



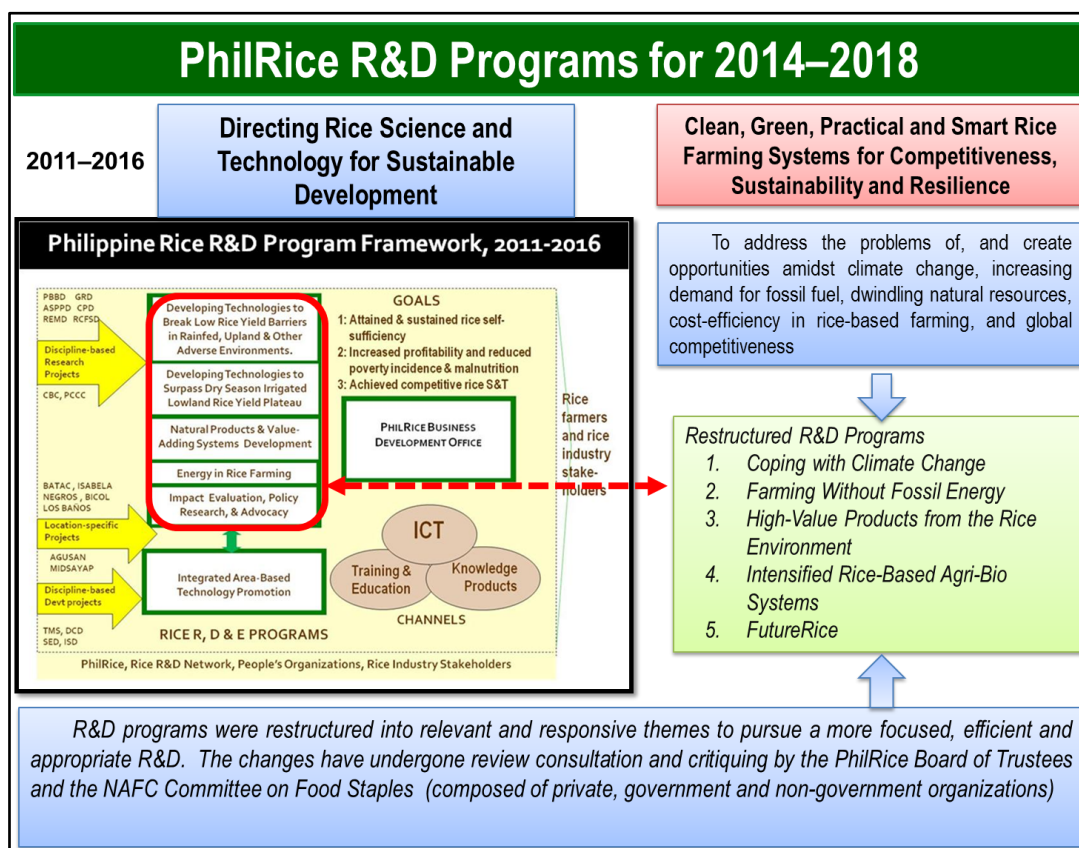
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Department of Agriculture  
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## HIGHLIGHTS OF ACCOMPLISHMENTS, 2013

To pursue a more focused, efficient, and appropriate R&D efforts, PhilRice has developed its Strategic Plan for 2010–2020 with three main goals: (1) help in attaining national rice self-sufficiency by 2013 and in sustaining it in 2014 and beyond; (2) contribute in reducing the incidence of poverty and malnutrition; and (3) achieving competitiveness in rice science and technology. These goals are aligned with the Philippine Food Staples Sufficiency Program (FSSP, 2011-2016), the UN Millennium Development Goals, Philippine Development Plan (PDP), the Agriculture and Fishery Modernization Act (AFMA), and initiatives of civil society organizations (CSOs).

To achieve these goals, major programs and projects for 2011–2016 were conceptualized and developed in 2010, and implemented in 2011. After an R&D review in December 2012, the programs were recast into relevant and responsive themes, which have undergone review, consultation and critiquing during the PhilRice Board of Trustees meeting on March 4, 2013 and the quarterly meeting of the NAFC Sub-Committee on Cereals (composed of various private, government and non-government organizations in the rice and corn sub-sector) on March 15, 2013. The recast programs was partially implemented in 2013 and was fully implemented starting 2014:



## A. MAJOR FINAL OUTPUTS (MFOs)/OPERATIONS

### I. Research Programs and Projects Implemented

R&D projects were implemented nationwide in partnership with DA research centers, state colleges and universities, government and non-government organizations.

