



Milestones 2010



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MILESTONES 2010

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Message from the Executive Director

Sharing a moving target



Celebrating the Institute's 25th anniversary (1985-2010) is a meaningful occasion. It brings us to the past, reminds us of our accomplishments, and helps us reflect on how we can do better to help the Filipino farmers and make the country rice-self-sufficient again.

The rice industry is faced with the challenge of making the country rice-self-sufficient by 2013. PhilRice is taking a holistic approach in helping the country provide enough rice for every Filipino as embedded in our new credo, *Rice Science for Development*. We will pursue a more aggressive development work for our rice farmers, addressing not just their yields, but all other equally important facets of their lives. Adding the consumers and our own rice workers in our priorities, PhilRice will help widen people's choices; provide more options on enjoying long, healthy, and decent lives.

In view of all this, and after a series of consultations with our stakeholders across the country, we have crafted new programs that we will pursue for the next five to ten years: Developing technologies to break the low rice yield barriers in rainfed, upland, and other adverse environments; Developing technologies to surpass the dry season irrigated lowland rice yield plateau; Natural products and value-adding systems development; Impact evaluation, policy research, and advocacy; and Developing and packaging of location-specific rice technologies for irrigated, rainfed, and upland areas. In the administrative part, we have devised ways to save more in operating costs.

As crafted in our strategic corporate plan, the programs will focus on helping the country attain and sustain rice self-sufficiency; reduce poverty and malnutrition; and achieve competitiveness in agricultural science and technology.

These new programs were laid out based on accomplishments and lessons learned from the implementation of our programs from 2006 until 2010. This milestone, however, focuses on accomplishments for 2010, and summarizes and puts closure to the past programs.

Achieving rice self-sufficiency is not only the government's task. Everyone could contribute to this goal through simple ways. Thus, we intensified this year our advocacy, *Save Rice, Save Lives*, that encourages the public not to waste rice. Minimizing individual wastage of three tablespoons of cooked rice a day could help the country save P10 billion in rice imports. This amount of wastage could help feed 4 million hungry Filipinos yearly.

We have grounded a foundation in taking the path to rice self-sufficiency. Join us as we take off in bringing back the glory days of having enough rice for every Filipino.



RONILO A. BERONIO
Executive Director



[rice breeding]

Our essence of being is the rice farmers.

**We think of them,
feel for them, and work
because of them.**

Like the farmers, we want the rice plant to be green and gold;

● NSIC Rc224 (Tubigan 19) and NSIC Rc226 (Tubigan 20) were released after they showed better performance than the check varieties, PSB Rc82 and Rc18, during multi-location adaptation trials. These varieties are recommended for irrigated lowland conditions:

NSIC Rc224

- long and slender grains
- yields an average of 5.75 t/ha in both wet and dry seasons
- matures in 111 days
- eating quality better than IR64
- strong resistance to lodging
- good milling and headrice recoveries
- moderately resistant to green leafhopper, brown planthopper, blast, and stem borer

NSIC Rc226

- long and intermediate grains
- yields an average of 6.20 t/ha across seasons
- matures in 112 days when transplanted and 104 days when direct wet-seeded
- very good grain quality and milling recovery
- moderately resistant to green leafhopper, brown planthopper, and yellow stem borer
- could withstand moderate tungro attacks

● Sub1 genes were incorporated into PSB Rc82, a popular and high-yielding irrigated rice cultivar with known resistance to major rice pests and diseases. Through the gene, Rc82 could now tolerate being submerged or flooded at vegetative stage for up to two weeks.



[crop management]

the tillers to yield more grains;

● Rat populations could be better managed with the parasite *S. singaporensis*, which multiplies inside the cells of rat blood vessels until it forms muscle cysts. Isolates SSPR 201207 (P2) 020608 Surratani and SSPR 060700 (P1) 230209 Borneo were found to effectively control rats in Agusan del Norte, while the latter alone could easily reduce rat population in Nueva Ecija. This biological control agent can induce lack of appetite, swollen or teary eyes, shallow breathing, and weakness among the rat population.

● Laboratory results revealed that *Beauveria RB* could cause infection to both nymph and adult rice bugs leading to 90-93 percent mortality seven days after treatment. In screen houses, it killed 70 percent of bugs seven days after treatment.

● Through the reduced and no-tillage technologies, land preparation could be done in 15 days without decreasing yield, unlike in conventional tillage system, which is usually completed in 21 days.

[value-adding]



and the grains to have more value.

● The study, *Folate Profiling in Rice*, conducted in collaboration with the University of Nottingham in England, showed that overexpression of rice folylpolyglutamate synthetase genes enhances folate concentration in the rice grain. Folate, one of the B vitamins for normal human growth and development, is also needed for rice seed development. Improvement of folate content in rice can reduce, among others, cases of babies born with cleft palate, hydrocephalus, and underdeveloped spine.

● The study, *Modification of Rice Starch Properties by Addition of Amino Acids at Various pH Levels*, conducted in collaboration with the Louisiana State University, revealed that amino acids alone or in combination with pH treatments would yield rice starches with varied properties affecting the behavior of starch during processing, thereby increasing starch utilization. Amino acids also influenced the formation of resistant starch, which could be used as ingredient in the production of foods with health-promoting properties.

● Low-amylose (10.1 to 20.0%) rice varieties, particularly NSIC Rc160, MS8, and MS6, including those with intermediate amylose (20.1 to 25.0%) and gelatinization temperature such as NSIC Rc154, Rc150, Rc144, Rc14, and Rc18, are best for excellent-quality brown rice.

● Pigmented Ballatinaw, Calatrava, and Dinorado, which are traditional Philippine rice cultivars, were found as potential sources of antioxidants having high levels of anthocyanins and phenolics. Phytonutrients were also found to be highly concentrated in rice bran. Thus, pigmented rice and rice bran could be used in developing nutraceutical products.



[machines]

We wish to ease farmers' drudgery and risks;

● A local rice hull gasifier engine system that is compact, mobile, and affordable was developed to help farmers reduce production cost and to minimize the environmental hazards caused by rice hull. The system:

- uses rice hull biomass as source of energy, generating savings of 36 to 44% in fuel cost; and
- can be used for pumping water, rice milling, and electric power generation.

Ash produced after rice hull burning within the system can also be used as soil conditioner in seedbed and as ingredient in producing organic fertilizer.

● Farmers' efficiency in laboy (deep mud) rice areas could now be improved with the upgrading of the laboy tiller – a buoyant machine used for land preparation in soft, deep, muddy or swampy soil that reaches the waist. Our studies show that using this machine will result in yield increase.

The new 1.5-m-wide laboy tiller:

- performs better than its 'predecessor' as it shortens land preparation time by 50 percent, with a capacity of 1.5 ha/day;
- uses less fuel at 1-1.5 L of diesel an hour;
- has 90 percent puddling efficiency; and
- requires only one operator, thus saving on land preparation cost.





