharvest and processing, increase profitability of farmers and fisherfolk and encourage partnership between and among key players in technology promotion and commercialization.

Based on the implementation of the forums and technologies presented, lessons learned were drawn to improve the operation and management of technology promotion and commercialization at the national and regional levels in the coming years. The lessons learned focused on two items, implementation and technologies presented. In terms of implementation,

analysis indicated the need to (a) carry out exhaustive efforts by the lead regional centers by inviting multi-stakeholders through letter communication, print and broadcast media; and (b)





# PROGRAM HIGHLIGHTS



develop standard procedures and guidelines for coordinating and implementing forum activities. On the technologies presented, the analyses showed that (a) products of some technologies ought to be refined; (b) determine financial and economic feasibility of technologies; (c) technologies must be linked with the market and source of financing; and (e) organization to commercialize technologies must be identified and instituted.

The lessons learned led DA-BAR to improve its programs and activities on technology commercialization, including focused vision of *"A more competitive attitude to make agriculture and fisheries technology application and utilization viable and sustainable"*. This will be done through (a) technology evaluation and assessment, (b) technology refinements, (c) linking financial sources and market, (d) identification of appropriate production and management system, (e) carrying out of Information, Education and Communication (IEC) campaign, (f) *"Think Global, Act Local"*, (g) technology governance, and (h) geographical clustering for agribusiness.

## **Technology sharing and process documentation**

In support of the different activities of the technology program, information documentation and exchange were done between and among the key players and stakeholders. Regular technology feature and support activities were prepared and highlighted in BAR regular publications – BAR Chronicle, BAR R&D Digest, and featured news in national daily papers. The technologies were packaged into different IEC materials for easier dissemination and faster technology transfer. In addition, technologies were featured in DZRB Radyo Ng Bayan – Maunlad na Magsasaka Program and NBN Channel 4 TV program – Mag-agri Tayo for wider viewership.

# PROGRAM HIGHLIGHTS



## ***Technology upscaling***

This stage involves the establishment of specific commodity enterprises, including development and management. Specifically, five emerging enterprises were coordinated through DA-BAR's project partners. These are sweet tamarind in Pampanga and Zambales, organically-grown lowland vegetables in Pampanga, garlic production in Ilocos Norte, oregano wine production in Tiaong, Quezon, and goat production in Camiling, Tarlac. The identified commodities were generated and developed through the R&D Grant

System and now supported by Technology Commercialization Grant System. Research results generated during the technology development stage which passed through the commercialization process were shared with interested farmers who were willing to be part of the clustered farms to address the demands of product. Other commodities are now in the pipeline of coordination with interested farming and fishing groups and organizations.

## ***Strengthening local and international partnerships***

In support of the overall activities of technology commercialization process, BAR expanded its horizon in tapping institutions and organizations for sustainable activities. In so doing, the Bureau established and strengthened existing partnerships with local and international agencies. Local partners provided technical assistance in the form of capability-building activities that supported the emerging enterprises. On the other hand,





# PROGRAM HIGHLIGHTS



international organizations provided resources that address researchable areas in the technology commercialization process such as the India-based International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), the Taiwan-based Asia Vegetable Research Development Center (AVRDC), now The World Vegetable Center, and Guangdong Academy for Agricultural Science in Guangdong, People's Republic of China.

More specifically, through the NTCP, BAR established international market contacts in the Middle East, East Asia, and European countries through the agricultural attaché for the potential export of Philippine dried mangoes of Pangasinan, chayote of Cordillera, yam or turnips of Tarlac, and some Philippine tropical fruits produced in North-Central Luzon. The activity opened opportunity for Philippine agriculture and fishery products to international trade and competition while maintaining local supply available.

Given these activities, the role played by various stakeholders determined the mode on how technologies will shape production output and ultimately reach the market and become responsive to global competitiveness. The institutional mechanism supporting technology commercialization must enhance the role of stakeholders in coordination and management, including information exchange and knowledge management supported by appropriate research and development for increased productivity, profitability, and sustainable endeavors.



# PROGRAM HIGHLIGHTS

## INSTITUTIONAL DEVELOPMENT PROGRAM

### Development of Competent R&D System through Human Resource Development Program (HRDP)

With the escalating demands of the new millennium for food, the government, researchers, scientists, and other institutions are finding ways to provide solutions to pressing problems being faced by the Philippines today.

The Bureau, through its Human Resource Development Program, is continuously supporting the critical development of mass of research manpower of the Department of Agriculture and partner institutions under the National Research and Development System for Agriculture and Fishery (NaRDSAF). The Program is one of the institutional development initiatives of BAR to develop a pool of highly trained researchers and research technical staff equipped with degrees in agriculture, fisheries, and other related fields relevant to the attainment of a more efficient and effective R&D system in the country.

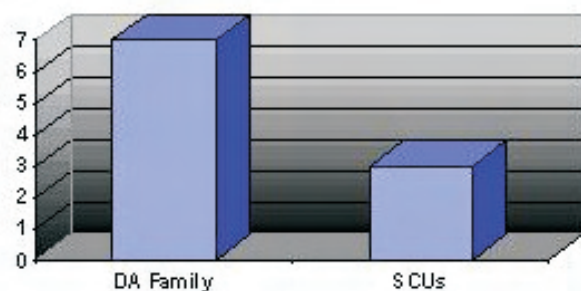
Human Resource Development Program	Financial Support to:
DA-BAR NaRDSAF Degree Scholarship Program	pursue MS or PhD degrees in accredited universities
DA-BAR Non-Degree Assistance Program	attend specialized training and represent the country in international scientific fora conduct short-term basic research through post-doctoral or fellowship awards
Productivity Enhancement Program	assist in corporate planning workshops and incentives for researchers.



# PROGRAM HIGHLIGHTS

In 2006, BAR supported three new scholars that was added to its array of awarded 105 scholars from 2000 to 2005. Out of these 108 BAR scholars, 10 earned their degrees for this year (6 MS, 4 PhDs). From the 10 degree earners, seven came from the DA family (two from the Department of Fisheries-Autonomous Region in Muslim Mindanao and one each from the Philippine Rice Research Institute, Philippine Carabao Center, and Department of Agriculture-Regional Field Units 4, 9, and 12) and three from the SCUs (two from University of the Philippines Los Baños and one from Sultan Kudarat Polytechnic State College)

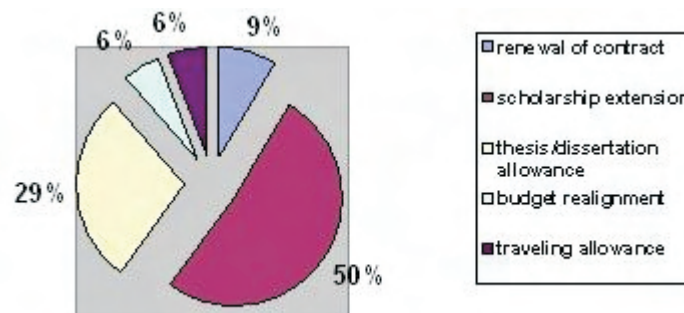
**Figure 3. Number of graduate scholars**



BAR also granted requests of some scholars for technical assistance, the majority of which are for scholarship extension (18 scholars). Other requests included renewal of contracts of service (3 scholars), request for thesis/dissertation allowance (10), budget realignment (2), and request for travel allowance (2).