Programs/Projects	No. of Projects	
	2012	2013
<b>R&amp;D Programs</b>	<b>18</b>	<b>25</b>
Developing Technologies to Break the Low Rice Yield Barriers in Rainfed, Upland, & Other Adverse Environments	5	5
Developing Technologies to Surpass the Dry Season Irrigated Lowland Rice Yield Plateau	4	3
Natural Products and Value-Adding Systems Development Program <sup>a</sup>	5	5
Impact Evaluation, Policy Research and Advocacy Program <sup>a</sup>	4	4
Energy in Rice Farming/Farming without Fossil <sup>b</sup>	-	5
High Value Products from Rice and Its Environment <sup>b</sup>	-	3
<b>Discipline-Based Projects</b>	<b>26</b>	<b>33</b>
Plant Breeding and Biotechnology Division (PBBDD)	1	2
Genetic Resources Division (GRD)	4	4
Agronomy, Soils, and Plant Physiology Division (ASPPD)	4	4
Crop Protection Division (CPD)	4	5
Rice Chemistry and Food Science Division (RCFSD)	2	2
Rice Engineering and Mechanization Division (REMD)	3	3
Socioeconomics Division (SED)	1	4
Development Communication Division (DCD)	2	2
Technology Management and Services Division (TMSD)	3	4
Information Systems Division (ISD)	2	2
<b>Specialized Rice R&amp;D Projects</b>	<b>7</b>	<b>7</b>
Crops Biotechnology Center (CBC)	3	3
PhilRice Climate Change Center (PCCC)	4	5

Programs/Projects	No. of Projects	
	2012	2013
<b>Area-based R&amp;D Projects</b>	<b>27</b>	<b>23</b>
PhilRice Batac	5	4
PhilRice Isabela	5	2
PhilRice Los Baños	5	4
PhilRice Negros	8	6
PhilRice Agusan/PhilRice Midsayap (R&D for Mindanao)	4	7
<b>PhilRice-UPLB</b>	<b>9</b>	<b>9</b>
Sustainable Development and Utilization of Resources Program for Rice-based Agro-ecosystems (SURPRESA)	9	9
<b>TOTAL</b>	<b>87</b>	<b>97</b>

<sup>a</sup> Projects completed in June 2013

<sup>b</sup> Projects started in July 2013

## II. Varieties developed for commercial production

For 2013, fourteen new inbred and seven new hybrid varieties were approved by the National Seed Industry Council (NSIC) for commercial cultivation in irrigated lowland conditions.

Ecosystem	NSIC Name	Local Name	Ave. Yield (t/ha)	Maturity (DAS)	Plant Height (cm)
<b>Irrigated Lowland (Inbred)</b>	NSIC 2013 Rc308	Tubigan 26	5.5	105	94
<b>Irrigated Lowland (Hybrid)</b>	NSIC 2013 Rc310H	Mestiso 44	5.7	112	103
	NSIC 2013 Rc312H	Mestiso 45	5.7	115	102
	NSIC 2013 Rc314H	Mestiso 46	5.8	118	110
	NSIC 2013 Rc316H	Mestiso 47	5.9	110	99
	NSIC 2013 Rc318H	Mestiso 48	6.2	110	109
	NSIC 2013 Rc320H	Mestiso 49	5.7	108	99
	NSIC 2013 Rc322H	Mestiso 50	5.8	115	109
<b>Saline</b>	NSIC 2013 Rc324	Salinas 10	2.4	113	91
	NSIC 2013 Rc326	Salinas 11	2.4	115	91
	NSIC 2013 Rc328	Salinas 12	2.4	113	95
	NSIC 2013 Rc330	Salinas 13	2.6	93	14
	NSIC 2013 Rc332	Salinas 14	2.3	113	88
	NSIC 2013 Rc334	Salinas 15	2.4	115	95
	NSIC 2013 Rc336	Salinas 16	3.0	115	91
	NSIC 2013 Rc338	Salinas 17	2.4	114	94
	NSIC 2013 Rc340	Salinas 18	2.5	113	93
<b>Special Purpose</b>	NSIC 2013 Rc342SR	Mabango 4	4.3	114	103
	NSIC 2013 Rc344SR	Mabango 5	5.2	118	102
<b>Rainfed Dry Seeded</b>	NSIC 2013 Rc346	Sahod Ulan 11	3.3	105	97
	NSIC 2013 Rc348	Sahod Ulan 12	3.0	103	119