[knowledge sharing & learning]

widen farmers' knowledge, and enhance their skills.

PinoyRice (www.pinoyrkb.com), a one-stop source of information on Philippine rice production that features various agricultural resources developed by PhilRice, International Rice Research Institute, and other partners, was launched on Nov. 5, 2010.

The study, *Enhancing Knowledge Networking through Short Messaging Service: The Farmers' Text Center Experience*, revealed the great potential of cellphone in promoting modern farming technologies despite geographical barriers. From 2006 to 2009, our Farmers' Text Center received 72,611 messages, of which more than half were queries on seeds, nutrient management, and insects and diseases. Often coming from Central Luzon and Ilocos Region, most of our texters are farmers and extension workers.

Location-Specific Technology Development project sites totalled 253 across the country during the dry season and 497 in the wet season, helping farmers experience the benefits of developing practices suited to their locality.

Eighty-seven young, mostly fresh agriculture graduates, were trained for one cropping season to become rice self-sufficiency officers or farmers' partners in increasing yield and improving their practices.

The study, *Adoption of Multi-Component and Preventive Rice Production Technologies: A study of Complexity in Innovations*, revealed that adoption of complex technologies (such as Integrated Weed /Crop Management) may be enhanced through the initial promotion of the technologies among farmers with larger areas and access to credit; conduct of training programs that help reduce farmers' learning cost; and by reducing their complexity, improving their compatibility, reliability, trialability, and further increasing their profitability.

The study, *Institutionalization of the PalayCheck Integrated Production Management System in Selected Municipalities in Luzon*, revealed that institutionalization of technologies in the municipality level could be hastened when farmers have financial capital and access to support services; and when the finances of the local government unit are decentralized.



Knowledge products for decision-makers, rice specialists, and farmers were published:

- **Rice Science for Decision-Makers.** Launched in October, this new bi-monthly publication synthesizes findings in rice science to help craft decisions relating to rice production and technology adoption and adaptation. Issues on the economic status of rice farmers and use of high-quality seeds were published.

- **PhilRice S&T Magazine.** Farmers' stories and the latest on rice science and technology were covered under the themes: *Site Matters*, *Surviving El Niño*, *Pathways to Rice Self-Sufficiency*, and *Silver Harvest*.
- **Training courseware** with 10 modules is to equip rice specialists with a good and clear understanding of the PalayCheck System. Each module contains a lesson plan and a powerpoint supplement.
- **Manual on Research Methodologies for Rice Specialists** is to enhance their skills on gathering and processing data.
- **Technology bulletins** on the rice disease diagnostic kit and laboy tiller
- **Posters** on rice straw nutrient management and Location-Specific Technology Development
- **Leaflet** on brown plant hoppers
- **Wall calendar** featuring integrated pest management

[products]

We work for our products to reach our clientele;

- The Income Generation Office earned P34.6M in 2010. The top-selling products are inbred seeds and nutrient management tools such as the Minus-One Element Technique kit and the Leaf Color Chart.
- Rice varieties most sought after in both wet and dry seasons are PSB Rc82, Rc150, Rc158, and Rc160.
- Packaging sack was improved to include additional information such as instructions on how to germinate seeds and contact numbers of PhilRice and its branch stations.
- Knowledge products are in demand, particularly the PalayCheck primer and booklet, Philippine Rice Production Manual, rice technology bulletins, and field guides answering the information needs of rice farmers and extension workers at an affordable cost.



- Production efficiency of the PhilRice Tapuy Rice Wine has also dramatically increased.
- Our products are now more widely available in the market as a result of the barcoding under the EAN UCC System of GS1 Philippines. GS1 is a leading global organization dedicated to the design and implementation of global standards and solutions to improve the efficiency and visibility of supply and demand chains globally and across sectors.

[impact & policy research]

and we keep track of our progress.

- Review of the Location-Specific Technology Development (LSTD) Program, the Institute's banner strategy to increase productivity and income of farmers through the availability of and access to technology, revealed a yield increase of 1.10 percent at LSTD areas despite the drought in 2010 dry season. The program used PalayCheck, an integrated crop management system for rice, as platform.
- Among the key checks, or PalayCheck's best technology and management practices covering principal areas of crop management, those on managing nutrient, water, and pest were found very crucial to attain a yield level of at least 5 t/ha.
- Farmers perceived program implementation and tools in sharing knowledge, particularly field demonstrations, as effective.
- The impacts of research and development in Philippine rice production was studied. Results indicated that irrigation, adoption of hybrid and modern inbred varieties, participation in rice production training programs, use of high quality seed, and machine ownership were the main sources of production growth from 1996-2007. Investments in R&D were also found to be essential, production subsidy was counterproductive, and reforms in the current extension system and irrigation development strategies need to be implemented.





[programs]

We survive on public trust; directing us
to craft programs and projects
that address farmers' needs.



COMPLETED R&D PROGRAMS

Recognizing rice farmers as our essence of being is complemented by our nurturing of public trust, which guides us in generating relevant and quality researches and technologies. Produced under the programs we had implemented from 2006-2010 are:

UNFAVORABLE ENVIRONMENTS PROGRAM

Bred varieties

- Rainfed lowland flood-prone areas: NSIC Rc194 (Submarino 1) in collaboration with the International Rice Research Institute
- Saline-prone environment: NSIC Rc184 (Salinas 2), Rc186 (Salinas 3), Rc188 (Salinas 4), and Rc190 (Salinas 5)
- Drought-prone areas: 288 progenies from the crosses of drought-tolerant accessions

Developed machines

1. Prototypes:

- laser-guided leveler attachment for four-wheel tractors; developed for dryland cultivation and leveling
- walk-behind-type power tiller that could be attached with either moldboard plow or rotovator

- improved 4-wheel power tiller powered by 12.5-hp diesel engine equipped with 1-m tilling width rotovator
- floating tiller equipped with puddling rotor with 1.1-m swath for deep muddy fields
- precision seeder developed for rice, corn, and legumes
- non-submersible and submersible jet pump for the rice hull carbonizer pump system
- carbonizer for the rice hull pump system
- hydro-powered pump
- rice hull-fueled pump
- brushcutter harvester
- panicle thresher-corn sheller
- improved PhilRice reaper for hybrid rice and low-cut requirements
- brown rice milling system

2. *Rice combine* (1.3-m, 1.6-m, and 2.0-m)

3. *Reversible mechanical dryer* (*Vietnamese model*)

- 10-ton capacity
- 6-ton capacity

4. *Mechanized seed production* *and processing system*

Developed crop management practices

- Vegetables and rice could gain more yield if inorganic and organic fertilizers are applied.
- Fertilizer recommendations based on Minus One Element Technique (MOET) and MOET + 20 kg/ha of sufficient nutrients help in the healthier growth of rice in rainfed areas with sufficient rainfall.
- Oxadiazon followed by handweeding is effective in controlling weeds in rainfed and upland rice areas.
- Rice pests are best controlled through rice bunds with weeds as these are good habitat for general predators like spiders.
- Integrated Pest Management approaches for native bittergourd and watermelon were developed.