One of the highlights of the DA-BAR NaRDSAF Scholarship Program since its implementation in 2000 was the conduct of the DA-BAR NaRDSAF Degree Scholars' 1<sup>st</sup> Fellowship Night held on 27 April 2006. Fifty-five out of the 110 scholars (60 ongoing and 50 completed) were recognized during the affair. Then DA Secretary Domingo F. Panganiban was the event's guest of honor and speaker. Other participants included distinguished guests from the DA, SCUs, and BAR staff.

**Figure 4. Requests submitted by scholars**

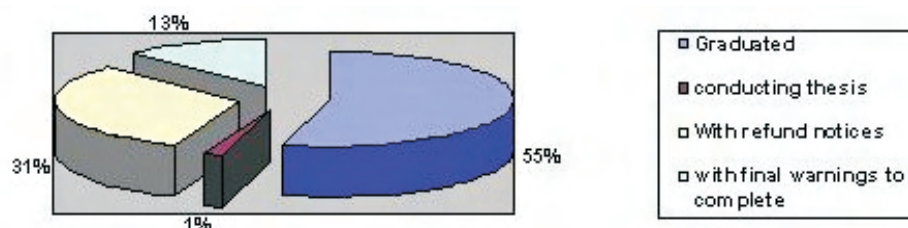


# PROGRAM HIGHLIGHTS

On the Thesis/Dissertation Assistance Program, six out of 21 applications were evaluated and approved, and were provided technical assistance.

The DA-BAR-FSP-MDP for Fisheries aims to strengthen the manpower capability of research and development of the Department and other institutions involved in fisheries such as the SCUs and LGUs. Thirty-eight grantees out of the 70 slots awarded graduated.

**Figure 5. Status of scholarship grantees**



Under the Non-Degree Program, 74 researchers participated in international/local scientific seminars or underwent specialized trainings related to their fields. They were awarded with partial financial support.

Seven agencies were also provided partial support for the conduct of their various seminars and conferences such as food and accommodation expenses of the participants, registration fees, and travel expenses of the participants or speakers.

Through the DA-BAR Educational Program for Scientists, BAR has approved the expansion of the project of PCA, Albay on Technology Dissemination, Adoption of the Embryo Cultured Makapuno in DA Region III. The Memorandum of Agreement (MOA) among BAR, PCA, and DA-CLIARC, as well as the Material Transfer Agreement (MTA) between Leyte State University (LSU) and DA-CLIARC, is now being prepared.



# PROGRAM HIGHLIGHTS

## Strengthening the Capacities of R&D Centers by Upgrading R&D Facilities

The R&D Infrastructure Development Program, one of the R&D priority concerns of the Bureau handled by the Infrastructure Development Unit (IDU), strengthens the capacities of national and regional centers through the Institutional Development Grant (IDG). It encompasses the acquisition of scientific equipment and information technology wares, and construction and renovation of R&D facilities of NaRDSAF member-institutions.

For CY 2006, the IDG budget allocation was distributed to 15 priority R&D centers of the DA, two SCUs, and one private institution for the upgrading of their existing facilities.

Under the IDG, five research institutions and DA-attached agencies were given assistance.

Twenty-one proposals have been reviewed based on guidelines and approved master station development plans followed with the preparation and processing of 17 MOAs.

Further, the unit conducted site inspection and assessed the proposed upgrading of the UPLB, CLSU, MMSU, DA-Region 5 (DA-BIARC, ROs Albay, and Sorsogon Dairy Farm) R&D facilities and validation of completed projects.



# PROGRAM HIGHLIGHTS

Under the Regional Networking Grant, the procedures and guidelines of the program were finalized in conformity with the ISO certification requirements. Four DA-RIARCs and two BFAR-RFRDCs received funds.

Two master station development plans from DA-Bicol Integrated Agricultural Research Center (DA-BIARC) and BFAR 2 were reviewed based on the previous comments of the technical advisers and facilitated its approval.

IDU maintains a database of the IDG projects and updates the infrastructure data of the R&D centers comprising the laboratory/farm equipment prices and inventories based on the submitted terminal reports.





# PROGRAM HIGHLIGHTS

## SUPPORT TO BASIC AND STRATEGIC RESEARCH

Through the years, the Bureau has been continuously supporting research and development studies and projects through coordination with other government agencies and research agencies. The Bureau does not limit its function to funding support but also assists other research institutions in revising, repackaging, or developing project proposals for local and foreign funding.

In 2006, BAR revised, repacked, and developed 10 concept notes/project proposals for consideration.

These were:

Concept papers for JICA and the Government of Korea:

1. Conservation, Quality, and Varietal Improvement of Philippine Coffee
2. National Seaweed Resource Assessment and Development Program
3. Integrated Fisheries Management Project for Poverty Reduction in Fishing and Aquaculture Communities in the Visayas
4. Rebuilding the Environment through Agroforestry and Multi-sectoral Partnership: A Model for Building Self-Reliance Among the Upland Communities in Southern Sierra Madre
5. GIS, Knowledge Management and Risk Assessment for Planning Decision Support Systems Towards a Sustainable Philippine Capture Fisheries
6. Training and Study Visit to Enhance Research and Development Management in Agriculture and Fisheries



**Improvement of Philippine Coffee**



**National Seaweed Resource Assessment and Development**

# PROGRAM HIGHLIGHTS

Project proposals for foreign funding:

1. Sustainable Conservation and Utilization of Philippine Indigenous Crop Species for UNDP-GEF funding
2. Strengthening CPAR Implementation for Sustainable Agriculture Development for ACIAR funding
3. Sustainable Livelihood in ICT-enabled Rural Communities of Mindanao for ADB-Korea funding
4. Promoting Agribusiness Development through research and development for NAFC-KR<sub>2</sub> funding

The GMA-Corn Program is one of the banner programs of the Department of Agriculture (DA) extending assistance to projects submitted to BAR. The Bureau prepared the proposal and Work and Financial Plan CY 2007 and Accomplishment Report for CY 2006.

Corn projects under the GMA Corn Program were implemented by DA-RFUs, National Research Centers (NRCs), State Colleges and Universities and (SCUs), and Non-government Organizations (NGOs).

In 2006, BAR facilitated technical reviews, on-site monitoring, and implementation of foreign-assisted projects. Implementing agencies were Worldfish, World Vegetable Center, International Rice Research Institute (IRRI), International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Bureau of Soils and Water Management (BSWM), International Network for the Improvement of Banana and Plantain (INIBAP),





# PROGRAM HIGHLIGHTS

International Livestock Research Institute (ILRI), International Plant Genetic Resources Institute-Coconut Genetic Resources Network (IPGRI-COGENT), and Philippine Coconut Authority (PCA). This is in collaboration with UPLB, other attached bureaus and agencies of the Department, and DA-Regional Field Units (RFUs).

BAR, serving as the lead agency for the Market-led technology cluster, coordinated the implementation of the Market-Led Technology component of the Diversified Farm Income and Market Development Project (DFIMDP). Two workshops were facilitated to finalize the cluster's logical framework and consolidated the Cluster Work and Financial Plan. Staff members from the Bureau have also attended on-site visits and WB project review of 10 ongoing projects under DFIMDP.



The Competitive Research Grant Manual (CRGM) was presented to the SCUs in Luzon, Visayas, and Mindanao and the private sector to serve as guide for proponents and evaluators of the projects. The orientation seminars were participated in by the research officials and staff of SCUs and the private companies.

In line with BAR's mandate to continuously support R&D institutions for the promotion and advancement of scientific technologies and breakthroughs in agriculture and fisheries, it has been accepting proposals from the DA-RFUs with R&D priorities in support of Goals 1 and 2 and with National Integrated Research and Development Extension Agenda and Programs (NIRDEAPs). SCUs are also enjoined to submit their proposals and in 2006, nine calls were arranged based on the regional consultations held.

Proposals for the National R&D must address needs that were common to many regions, upstream research that needs expertise not available in the regions. National R&D priorities in 2006 mainly focused on fisheries and marine resources (e.g., development of low-cost, alternative feeds and improvement of cultured seaweeds), livestock and poultry (e.g., analysis of chemical composition of native chickens and analysis of the markets), and product development (e.g., development of *halal* foods). All proposals are reviewed and evaluated for possible BAR funding.

# PROGRAM HIGHLIGHTS

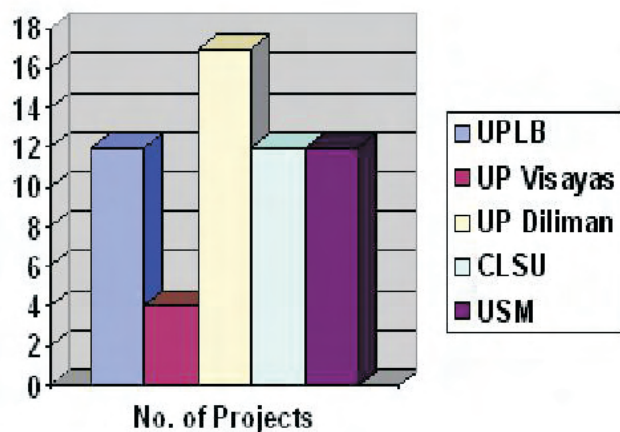
Twenty-nine out of the 164 proposals reviewed were recommended for funding. A total of 80 new and seven continuing projects were funded for CY 2006. This includes those that were reviewed and recommended for funding in 2005 but were only provided funds in 2006.

Pre-implementation meetings (PIM) were also conducted before the implementation of the newly approved projects to fine-tune the methodology, logical framework, work plan, budget, and other important details of the projects. Also, the parameters for monitoring the project were identified during the meeting.

In 2006, 97 newly-funded projects submitted by DA-RFU/RIARCs/RFRDCs (50), SCUs (7), and corn project (1) underwent PIM.

To further enhance the utilization of R&D projects, accomplishments were assessed, classified, and identified whether their outputs are for dissemination, recommended for further study, and for verification, promotion, commercialization, and patent protection/application.

Project reviews were carried out in SCUs. Among the SCUs in the country that served as implementing agencies were the University of the Philippines Los Baños (UPLB), University of the Philippines Visayas (UPV), University of the Philippines Diliman (UPD), Central Luzon State University (CLSU), and University of Southern Mindanao (USM).



In 2006, UP Diliman had the most number of projects reviewed (17) as compared to UP Visayas with only four projects. UPLB, CLSU and USM all produced 12 projects.

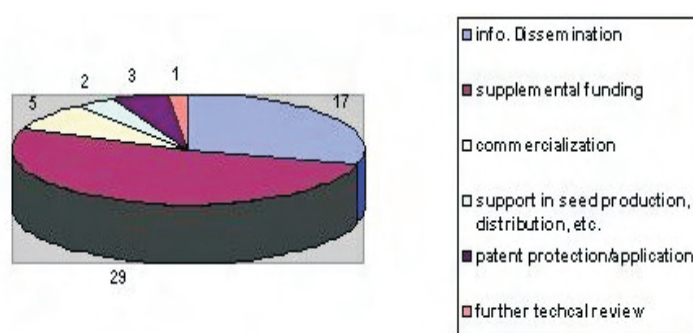
**Figure 1. Number of projects reviewed per SCUs**



# PROGRAM HIGHLIGHTS

Based on the reviews facilitated, it can be clearly seen that the majority (29) of the projects were recommended for supplemental funding/further verification trials/research/modifications.

**Figure 2. Recommendations during project reviews**

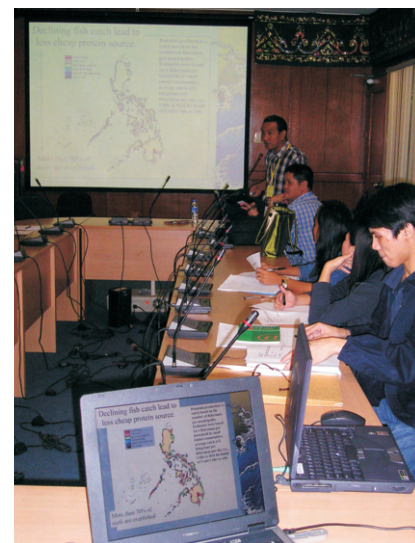


One of the major activities hosted annually by BAR is the National Research Symposium (NRS). It gives due recognition to notable achievements of agriculture and fisheries sector researchers. It identifies and disseminates new technologies and information useful to agriculture and fisheries modernization. There are four major research categories: 1) basic; 2) technology information/generation; 3) technology adaptation/verification; and 4)

socioeconomics.

In the 18<sup>th</sup> NRS, 100 papers were pre-evaluated by a panel of judges. After a series of further evaluations and screenings, 13 entries were finally declared winners, 10 for the Best AFMA R&D Award and three for the Best AFMA R&D Poster Award. The winners received plaques of recognition and cash prizes.

BAR is proud to announce that 17 personnel members of the Bureau have been accredited under R.A. 8439 or the "Magna Carta for Scientists, Engineers, Researchers and other Science and Technology Personnel in the Government". Under the law, a certificate of eligibility from the Department of Science and Technology (DOST) entitles the qualified personnel members to financial benefits as identified under its Implementing Rules and Regulations.