Improved seed health

- Developed SACLOB (Semi-Airtight Canvass-Lined Seed Storage Box): one-ton capacity hermetic seed storage system, which minimizes the survival and reproduction of stored product insect pests.
- Benomyl could inhibit seed-borne pathogens on *Pyricularia oryzae* (rice blast) and *Fusarium moniliforme* (bakanae).
- IMO + fermented plant juice and streptomycin sulfate could reduce *Burkholderia glumae* (panicle blight) incidences.
- More than 18,000 entries were evaluated to ensure that seeds are of good quality before storage.

FAVORABLE ENVIRONMENTS PROGRAM

Bred eleven varieties for transplanted and direct wet-seeded systems

- NSIC Rc138 (Tubigan 5)
- NSIC Rc142 (Tubigan 7)
- NSIC Rc146 (PJ 7)
- NSIC Rc150 (Tubigan 9)
- NSIC Rc152 (Tubigan 10)
- NSIC Rc154 (Tubigan 11)
- NSIC Rc160 (Tubigan 12)
- NSIC Rc216 (Tubigan 17)
- NSIC Rc218 (Mabango 3)
- NSIC Rc224 (Tubigan 19)
- NSIC Rc226 (Tubigan 20)

Developed machines

- PhilRice tiller
- three-disc plow
- precision seeder
- local transplanter

Developed crop management practices

- Drum seeding in combination with reduced tillage is recommended as it improves labor productivity and energy efficiency in the farmer's field, and even allows more carbon to remain in the soil.

KNOWLEDGE MANAGEMENT AND PROMOTION PROGRAM

- Subsystems were developed to improve the Institute's database: PhilRice document management systems, ISSO document database, Rice R&D Highlights database and search system, PhilRice online document tracking system, seed stock inventory, seed growers and network directory, rice statistics data, Q&A database, and characteristics of rice varieties.
- More than 20 Palayamanan model farms were established in state universities and colleges, Regional Integrated Agricultural Research Centers, PhilRice Branch Stations, military camps, and prison premises.
- More than 2,600 farmers, extension workers, and other rice R&D stakeholders were trained in various courses while 2,488 were briefed on Rice S&T Updates.
- More than 100 communication materials were published for extension workers, farmers, and researchers. About 20 book titles, including handbooks and manuals on *IPM for Rice and Vegetable Farming Systems*, *Field Guide on Rice-Onion Farming Systems*, *Training Guide for Palayamanan Vegetable Production*, *Field Operations*, *Philippine Rats*, *Outsmarting Rice Pests and Diseases*, *Rice Tungro Virus Disease*, *Appreciating Rice*, and *Intellectual Property Rights and Commercialization of Agricultural Biotechnology* were printed. Bulletins on nutrient, pest, and disease management, rice varieties, and modified *dapog* were printed at 3,000 copies each.
- Guidebooks on Simplified Keys to Soil Series for Nueva Ecija, Iloilo, Isabela, Pangasinan, Pampanga, and Tarlac were published.
- Produced diagnostic guides with soil fertility

map and agro-climatic characterization; tool kit on beneficial organisms for improved IPM decision making of farmers and extension workers; and rice disease diagnostic kit for bakanae, rice leaf blast, and panicle blast.

- Campaigns dubbed as *Boo Boo Rat* (driving rats away), *Kering-keri Yan* (managing stem borer and black bug), and OPLAN Sagip-Sibuyas were conducted to improve farmers' practices on managing pests and diseases in rice and rice-based crops. Campaigns on rice conservation and web conferencing as tool for consulting rice specialists were also conducted.
- About 14,000 names and numbers of farmers, extension workers, and other rice clients were databased in the Farmers' Text Center.
- Established PalayTindahan, Pinoy Farmers' Internet portal, online forum/campaign on pest management; conducted Basic ICT training for farmers and extension workers; and assembled the Mobile Internet Bus and Cab.

IMPACT, MARKET, AND POLICY RESEARCH

- Adoption and impact of PhilRice technologies and projects, integrated farm household trends, market, total factor productivity, and post production loss were assessed to help increase rice productivity and enhance profitability of rice-based farming. Policy advocacy and research were also pursued to promote sustainability and enhance the welfare of farmers and other stakeholders of the rice industry.
- Monitored and evaluated the adoption, profitability, and productivity of hybrid rice, which yields 9 to 36% more than inbred varieties. It also has a profit advantage of 29 to 45%.
- Twenty-two derivative papers were produced from the panel and cross-section data gathered from the Integrated Farm Household Analysis survey.
- Policy memos such as *Extent of Rice Land Conversion in the Philippines* and *Effects of Reduction in Farmers' Fertilizer Application* and factsheets were forwarded to the DA leadership, uploaded at PhilRice website, and published in the book, *Why does the Philippines Import Rice?*



2011-2016 R&D PROGRAMS

More than helping the country become rice-sufficient, PhilRice pursues a more aggressive development work for our rice farmers, addressing not just their yields, but all other equally important facets of their lives. We will accomplish this through our new programs approved this year:

- Developing Technologies to Break the Low Rice Yield Barriers in Rainfed, Upland, and Other Adverse Environments
- Developing Technologies to Surpass the Dry Season Irrigated Lowland Rice Yield Plateau
- Natural Products and Value-Adding Systems Development
- Impact Evaluation, Policy Research, and Advocacy
- Developing and Packaging Location-Specific Rice Technologies for Irrigated, Rainfed, and Upland Areas

[administration]

We continuously strengthen our Institution.

● To improve work quality, we intensified the seamless incorporation of the Integrated Management System in our core process – research and development. Design and development requirements on identification of inputs, conduct of review, verification, and validation at stages of research implementation; and hazard and risk assessment were enshrined in the research protocols.

● To further systematize the storage of and access to our records, the Records Document Management and Document Tracking Systems were developed. Through the former, PhilRice issuances from 1987 to 2009 were made electronically available and searchable. The latter system is a web-based application to easily monitor the location and status of documents.


● The infrastructure was upgraded:

- Seed buffer stock warehouse
Constructed (to store sufficient high-quality seed stocks procured by the government) at PhilRice stations in Nueva Ecija, Isabela, Negros, Agusan, and North Cotabato, the warehouses aim to increase the access of growers and farmers to seeds, particularly in times of natural calamities.



- Training dormitory II
The dormitory at PhilRice Central Experiment Station was renovated to provide better amenities to visitors and foster DA-PhilRice hospitality. Forty-eight rooms now feature a flat-screen TV, improved toilet, and air-conditioning.
- Farm operations and machinery facility
The facility's work area was expanded and additional machinery was procured to support our intensified farm operations promoting farm mechanization in the Philippines.