# PROGRAM HIGHLIGHTS

## 18TH NATIONAL RESEARCH SYMPOSIUM OPENING CEREMONY



**DA Undersecretary Segfredo R. Serrano and DA Assistant Secretary Catherine Mae C. Santos grace the occasion as distinguished guests.**



# PROGRAM HIGHLIGHTS

***The National Research Symposium (NRS) is BAR's major annual activity that gives recognition to outstanding researchers in the field of agriculture and fisheries.***



**DA Secretary Domingo F. Panganiban (center photo, below) and NAST President Emil Q. Javier (left photo, below) present the awards to the AFMA Best R&D Papers and Best Poster winners.**

## 18TH NATIONAL RESEARCH SYMPOSIUM AWARDING CEREMONY

# PROGRAM HIGHLIGHTS

## KNOWLEDGE MANAGEMENT PROGRAM

The topic of bridging people through information technology has been a rhetoric among speeches and articles to entice a corporation of information sources. This has also been the thesis of many government projects in bridging the gap of information among institutions and agencies. Today, in many cases, the networking infrastructure is in place and tools are installed to enable sharing of information across R&D institutions. But the reality is often far less stunning than the promise. As the notion goes, just because information can flow, it does not mean that it will flow. An effective structure to make the information flow and reach its intended clients is needed.

Technology can make large-scale collaboration and information sharing possible. But changes in human behavior are needed to turn this promise into reality. We, at the R&D community, know the importance of an organization-wide collaboration and invest in knowledge management tools to make that possible. In other words, the human barriers to achieving the goals of knowledge management are far more significant than the technological ones; and they can and should be dealt with today.



## Scientific Publication Grant

The Scientific Publication Grant (SPG) System of BAR was established to promote the smooth flow of information among stakeholders in the R&D system. Its intended beneficiaries include policymakers, administrators, extension specialists, the public, and farmers and fisherfolk.



# PROGRAM HIGHLIGHTS

SPG provides grants to research institutions, DA staff bureaus and attached agencies, Regional Field Units (RFUs), state colleges and universities (SCUs), and nonprofit scientific organizations. The grant covers support for the publication of proceedings of scientific meetings, refereed journals, research methodology manuals, books, and co-sponsorship grants for scientific meetings.

In 2006, under the SPG program, ACS facilitated the review and funding of 11 scientific and professional societies and approval of the conceptualization and production of tv plug for *Maunlad na Agrikultura*, and promotion of 10 CPAR success stories for *Mag-agri Tayo*, and broadcast through the National Broadcasting Network (NBN) Channel 4. The plug ran for six months while the CPAR success stories featuring the latest R&D technologies supported and commercialized for adoption by BAR ran continuously every Saturday.

## Publications Output

Information is often viewed as a source of power and job security. This is true. But it is best to remember that the people hold this kind of power and security. Knowledge management is people knowledge. It's still the human



### BAR regular publications:

2006 issues of BAR Chronicle, 2006 issues of BAR R&D Digest, 2007 BAR Techno Calendar  
2005 Annual Report, and 2005 Research Highlights and NRS Proceedings

# PROGRAM HIGHLIGHTS



## **BAR special publications:**

*CPAR Operational Manual, BAR Primer, BAR Folder  
techno brochures on Freshwater Prawn Farming and Native Chicken Production*

brains that process ideas into useful knowledge. Knowledge management tools remain futile without human interventions.

For BAR, its human intervention comes in through its Management Information Systems Division - Applied Communication Section (MISD-ACS) that serves as the link between the technical world and the laymen by providing them the results of R&D through knowledge products.

The main editorial products issued for 2006 consisted of 13 issues of newsletter, four issues of technology magazine, two proceedings, two manual, two technical reports, 15 brochures, and 42 posters, 32 streamers, and 36 advertisements. All these knowledge products were customized and designed in-house while some were printed and contracted out for reproduction.

The Bureau is regularly producing six types of publications which are distributed to national and regional institutional partners and private sector via subscription. Among the regular publications produced are *BAR Chronicle* (13,000), *BAR R&D Digest* (4,000), *Annual Report* (500), *Research Highlights* and *National Research Symposium Proceedings* (1,000), and *BAR Technology Calendar* (1,000). Special publications such as technology brochures, primers, book reports, and booklets were also produced and distributed as part of the information kit to BAR local and foreign visitors and clients (12,430) and other NaRDSA member institutions (37).



# PROGRAM HIGHLIGHTS

With the flourishing of the Bureau's publications came the increase of subscriptions by 10% compared as of 2005. Most of the interested subscribers came from librarians from SCUs, students, and private individuals engaged in agriculture and fishery sector.

## Library and Online Services

For its library services, the Bureau continues to build and widen its collections from free subscriptions, sourcing of funds, donations and gifts, and forging of partnership with other institutions for a possible sharing of library services and access to their database collections. For 2006, the additional materials added to the Bureau's

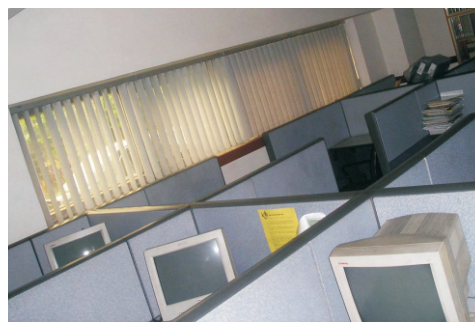
collections consisted of 384 clippings, 51 serials, 26 books, 2 CD-ROM, 9 theses/dissertations, and 1 terminal report.

The BAR library is also being enhanced through a continuous maintenance of the electric catalogue system for greater automation of the library system.

The Bureau connects to the international audience through its official website wherein regular and special publications are web-enabled making them easy to access and upload. Refinements and updating of the site are going on and continually being facilitated.



**Collections at the BAR library, which are continually being updated.**



**Library kiosk used for online searching.**

# PROGRAM HIGHLIGHTS

## INFORMATION AND COMMUNICATION TECHNOLOGY PROGRAM

For the past years, the Bureau has been envisioning a community bounded by an ideal knowledge management environment. An environment wherein ordinary people and not just the technical experts have an easy access to information any time they want without the difficulty of having to use the complicated tools in gathering, organizing, and refining the data and making it useful for them; an environment wherein information is readily available to anyone who needs it. Most of all, the Bureau is creating an environment where all employees are not only skilled in using knowledge resources but are also able to creatively contribute to a common pool of knowledge for intended beneficiaries to make use of.

This is the environment BAR wants to achieve: putting the right information in the hands of the right people at the right time. Although such vision of an “ideal”



**BAR server room located at the third floor.**



environment has not yet been achieved, the reality of it is slowly materializing.

The Bureau, through its Management Information Systems Division – Information Communication Technology Section (MISD-ICTS), develops and manages computerized system to monitor and evaluate agriculture and fisheries R&D projects implemented in the country and links to national information network. The section also provides technical and financial assistance to improve and upgrade all ICT facilities and equipment of the NaRDSAF member-institutions.



# PROGRAM HIGHLIGHTS

## Putting Systems and Networks to Work

ICT developed and is continuously maintaining 16 information systems (six for the administrative system, three for the financial management system, and four for the management information system). Three from the 16 are new systems developed in 2006.