 Specific administrative orders that benefit our personnel – contractor or permanent – were issued.

2010-01	Grant of Performance Incentive for Service Contractors for 2009
2010-02	Management and Operation of the Two-Year Capacity-Building Program under the Implementing Arrangement of the Philippines-Brunei Agricultural Cooperation
2010-03	Integration of the Motorpool to the Administrative Division
2010-06	Guidelines and Standardized Terms of Reference for Administrative Assistants
2010-07	Computation of Interest on Financial Obligations of PhilRice Scholars who Commit Breach of Contract
2010-08	For PhilRice Scholars to Take Up Summer Classes
2010-09	Transferring the IMS Audit Functions to the Internal Audit Unit
2010-10	Delineating Violations from Breach of Scholarship Contracts and Defining Corresponding Sanctions Therefor
2010-11	Centralizing Management of PhilRice Research Laboratories at the CES
2010-12	Adopting the Integrated Management System (IMS) Framework in the PhilRice Branch Stations and Assignment of Responsibilities
2010-13	Guidelines on PhilRice Research and Analytical Services Laboratories (PRASeL) including Terms of Reference of Laboratory Manager and Laboratory Supervisors
2010-14	Expanding the Centralized Management System of PhilRice Laboratories by Including Those in the Branch Stations
2010-15	Guidelines on the DA-PhilRice Farm Equipment Loan for Rice Seed Growers
2010-16	Merger of PhilRice Scientific Career Evaluation and Magna Carta Screening Committees
2010-17	Guidelines, Procedures and Requirements for the Engagement of On-the-Job Training, Special Program for Employment of Students, Student Assistantship, and Advisees of PhilRice Staff
2010-18	R and D Guidelines Aligned with the Standard Requirements of ISO 9001, ISO 14001, and OHSAS 18001
2010-19	Grant of Performance Incentive for PhilRice Staff
2010-20	First Serve, First SDP Policy

 Linkages were strengthened.

PhilRice Trust Funds Received CY 2010

PROJECT TITLE	DONOR	AMOUNT
IRRI Water Savings Workgroup-Seedbed Management and Seedling Effects on Yield and Water Use in Rice	International Rice Research Institute (IRRI)	P 185,399.40
Support Large Seedling Experiment and Other Activities and Extension Materials	IRRI	185,399.40
NCT-Syngenta	Syngenta Phils, Inc	25,000.00
Site-Specific Nutrient Management for Maize in the Philippines	University of the Philippines-Los Baños (UPLB), Laguna	23,840.00
Engineering Rice for High Beta-Carotene, Vitamin E and Enhanced Iron and Zinc Bioavailability	Bill and Melinda Gates Foundation	3,107,138.12
Rice-Based Agribusiness Incubation Services	United Nations Industrial Development Organization	1,246,536.01
NCT-Hi Yield Seeds Corporation	Hi Yield Seeds Corporation	165,000.00
NCT-Seedworks Phils.	Seedworks India	292,500.00
Biotech-PSBMB	Philippine Society of Biochemistry and Molecular Biology/International Service for the Acquisition of Agri-biotech Application	15,000.00
Evaluation of Biological Rodent Control in the Philippines (GTZ)	German Technical Cooperation (GTZ)	229,715.81
Irrigated Rice Research Consortium (IRRC) Phase IV (2009-2012)	IRRI	761,472.21
Integrated Weedy Rice Management and Herbicide Resistance	IRRI	285,585.00
Impact Assessment of the Ginintuang Masaganang Ani (GMA) Rice Program	Department of Agriculture - Regional Field Unit (DA-RFU-) III	775,000.00
Assessment of Rice Plant in the Philippines	PhilRice-IRRI Project	436,423.50
NCT_DevGen Philippines	DevGen Philippines	100,000.00
Workshop on the Development of Training Curricula for the EC-FAO-DA Project on Rainfed Agriculture Development	Food and Agriculture Organization (FAO) of the United Nations	525,965.00
Aurora E-Village Project	Agricultural Training Institute/Development Academy of the Philippines	10,427,954.91
Develop a Network of Field Monitoring Stations Capable of Real-Time Environment and Weather Monitoring that will Communicate Data to a Central Server using Ethernet Connection	Department of Science and Technology-Advanced Science and Technology Institute	117,900.00
Enhancing the Implementation of IPM to Improve Farmer Competiveness, Minimize Environmental Risk and Ensure Food Security and Safety	National Agricultural and Fishery Council (NAFC)	37,246,000.00
Effect of Rice Seed Coating with Pesticides on Golden Apple Snail and Early-Season Defoliators of Rice	Incotec Holding B.V., The Netherlands	435,519.85
Cost of Constructing Five Seed Buffer Stock Storage Facilities as part of Production Support Component of the GMA Rice Program	DA - Office of the Secretary	P 66,109,400.00

PROJECT TITLE	DONOR	AMOUNT
Complete Engineering Design for the Rehabilitation of the Avian Influenza Laboratory	DA - Bureau of Animal Industry(BAI)	P 2,500,000.00
Repair of Different Laboratories, Microbiology, Virology, Parasitology, Molecular Diagnostics, Tissue Culture	DA - BAI	5,000,000.00
Aurora's Organically Grown Aromatic Rice (AURORA RICE)	READ Foundation	2,500,000.00
Rolling Out Techno Gabay Rice Program for Sufficient Food on the Table. Sub-Program 3: S&T-Based Farms on Rice Production in Selected Irrigated and Rainfed Areas	Philippine Council for Agriculture, Forestry, and Natural Resources Research and Development (PCARRD)	3,157,378.00
Breeding Heat-Tolerant Rice	The International Technical Cooperation Center, Rural Development Administration, Republic of Korea	6,744,177.72
Golden Rice Product Development and Deployment	IRRI	1,512,287.47
CocoPal - Coconut Palayamanan Project	Agricultural Cooperative Development International/ Volunteers in Overseas Cooperative Assistance	1,118,214.50
Extraction and Characterization of Rice Bran Oil from Philippine Rice Varieties	DA - BAR, NAFC	1,000,000.00
Efficacy Trial on Natural Ecomax™ on the Growth and Yield of Lowland Rice Varieties	MGM Chemical Industry, Company	192,704.03
Improving Grain yield and NUE of Japonica varieties in the tropics under the Temperate Rice Research Consortium (TRRC)	IRRI	231,487.50
Strengthening the Coordination and Management Capability of the Bureau	DA - BAR	4,000,000.00
GMA Production Support Services Program - Procurement of Combine Harvester Unit to Support the Rice Areas	DA-RFU XIII	750,000.00
Evaluation of Antica for the Management of Bacterial Leaf Blight (BLB) and Tungro Rice	Ahcil Laboratories, Inc.	318,544.00
Construction, Installation and Testing of STWs	FAO	10,545,408.00
Progress Monitoring and Payment System for Small-Scale Irrigation Systems (SSIS) in Central Luzon under GCP/PHI/059/EC Project	FAO	480,000.00
Completing the Procurement of Equipment and Supplies for the Seed Processing and Storage Facilities	DA-RFU IVA & UPLB	1,370,500.00
Consortium for Unfavorable Rainfed Environment	IRRI	92,635.48
Seed Testing and Seed Quality Assurance	GSHD - Training Funds/Bayer Crop Science	70,214.40
Study to Investigate the Effect of Nitrate (NO ₃) and Calcium (Ca ²⁺) on the Yield of Paddy Rice Philippines	Yara Fertilizer Philippines, Inc.	485,204.00
In Support to the Enhancement of Knowledge and Information Sharing under the GCP/PHI/059/EC Project (Component 3)	FAO	385,650.00
TOTAL:		P 165,151,154.31

Our human resource more empowered.