Among the information systems developed and maintained for the administrative system are: payroll system; vehicle dispatching and trip monitoring system (VDTMS); document recording and tracking system (DTRS); supplies, property, plant, and equipment monitoring system (SPPEMS); personnel management information systems (PMIS); and employee's daily time recording system (eDTRS). The financial management system includes cashiering system, accounting system, and budget allocation and monitoring system. Meanwhile, the systems developed for the management information system are proposal tracking and monitoring subsystem, R&D management information system (RDMIS), infrastructure and human resource monitoring information system (IHRMIS), and scholarship evaluation and monitoring system (SEMS). The three new systems developed are IT equipment monitoring information system, BAR library system management information system, and RD geo-information system.

Aside from the current information systems being maintained, ICT has developed three new systems: 1) intellectual property monitoring information system (IPMIS); 2) proposal tracking monitoring information system (PTMIS); and BAR library information system.

A Users' Manual was prepared as guide and reference to all the systems developed and maintained by the Bureau.



# PROGRAM HIGHLIGHTS



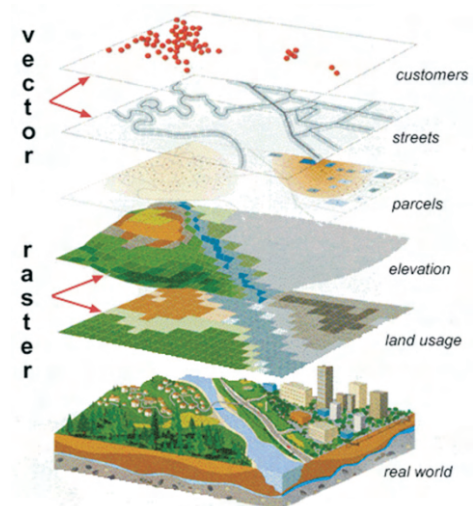
**BAR's GIS main man, Joel Abunda (center), shows participants how topographic survey and mapping is done during the GIS training at CLIARC, Pampanga, 23-24 May 2006.**

Information sharing is now possible. It exists mainly among the enterprise, shared, to some extent, within teams or work groups, but not beyond that. A more collaborative environment develops where individuals can choose to make information available, across organizations, which saves time, effort, and resources. Then, the sharing of information becomes integrated and automatic. The Intramail for example which has been a very valuable resource especially for organizations that stockpile valuable information everyday. Once the information is posted, it automatically becomes part of the organization's information reservoir. It gets filtered and is readily available to those who need it. This is made possible through the administration and maintenance of the BAR local area network.

For 2006, ICT administered and maintained 140 users' accounts with a 24/7 operation of six BAR servers and management of its intranet and internet services.

## **Making Use of GIS in R&D**

ICT has brought many changes in all aspects of life, including agricultural landscape and natural reserve conservation and management. In today's highly advanced society, the Geographical Information System (GIS) is considered an indispensable tool. It is a powerful tool that can improve the governance and collaboration among institutions so that the Philippines could move forward in all aspects of development.





# PROGRAM HIGHLIGHTS

GIS has a lot to do with modernizing Philippine agriculture by providing exact, relevant, and timely information to decision-makers and scientists. It can geographically target with great precision the crop suitability of various commodities in a particular area, thus avoiding low production and other risks that may come the country's way. The spatial mapping provides the necessary information needed to plan ahead and execute well-crafted strategies.

The importance of GIS and technology to BAR has been long recognized by the management as one of the enabling tools in its RDE agenda. Spatial technology becomes the core of the management information systems that provides a geographic perspective to the Bureau's datasets and partner-institutions through the Agricultural and Fisheries Research Development Information Systems (AFRDIS).

For 2006, ICT developed 25 basemaps and eight thematic maps. Recipients were the Bureau of Animal Industry (BAI), Regional Field Unit 5, Regional Soil Laboratory, National Nutrition Council (NNC), Philippine Rubber Research Center, National Agriculture and Fisheries Council (NAFC), and University of Philippines-Marine Science Institute (UP-MSI).

Aside from agricultural RDE, GIS is also be beneficial to local governments by mapping out wealth of data and information that are available among its various agencies.



**BAR's GIS staff during a training on topography mapping at EVIARC, Leyte, on 8-9 June 2006.**

# PROGRAM HIGHLIGHTS

## Maintaining Interconnectivity Through Web Development

The Bureau maintains its web development program that focuses on web-enabling its databases, content building in the Internet, and literature search for R&D technologies through *BAR Online*, the official website of BAR. It also maintains the *Agritech Online*, a knowledge and information portal for farmer, fisherfolk, and other agriculture and fishery stakeholders.

In 2006, *BAR Online* underwent major revisions both in its content and layout specifically to suit the Internet browsing audience. The new interface provides a more user-friendly navigation with one-page default homepage that shows everything in one screen. The photographs at the side are updated quarterly with focus on major R&D priority commodities. The homepage consists of easy-linked articles on the latest in R&D and the Bureau. The website is also equipped with an efficient archiving system of all BAR regular and special publications for easy access and download.

The *Agritech Online* is a web-enabled, easy-to-use, one-stop shop to information on farming technologies, best practices, cost and return analysis, harvesting and postproduction procedures, and the latest market information.





# PROGRAM HIGHLIGHTS

## INTELLECTUAL PROPERTY MANAGEMENT PROGRAM

Research and development endeavors have been considered prime movers of development. The Intellectual Property Managements service of BAR made sure that R&D efforts, particularly research outputs including breakthrough, information, and technologies, are properly protected and managed. It is in this concern that BAR enhanced and expanded its services to cater to its clientele needs on intellectual property management. With its three-year IP operation, BAR was successful in getting across the importance of IP in the whole technology management in research and development.

This year, BAR-IPRO made significant contributions specifically on the technology evaluation and prior art searches for research outputs such as the Snap Hydroponics of University of the Philippines Los Baños, process of producing mango powder by the Bureau of Postharvest Research and Extension, development of special product lines from Philippine Oregano of DA-Region IV in Tiaong, Quezon, and the vaccine production of hog cholera from University of the Philippines Diliman. In addition, patentable works were evaluated based on the completed research projects from 12 projects of UP Los Baños, five of UP Visayas, three of Central Luzon State University (CLSU), 17 of UP Diliman, and 12 of the University of Southern Mindanao (USM). All in all, 49 terminal reports were reviewed and examined for possible IP potential for application. Meanwhile, 12 thesis manuscripts were also reviewed for the same purpose.

Furthermore, direct technical assistance was provided to IP Right holders, as copyright rectification and application in order to republish research in Giant Clam Hatchery Manual by UP Marine Science Institute researcher, Dr. Suzanne Mingao-Licuanan; application for patent or trade mark of the Philippine Millennium Wine from coconut by Mr. Marius Diaz; application for patent on



**IPR Training in Batac, Ilocos Norte**



**IPR Training in Butuan City**



**IPR Training in Cotabato**

# PROGRAM HIGHLIGHTS



**IPR Training in Dalwangan, Malaybalay, Bukidnon**



**IPR Training in Jaro, Iloilo City**



**IPR Training in Naga City, Camarines Sur**

foliar fertilizer formulation by Dr. Evelyn Saldevar; application for patent on Simple Nutrient Addition Program (SNAP) Hydroponics by Dr. Primitivo Santos; Banana de-Blossomer and bagger developed by DA-CARAGA; preparation of MOA for IPR inventors for the Mobile Spindle Stripping Machine for Abaca by the Fiber Industry Development Authority (FIDA); and assistance in drafting the Intellectual Property Policy of the Bureau of Postharvest Research and Extension (BPRE).

Moreover, the operational activities of the IP Management continued within the year by increasing the level of awareness on the importance of intellectual property to the members of the DA Regional Research and Development Network (RRDEN). Specifically, the activity aimed to encourage researchers to apply and subject their research outputs for technology evaluation for better and expanded application. At the same time, the Intellectual Property Awareness Training Workshop signified and highlighted the importance of IP in the technology management framework. The said training-workshop was conducted for the RRDEN members in Regions VII, VIII, V, II, CARAGA, VI, IX, XII, X, I, III and also for DA-BAR staff in Quezon City in November 2006.

Based on these activities, BAR believes that researchers in the regional research centers and stations would be abreast with latest information and trends in intellectual property management. It is an avenue for service assistance that their research outputs are essential factor in propelling development in the agriculture and fisheries sectors. Only then, BAR could say that its IP service is accessed and provided for better operations.



# PROGRAM HIGHLIGHTS

## **AGRICULTURE AND FISHERIES POLICY RESEARCH AND ADVOCACY PROGRAM**

Policy research is important to better understand the dynamics of development in the agriculture and fisheries sectors, and demonstrate the intricate links among policies for better program development and management.

BAR implements and coordinates the conduct of impact assessments and agriculture and policy research through its Agriculture and Fisheries Policy Research Unit (AFRU). Its specific duties include: 1) giving recommendations on the development of comprehensive strategies that address emerging problems and concerns in the agriculture and fisheries sectors, 2) formulating policy recommendations on scientific innovations and technology-use, 3) providing data, information, and knowledge as decision-support to strengthen the impact of R&D, 4) reviewing, identifying, and analyzing problems and weaknesses relevant to national policies and recommending ways to take advantage of opportunities.

In 2006, AFPRU prepared and drafted 24 position papers/policy analyses covering the following topics:

- Results of the evaluation of the "ACIAR project on Improving the Delivery of Extension Services in the Philippines"

- Proposed House Bill on Agricultural and Fishery Mechanization Act

- Benefit and cost analysis of the "Farmer-Scientists Training Program"

- Summary report on Globalization (Generated Population Trends, 2006 and 2007)

- Latest statistics on "Selected Agriculture Commodities and Fisheries"

- Latest Macroeconomic Indicators

- Proposal evaluation of project on Land Conversion and Crop Change in Region XI: Critical Issues, Effects and Policy Options

- Preparation of project proposal on "Maximizing Farmers' Income: A Production Simulation Model"

The Unit provided inputs and recommendations for the drafting of the following policy pronouncements:

- A.O. Re: Designation of the Zonal Research Centers for Agriculture and Fisheries (ZRCAF)

- Agriculture and Fisheries Mechanization Law

# PROGRAM HIGHLIGHTS

A.O. Prescribing the Guidelines and Procedures in the Planning and Implementation of Agri-Fishery Infrastructure and Machinery Projects  
Project Proposal on "A North Cotabato Initiative: Need-based Research among USM Students"  
Inputs for the "National R&D Agenda of the PCARRD for the Philippine Agriculture 2020 Program"

Crucial to the Bureau's achievement in 2006 was the preparation of four draft bills:

- 1) An Act Providing Filipino Agriculture Scientists, Inventors and Researchers with Opportunities and Incentives for Developing New and Innovative Technologies
- 2) An Act Providing NaRDSA/R&D Personnel, DA Regional Field Units, Regional Integrated Research Centers Opportunities and Incentives for Commercializing and Promoting Developed Technologies
- 3) Enhancing R&D by Allowing Scientists in Government Institutions to Engage in Private Enterprises Utilizing Their Developed Technologies
- 4) Allowing the RIARCs and Satellite Stations to Retain 80 Percent of the Proceeds from Sales of R&D Products for the Purpose of Funding Research

Meanwhile, AFPRU also provided key recommendations to four HBs:

HB 26 (An Act Providing for the Conversion of the Antequera-San Isidro-Libertad (Tubigon) Provincial Road Traversing the Municipalities of Antequera, San Isidro and Tubigon, Province of Bohol Into a National Road, and Appropriating Funds Therefor)

HB 733 (An Act Prohibiting the Use of "Aspartame" on Food, Beverages and Drugs, and the Sale and Distribution of Artificial Sweeteners, and for other Purposes or also known as the Aspartame Ban Act of 2004)

HB 2992 (An Act Designating the Technology Management Center of the University of the Philippines at Diliman, Quezon City, as a National Center of Excellence for Technology Assessment, Management, Forecasting and Appropriating Funds Therefor and for Other Purposes)

HB3552 (An Act Establishing the Leyte National Science and Technology Center in the First District of the Province of Leyte and Appropriating Funds Therefor).