Work Ethics, Moral Enrichment, Accountability, and Integrity Activity (WE MEAN) was one of our major staff development activities, in addition to the regular scholarship and training programs.

WE MEAN focuses on strengthening one's character in work, and toward God, country, fellows, and the environment. Through the activity, 66 percent of the participants said they were able to review, reflect, and resolve to improve their work ethics and commitment to serve; 64 percent expressed that their relationship with God was strengthened and that they experienced spiritual enlightenment; while 61 percent said that they aim to harmonize their relationship with family members, co-workers, and fellows.

The health of our human resource is monitored every month.

Our library increased its collection with additional 4140 knowledge materials, including books, journals, reprints, and newspapers. Its current entries at webcatalog, powered by Destiny Library Manager, already totals 4952.



The institutional values we uphold
steer us in frugally spending the
funds entrusted to us.

Philippine Rice Research Institute

Balance Sheet

December 31, 2010

ASSETS

Current Assets		
Cash	P 585,952,842.65	
Receivables	86,295,214.66	
Inventories	53,370,705.82	
Prepaid Expenses	9,190,420.20	
Other Current Assets	457,373.16	P 735,266,556.49
Non-Current Assets		
Property and Equipment, net	P 677,083,282.91	
Other Assets	5,907,407.34	682,990,690.25
TOTAL ASSETS		P 1,418,257,246.74

LIABILITIES & EQUITY

Current Liabilities		
Payable Accounts	P 70,239,066.13	
Inter-Agency Payables	5,228,820.10	
Other Liability Accounts	547,830,807.37	P 623,298,693.60
Non-Current Liabilities		
Other Deferred Credits		1,700,323.41
Total Liabilities		P 624,999,017.01
Equity		
Government Equity		P 467,101,414.48
Retained Operating Surplus (Deficit)		326,156,815.25
Total Equity		P 793,258,229.73
TOTAL LIABILITIES & EQUITY		P 1,418,257,246.74



Philippine Rice Research Institute

Statement of Income and Expenses

For the Period January 1 to December 31, 2010

Income from Operations		P 465,735,071.85
Less: Expenses		
Personal Services	P 116,040,636.63	
Maintenance and Other		
Operating Expenses	279,690,620.92	
Financial Expenses	38,319.08	395,769,576.63
Income (Loss) from Operations		P 69,965,495.22
Add/Deduct: Other Income/Expenses		
Interest Income	P 8,363,358.74	
Income from Grants & Donations	294,334,548.94	
Gain (Loss) on Disposal of Assets		302,697,907.68
EXCESS OF INCOME OVER EXPENSES (DEFICIT)		P 372,663,402.90

**As prudent users of entrusted funds,
we devise ways on how to lessen
our expenses.**

-  We saved on travel expenses through the central booking system for air travels.
-  Through our charge-back system, P 98,436.95 was generated from the use of conference and training facilities.

2010 PhilRice Savings from Centralized Booking System

1. If booked through Travel Agency

1,213	Persons booked, 2010
x P 300	Service fee of Travel Agency per person
P 363,900.00	Savings

2. Pick-up of Ticket

683	Bookings in 2010 (per request for booking slip)
x P 90	Fare
P 61,470.00	Savings

3. Promo Rates

Depends upon booking for the travel covered of promo period.

Total Savings = P 425,370.00 + promos

[environment]

As we strengthen our Institution, we also care for our environment.

● An additional shed was added to our Waste Material Recovery Facility to properly store residual wastes before these are dumped in an accredited sanitary landfill.

● A melting machine was developed to reduce cost in disposing plastics and polystyrene (styro) forms. These wastes are melted and molded into blocks, which can be used in garden pathways. Since the fabrication of the machine, it has melted about 25 cubic meters of styro, which could have cost about P 25,000 when disposed in the sanitary landfill.



● By practicing proper waste management, the Institute generated additional income:

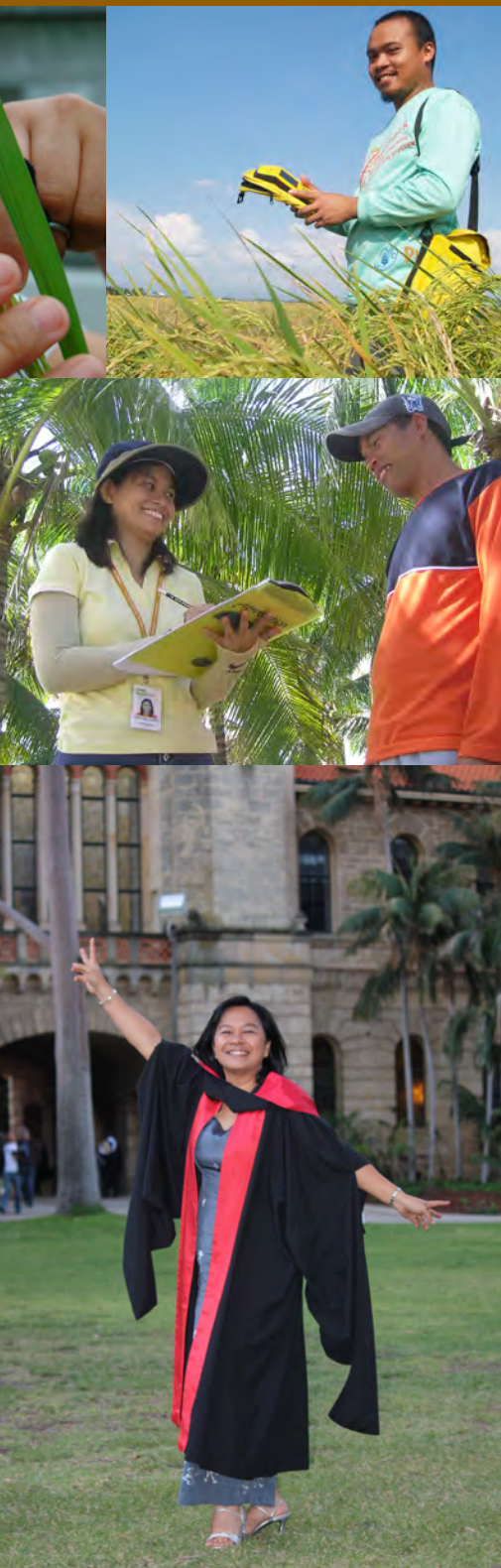
Waste/by-product	2009	2010
Chemical hazardous wastes (empty ink cartridges)	P 11,660	P 40,675
Non-hazardous solid wastes (recyclables)	P 26,916	P 45,381
Organic Fertilizer	P 27,600	P 4,200
Carbonized Rice Hull	P 3,540	P 1,980
Others (EMAS)	P 1,105	P 1,420