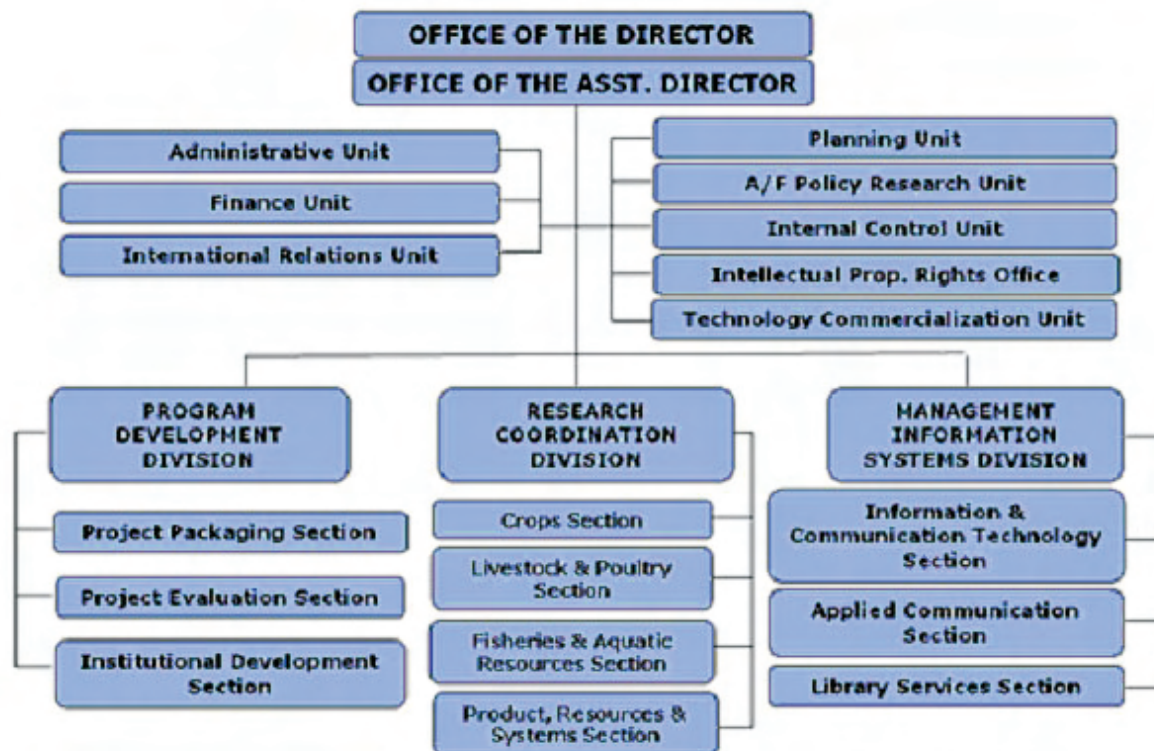
# annexes



*Our philosophy as a learning organization is to hold on to what is good, but always ready to evolve.*



## BAR ORGANIZATIONAL STRUCTURE





## 2006 MANAGEMENT & STAFF LIST

### OFFICE OF THE DIRECTOR (OD)

Nicomedes P. Eleazar, CESO IV

#### ***Executive Support Staff***

Joell H. Lales  
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Rolando V. Labios

#### ***Coordinator for Administrative Matters***

Hamlet T. Dala, PhD

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# ANNEXES

## ADMINISTRATIVE UNIT

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### **Personnel**

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Jennilyn C. Razonable

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## RESEARCH COORDINATION DIVISION

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Anna Ruth C. Mercado

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Ma. Elena M. Garces

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Ricarte V. Castro  
Casey Lou D. Duran



# ANNEXES

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Jerson C. Cruz  
Arlene A. Balagot  
Rueth T. Cabral  
Edmund S. Aquino

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Joel B. Abunda

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Rita T. dela Cruz  
Ma. Lizbeth Severa J. Baroña  
Miko Jazmine J. Mojica  
Ma. Eloisa E. Hernandez  
Nicanor B. del Rosario III  
Anthony A. Constantino  
Ricardo G. Bernardo  
Victoria G. Ramos

### ***Library Services Section***

Lalaine A. Perlawan  
Lyn D. Pardilla

## **INSTITUTIONAL PARTNERS**

### **International R&D Partners**

1. Consultative Group on International Agricultural Research (CGIAR)
2. International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
3. International Rice Research Institute (IRRI)
4. Biodiversity International (formerly IPGRI)
5. International Network for the Improvement of Banana and Plantain (INIBAP)
6. The WorldFish Center (formerly ICLARM)
7. AVRDC – The World Vegetable Center
8. United Nations Development Programme (UNDP)
9. Australian Centre for International Agricultural Research (ACIAR)
10. Asian Development Bank (ADB)
11. Winrock International
12. SEAMEO Regional Center for Graduate Study and Research in Agriculture (SEARCA)
13. Food and Agriculture Organization of the United Nations (FAO)
14. Global Forum on Agricultural Research (GFAR)
15. International Maize and Wheat Improvement Center (CIMMYT)
16. International Fund for Agricultural Development (IFAD)
17. Asia Pacific Association of Agriculture Research Institutions (APAARI)
18. Asia Rice Foundation
19. United States Department of Agriculture (USDA)
20. Southeast Asian Fisheries Development Center (SEAFDEC)



## **DA- Attached Agencies and Staff Bureaus**

21. Agricultural Training Institute (ATI)
22. Bureau of Animal Industry (BAI)
23. Bureau of Agricultural Statistics (BAS)
24. Bureau of Agriculture and Fisheries Product Standards (BAFPS)
25. Bureau of Fisheries and Aquatic Resources (BFAR)
26. Bureau of Plant Industry (BPI)
27. Bureau of Postharvest Research and Extension (BPRE)
28. Bureau of Soils and Water Management (BSWM)
29. Agricultural Credit and Policy Council (ACPC)
30. Cotton Development Authority (CODA)
31. Fertilizer and Pesticide Authority (FPA)
32. Fiber Industry Development Authority (FIDA)
33. National Dairy Authority (NDA)
34. National Irrigation Administration (NIA)
35. National Agriculture and Fishery Council (NAFC)
36. National Meat Inspection Service (NMIS)
37. Philippine Carabao Center (PCC)
38. National Nutrition Council (NNC)
39. National Tobacco Administration (NTA)
40. Philippine Coconut Authority (PCA)
41. Philippine Rice Research Institute (PhilRice)
42. Sugar Regulatory Administration (SRA)
43. National Food Authority (NFA)
44. National Agribusiness Corporation (NABCOR)
45. Quedan Rural Credit Guarantee Corporation (QUEDANCOR)

## **National Centers of Excellence**

46. University of the Philippines Los Baños
47. University of the Philippines Diliman
48. University of the Philippines Visayas
49. University of the Philippines Manila
50. University of the Philippines Mindanao
51. Central Luzon State University
52. Leyte State University
53. University of Southern Mindanao

## **Regional State Colleges and Universities and Provincial Technology Institute for Agriculture and Fisheries (PTIAFs)**

54. Don Mariano Marcos Memorial State University
55. Ilocos Sur Polytechnic State College
56. Mariano Marcos State University
57. Pangasinan State University
58. University of Northern Philippines
59. Benguet State University
60. Ifugao State College of Agriculture and Forestry
61. Cagayan State University
62. Isabelita State University
63. Nueva Vizcaya State University
64. Quirino State College
65. Bulacan National Agricultural State College
66. Pampanga Agricultural College



# ANNEXES

67. Tarlac College of Agriculture
68. Ramon Magsaysay Technological University
69. Aurora State College of Technology
70. Cavite State University
71. Marinduque State College
72. Mindoro State College of Agriculture and Technology
73. University of Rizal System
74. Southern Luzon Polytechnic College
75. State Polytechnic College of Palawan
76. Western Philippines University
77. Bicol University
78. Camarines Norte State University
79. Camarines Sur State Agricultural College
80. Partido State University
81. Catanduanes State College
82. Dr. Emilio B. Espinosa Sr. Memorial State College of Agriculture and Technology
83. Sorsogon State University
84. Aklan State University
85. Iloilo State College of Fisheries
86. Panay State Polytechnic College
87. Polytechnic State College of Antique
88. Capiz State University
89. West Visayas State University
90. Central Visayas State College of Agriculture, Forestry and Technology
91. Eastern Samar State College
92. Samar State College of Agriculture and Forestry
93. University of Eastern Philippines