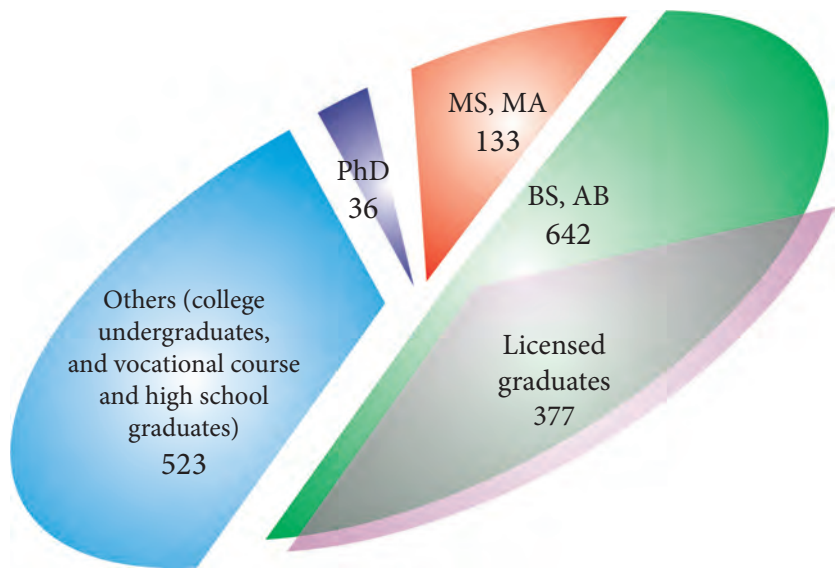
[human resource]

Our staff's passion for aiming high propelled us to be at our **BEST** in this 25th year of service.

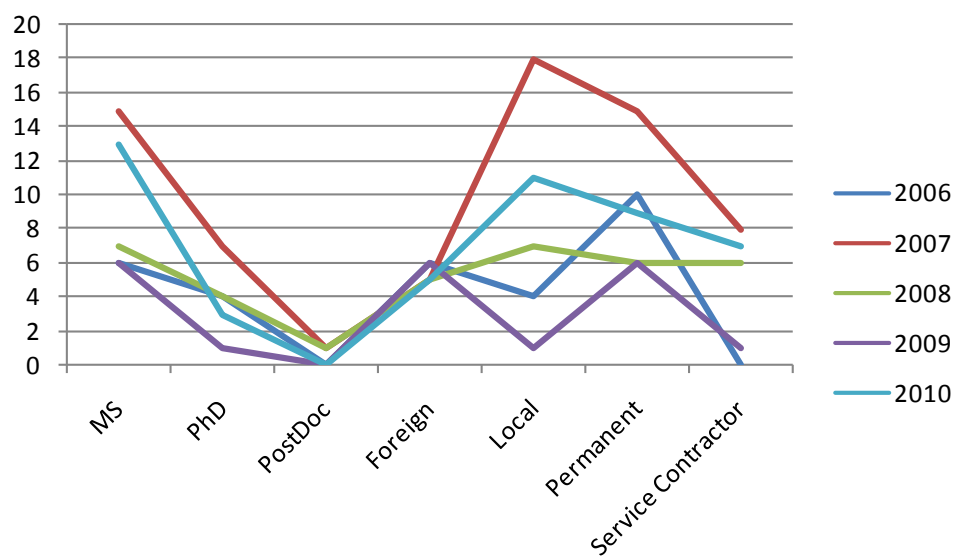


The strong motivation,
the **zealous drive**
for excellence
have **helped**
the Institute to fulfill
its mandate.

 Staff complement



● Fifteen personnel were sent on scholarships; ten scholars are pursuing master's degrees in Philippine universities and colleges, five have availed of foreign-funded graduate studies.



Scholars from 2006 to 2010.

● Our staff and personnel keep us proud with their awards:

AWARDEES	AWARD RECEIVED
Eulito U. Bautista	DOST-NAST Gregorio Y Zara Award for "Outstanding Technology Commercialization Award", July 19, 2010
Christopher C. Cabusora (NVDesamero, HTTicman, FJBGarcia, MVChico, KBergonio, and JBDuldulao)	Best Paper (First Place) Improving grain quality traits of rice through in vitro culture. 7th PAPTCB Scientific Convention, Baguio City, November 22-24, 2010
Bethzaida M. Catudan (NIMartin)	Best Paper (First Place – Socioeconomics Research Category) Market structure, conduct and performance of the inbred rice seed industry in Northwest Luzon 22nd DA-BAR National Research Symposium, October 7-8, 2010
Nenita V. Desamero	CSSP 2010 Achievement Award in Research, March 15-20, 2010
Development Communication Division	Binhi Award - Agricultural Magazine of the Year PhilRice S & T Magazine Binhi Award - Agricultural Radio Program of the Year Palayaralan sa Radyo Philippine Agricultural Journalists, Inc, DA-BSWM Conventional Hall, April 16, 2010
Julie D. Elijay (CAAasis, Jr. and JDGdelaCruz)	Best Poster (Second Place) Carbonized rice hull: an environment-friendly component of Rhizobium inoculant carrier. 13th Philippine Society of Soil Science and Technology, Inc. (PSSST) Annual Meeting and Scientific Conference, Puerto Princesa City, Palawan, May 28, 2010
Gerardo F. Estoy Jr. (AAOrtiz)	Best Paper (Second Place) Influence of organic fertilizers on the incidence of major rice pests and their natural enemies. Regional Competition on Research, Development and Extension, Regional Research, Development and Extension Network, Lianga, Surigao del Sur, January 22, 2010