# ANNEXES

94. Southern Leyte State University
95. Western Mindanao State University
96. Zamboanga State College of Marine Science and Technology
97. Central Mindanao University
98. Misamis Oriental State College of Agriculture and Technology
99. Mindanao State University – Naawan
100. Davao del Norte State College
101. University of Southeastern Philippines
102. Mindanao State University
103. Sultan Kudarat Polytechnic State College
104. Agusan del Sur State College of Agriculture and Technology
105. Northern Mindanao State Institute of Science and Technology
106. Tawi-Tawi Regional Agricultural College
107. Mindanao State University – Tawi-Tawi College of Technology and Oceanography



## **Regional Integrated Agricultural Research Centers (RIARCs)**

108. Ilocos Integrated Agricultural Research Center (ILIARC)
109. Cagayan Valley Integrated Agricultural Research Center (CVIARC)
110. Central Luzon Integrated Agricultural Research Center (CLIARC)
111. Southern Tagalog Integrated Agricultural Research Center (STIARC)
112. Bicol Integrated Agricultural Research Center (BIARC)
113. Western Visayas Integrated Agricultural Research Center (WESVIARC)
114. Central Visayas Integrated Agricultural Research Center (CENVIARC)
115. Eastern Visayas Integrated Agricultural Research Center (EVIARC)
116. Western Mindanao Integrated Agricultural Research Center (WESMIARC)
117. Northern Mindanao Integrated Agricultural Research Center (NOMIARC)
118. Southern Mindanao Integrated Agricultural Research center (SMIARC)
119. Central Mindanao Integrated Agricultural Research Center (CEMIARC)
120. CARAGA Integrated Agricultural Research Center (CARIARC)
121. Autonomous Region in Muslim Mindanao Integrated Agricultural Research Center (ARMMIARC )
122. Cordillera Administrative Region Integrated Agricultural Research Center (CIARC)

## **Regional Fisheries Research and Development Centers (RFRDCs)**

123. Ilocos Fisheries Research and Development Center
124. Cagayan Valley Fisheries Research and Development Center
125. Central Luzon Fisheries Research and Development Center
126. Southern Tagalog Fisheries Research and Development Center
127. Bicol Fisheries Research and Development Centers
128. Western Visayas Fisheries Research and Development Center
129. Central Visayas Fisheries Research and Development Center
130. Central Visayas Fisheries Research and Development Center
131. Eastern Visayas Fisheries Research and Development Center
132. Western Mindanao Fisheries Research and Development Center
133. Northern Mindanao Fisheries Research and Development Center
134. Central Mindanao Fisheries Research and Development Centers
135. CARAGA Fisheries Research and Development Center
136. Autonomous Region of Muslim Mindanao Fisheries Research and Development Center
137. Cordillera Administrative Region Fisheries Research and Development Center



ADB	Asian Development Bank
ACIAR	Australian Centre for International Agricultural Research
ACS	Applied Communication Section
AVRDC	The World Vegetable Center
ADP	Agribusiness Development Projects
AFRDIS	Agriculture and Fisheries Research and Development Information System
AFMA	Agriculture and Fisheries Modernization Act
AFPRU	Agriculture and Fisheries Policy Research Unit
ATI	Agricultural Training Institute
BAI	Bureau of Animal Industry
BAR	Bureau of Agricultural Research
BPRE	Bureau of Postharvest Research and Extension
BFAR	Bureau of Fisheries and Aquatic Resources
BSWM	Bureau of Soils and Water Management
CLSU	Central Luzon State University
COGENT	Coconut Genetics Resources Network
CPAR	Community-based Participatory Action Research
CRGM	Competitive Research Grant Manual
CSSP	Crop Science Society of the Philippines
DA	Department of Agriculture
DFIMP	Diversified Farm Income Market Development Project
DOST	Department of Science and Technology
DTRS	Document Recording and Tracking System
EDTRS	Employee's Daily Time Recording System
EO	Executive Order
FIDA	Fiber Industry Development Authority
GEF	Global Environment Facility
GIS	Geographic Information System
GMA	Ginintuang Masaganang Ani
HIP	High Impact Projects
HRDP	Human Resource Development Program
HVCC	High-value Commercial Crops
ICRISAT	International Crop Research Institute for the Semi-arid Tropics
ICT	Information and Communication Technology
ICTS	Information Communication Technology Section
IDG	Institutional Development Grant

acronyms

IDU	Infrastructure Development Unit
IHRMIS	Infrastructure and Human Resource Monitoring Information System
INIBAP	International Network for the Improvement of Banana and Plantain
IP	Intellectual Property
IPO	Intellectual Property Office
IPGRI	International Plant Genetic Resources Institute
IPMIS	Intellectual Property Management Information System
IRRDB	International Rubber Research and Development Board
ISO	International Standards Organization
JICA	Japan International Cooperation Agency
KR <sub>2</sub>	Kennedy Reddy
LDC	Livestock Development Council
LGU	Local Government Units
LSU	Leyte State University
MISD	Management Information and Systems Division
MMSU	Mariano Marcos State University
MOA	Memorandum of Agreement
MSI	Marine Science Institute
MTA	Material Transfer Agreement
M&E	Monitoring and Evaluation
NAFC	National Agricultural and Fisheries Council
NBN	National Broadcasting Network
NNC	National Nutrition Council
NaRDSAF	National Research and Development System for Agriculture and Fisheries
NIRDEAP	National Integrated Research and Development Extension Agenda and Programs
NGO	Non-government Organization
NRC	National Research Centers
NRS	National Research Symposium
NTCP	National Technology Commercialization Program
OAS	Outstanding Agricultural Scientist
OFR	On-Farm Research
PCA	Philippine Coconut Authority
PCC	Philippine Carabao Center
PIM	Pre-implementation Meeting
PRA	Participatory Rural Appraisal
PO	Private Organization

acronyms



PTMIS	Proposal Tracking Monitoring Information System
RCD	Research Coordination Division
RDMIS	Research and Development Management Information System
RFRDC	Regional Fisheries Research and Development Center
RFU	Regional Field Unit
RIARC	Regional Integrated Agricultural Research Centers
RRDEN	Regional Research and Development Network
ROS	Research Outreach Station
R&D	Research and Development
SEMS	Scholarship Evaluation and Monitoring System
SNAP	Simple Nutrient Addition Program
SPG	Special Publication Grants
SCUs	State Colleges and Universities
SPPEMS	Supplies, Property, Plant and Equipment Monitoring System
UNDP	United Nations Development Programme
UPD	University of the Philippines Diliman
UPLB	University of the Philippines Los Baños
UPV	University of the Philippines Visayas
USM	University of Southern Mindanao
VDTMS	Vehicle Dispatching and Trip Monitoring System
ZRCAF	Zonal Research Centers for Agriculture and Fisheries

acronyms

This Annual Report was prepared from  
the reports submitted by the different  
divisions and units of the Bureau.

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