AWARDEES	AWARD RECEIVED
Gerardo F. Estoy Jr. (ABEstoy)	Best Poster Developing partnerships with stakeholders to accelerate rice technology adaptation: the PhilRice Agusan experience 11th Regional Symposium on Research and Development Highlights (RSRDH), Caraga Consortium for Agriculture, Forestry and Resources, Research and Development, Tandag City, Surigao del Sur, August 11, 2010
Sergio R. Francisco	CSC-DOST Scientific Career System --Scientist I
Eden D. Gagelonia (JEOAbon and MJCRegalado)	Best Poster (First Place – All categories) Improvement of precision seeder for lowland rice seed production PSAE 8th International Conference and 60th Annual Convention, Benguet State University, La Trinidad, Benguet, April 21-23, 2010
Evelyn B. Gergon (JEO Abon)	Best Poster (First Place – Engineering Sciences & Technology) Effects of hermetic storage in the Saclob and Superbag on quality of rice seeds and milled rice of different rice varieties in the Philippines NAST Awarding Ceremonies, Manila, July 15, 2010
Hermenegildo C. Gines, RBuresh, MPampolino, and ELaureles	CGIAR Science Award for Outstanding Scientific Article
Leylani M. Juliano	Marcos R. Vega Memorial Award Weed Science Society of the Philippines, March 9-12, 2010
Victoria C. Lapitan	DOST-NAST Eduardo A. Quisumbing Medal for “Outstanding Research and Development Award for Basic Research”, July 19, 2010
Syra D. Manalo (GANemeno, HAYonson, HAJimenez, RSParejo, HMTato, ATMontecalvo, NCEsmero, and RBMiranda)	Best Paper (Development Category) Increasing rice productivity and profitability through location-specific technology development (LSTD) in Caraga Region 11th Regional Symposium on Research and Development Highlights (RSRDH) Caraga Consortium for Agriculture, Forestry and Resources, Research and Development, Tandag City, Surigao del Sur, August 11, 2010
Norvie L. Manigbas, et al.	Best Poster (Second Place) Overexpression of AtNDPKZ gene on transgenic rice against various abiotic stresses 7th PAPTCB Scientific Convention, Baguio City, November 22-24, 2010
Marc Jim M. Mariano	Best Master's Research Award 2010 Australian Agricultural and Resource Economics Society
Open Academy for Philippine Agriculture (OpAPA)	2010 AGFUND (Arab Gulf Fund for Development) International Prize, Third World Category
Stoix Nebin Pascua (RGZagado, ORMAsis, OCDomingo, JSMaloles)	Best Paper Award for Extension and Education Enhancing Knowledge Networking through Short Messaging Service: The Farmers' Text Center Experience 40th Conference, Crop Science Society of the Philippines, Davao City, March 17-19, 2010



AWARDEES	AWARD RECEIVED
Manuel Jose C. Regalado (ASJuliano, LBMolinawe, JARamos, and GCBermudez)	Best Paper (Third Place) Development and Commercialization of the PhilRice Laboy tiller for deep mud rice areas of Central Luzon 21st Regional Symposium on Research and Development Highlights, CLARRDEC, Bulacan Agricultural State College, San Ildefonso, August 13, 2010
Marissa V. Romero	The Outstanding Women in the Nation's Service (Science and Technology), Oct. 19, 2010
Roel R. Suralta	Best Paper (Third Place – Senior Category) Plastic root system development responses to drought enhance water and N uptake during progressive soil drying conditions in rice 13th Philippine Society of Soil Science and Technology, Inc. (PSSST) Annual Meeting and Scientific Conference, Puerto Princesa City, Palawan, May 28, 2010
Belen M. Tabudlong (GFEstoy Jr., FLVarquez, ABEstoy)	Best Paper (First Place) Nutrient levels in relation to incidence and severity of major rice pests and natural enemies 11th Regional Symposium on Research and Development Highlights (RSRDH), CCARD, Tandag City, Surigao del Sur, August 11, 2010
Belen M. Tabudlong (ABEstoy and GFEstoy Jr.)	Best Poster Efficacy of microbial agents and synthetic insecticides in the control of rice white stemborer, <i>Scirpophaga innotata</i> Walker 41st Anniversary and Annual Scientific Conference of the Pest Management Council of the Philippines, Davao City, March 9-12, 2010
	Best Paper (First Place) Nutrient levels in relation to incidence and severity of major rice pests and natural enemies 11th Regional Symposium on Research and Development Highlights (RSRDH), CCARD, Tandag City, Surigao del Sur, August 11, 2010

[intellectual property]

 Our Intellectual Property portfolio attests to our productivity:

- **Royalties**

About P 3.5M was generated as new source of R&D money and incentives for researchers.

- **Patents / utility models / industrial designs**

We have nine pending patent applications. Patent applications for the Seed Treating Machine and Portable Floating Pump were granted until 2024 and 2025, respectively.

- **Plant variety protection**

TGMS varieties – PRUP 7 (Mestiso 19) and PRUP 9 (Mestiso 20) – underwent 2 seasons of distinctness, uniformity, and stability testing.

New applications were submitted for Mestiso 16 and 17 and their respective female parents. Another application was filed for the restorer line for Mestiso 16.

- **Copyright**

Twenty-three knowledge products were deposited at the National Library and were given with Certificate of Copyright Registration and Deposit.

- **Researches published in journals**

A total of 23 articles were published. Of the 11 published papers with PhilRice researchers as first authors, nine papers came out in ISI journals. For the 12 published papers with PhilRice researchers as joint authors, eight were printed in ISI journals. These were also cited by other researchers.

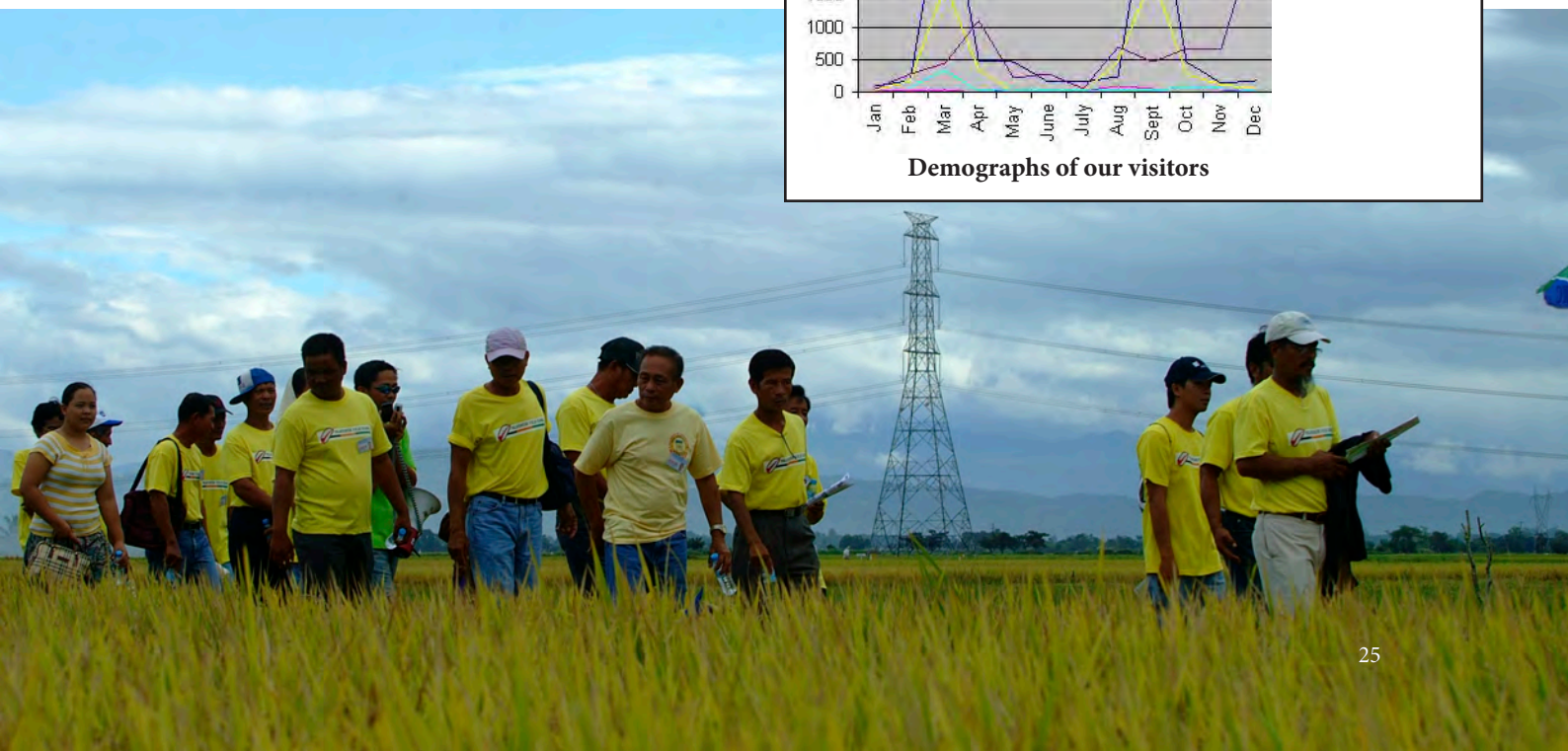
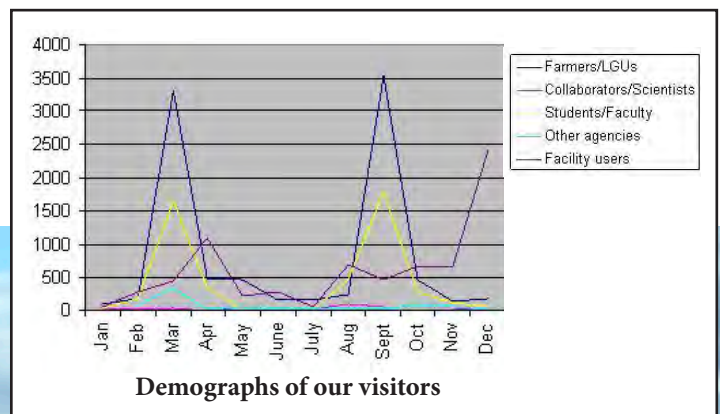
[visitors]

Our good name upheld by our accomplishments and awards keeps the visitors coming

A total of 15,637 people visited us from January-December, averaging 1303 persons a month. About half of our visitors (46 percent) are farmers and from the local government units across the country.

Among others, our international visitors included:

- Rotary International Group Study Exchange, Australia
- Mr. Takei Shunsuke, Miyazaki Japan Prefectural Assembly
- Agricultural Engineering students of École Supérieure d'Ingénieurs et de Techniciens pour l'Agriculture, France
- Dr. Woon-Goo Ha, Senior Scientist, Multilateral Cooperative Team, ZTCC, RDA, Korea
- Rajamangala University of Technology, Thailand
- Coordinator Denise Euclides and Deputy Director Alexander Pontes, Ministry of Agriculture, Brazil
- Edwin Manalo, Commercial Officer, Embassy of Brazil
- Ghulam Muhammad Mahar, Director General, Livestock & Fisheries Department Government of Sindh, Pakistan
- Officials from Agriculture Research and Extension, Taiwan
- Officials from Asian Institute of Developmental Studies, Inc, Bangladesh
- Mr. Olufemi Odeyemi, National Food Reserve Agency, Nigeria
- Mr. Mark McHenry, Murdoch University, Australia
- Dr. Baki Hj Bakar and Dr. Johari Saad of Institute of Biological Sciences, Kuala Lumpur, Malaysia



[advocacy]

Our initiatives are for rice self-sufficiency. But to nail this goal, we also need your help. Be a “Rice Saver” and, together, we could regain the old glory of having enough rice for every Filipino.

For this year’s National Rice Awareness Month, we focused on the *Save Rice, Save Lives* Movement through following activities:

- The *weRICE* fora that gathered students across the country to commit themselves to conserve rice. About 7,000 from Mariano Marcos State University, Batac City, Ilocos Norte; Central Luzon State University, Science City of Munoz, Nueva Ecija; Bicol University, Legaspi City, Albay; University of the Philippines, Los Baños, Laguna; Visayas State University, Baybay City, Leyte; and University of Southern Mindanao, Kabacan, North Cotabato, recited the *Save Rice, Save Lives* pledge;



- The *Run 4Ur RICE*, a save rice, save lives fun run, that was joined by more than 1,500 runners. It served as venue for these runners to also commit themselves to conserve rice.



The Save Rice, Save Lives Pledge *I commit myself to helping conserve rice*

I will discourage and avoid drying of palay on roads.
I will promote and practice the sowing of just the right amount of seeds
I will safely store and clean grains to drive away pests.

I will not cook more rice than what my family and I can eat.
I will not undercook or burn rice.
I will recycle leftover rice into other dishes.
I will consider ordering rice that I can only consume
I will also eat equally nutritious foods as substitute to rice

I will always find ways to save every grain of rice to help my country achieve rice self-sufficiency.

I will keep this pledge in my heart and soul at all times, for with the rice I save, I save lives.

[staff]

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Eulito U. Bautista, Chief Sci Res Spec (Scientist 3),
until April 18, 2010
Gabriel O. Romero, Chief Sci Res Spec (Scientist I),
April 19, 2010 to July 31, 2010
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August 1, 2010 - present
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Consolacion D. Diaz, Information Tech Officer I
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Department of Agriculture

Philippine Rice Research Institute

We are a government corporate entity attached to the Department of Agriculture. We were created through Executive Order 1061 on 5 November 1985 (as amended) to help develop high-yielding and cost-reducing technologies so farmers can produce enough rice for all Filipinos.

We accomplish this mission through research, development work in our central and six branch stations coordinating with a network that comprises 57 agencies and 70 seed centers strategically located nationwide.

To help farmers achieve holistic development, we will pursue the following goals in 2010-2020: attaining and sustaining rice self-sufficiency; reducing poverty and malnutrition; and achieving competitiveness through agricultural science and technology.

We have the following certifications: ISO 9001:2008 (Quality Management), ISO 14001:2004 (Environmental Management), and OHSAS 18001:2007 (Occupational Health and Safety Assessment Series).

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