### III. Integrated/Crop Management Options

Management Options	Importance	Accomplishments
<b>Decision aids for PalayCheck System: Plant Potassium</b>	Develop decision support options for micronutrient managements	Results confirmed that K levels ranged from very low to medium, with OM content of medium to adequate, and pH ranged from 4.8-5.7 (acidic).
<b>Nutrient management protocol for the unfavorable rainfed rice ecosystem.</b>	Develop nutrient management options for favorable and drought-prone rice ecosystems	Split application of granulated fertilizers had significantly higher N uptake efficiency, which also resulted in yield increase
<b>Biological control agents against rice stem borer</b>	Develop natural control against for important seed-borne pathogens causing diseases in rice	Collaborative work with DA-RCPC Reg. 10 in Malaybalay City produced and released a parasitoid against WSB in the field.

### IV. Major machines and systems developed/improved for increasing efficiency in production through labor saving, alternative/ renewable source of energy

Machines	Importance	Accomplishments
Windmill water pump system	Alleviate problems on high oil-based product prices	Windmills were designed and constructed in Luzon area namely in Los Baños; Tagumbao and Magaspac, Tarlac; and San Isidro, Tiaong, Quezon
Ride-on stripper/harvester	Develop versatile and efficient harvesting machine that can operate better in soft muddy fields	New designs of wheels and under chassis components
Mini-combine harvester	Solve the growing problem of labor scarcity and provide solution to reduce grain and post harvest losses in the field	Improved design of the harvested with the redesigned pick-up reel to improved feeding of crops into the header was finalized

A bioethanol distillation plant that	Produce 95% hydrous ethanol from nipa and other plants as feedstock	Improvement on the fermentation of nipa sap was done and 10% alcohol can be obtained from the experiment using anaerobic plastic container with starter culture. Crude bioethanol distiller was already tested at Infanta, Quezon. Final prototype model is now on fabrication stage and soon be tested. Collapsible shed is being fabricated and revision for the distilling plant including the fabrication of distilling column to produce 95% hydrous bioethanol is about to commence
Flexi fuel engines	Retrofitt engines using direct-injection technique that can start a gasoline engine using hydrous ethanol (90-95%)	Retrofitting of 3 commercially-available spark-ignition engines was completed. Testing on farm machines will commence once hydrous bioethanol from nipa sap is available.
Rice husk gasification system	Develop a continuous flow rice husk gasifier as heat source for mechanical drying of palay	Fabrication is ongoing, most of the parts were already fabricated (hopper, gas/char chamber, outer wall of reactor)
Development of a cost-efficient system of biodiesel production	Develop an efficient system for processing waste cooking oil to biodiesel	Establishment of a biodiesel production area is 80% complete; protocol for the processing of low quality used cooking oil to biodiesel and by-product is being drafted
Water-harvesting systems for small farms	Integrates rainwater-harvesting and soil conservation features	Distribution design of the harvested water was developed.
Water-harvesting structures	Minimize losses to increase the storage efficiency of SFR	Mixture of carabao manure and clay performed better than plastic and rice hay (evaporation loss was reduced by 39% using shade net; 66% using net as wind barrier; and 36% using chemical evapo-suppressant)

## **V. Impact and policy research**

Impact evaluation, policy research, and advocacy measure the impacts of R&D on rice yield, farmers' income, and nutritional status of rice-based farming households to inform policymakers and donors, and help secure financial support for future R&D activities. Patterns and constraints to adoption, and social acceptability of rice R&D products are also analyzed. This provides feedbacks to R&D managers, scientists, and researchers toward improving technology development. With this information, PhilRice is in a better position to recommend appropriate policy actions toward the achievement of rice self-sufficiency, poverty alleviation, and improvement of the nutrition status of the population.

*Benchmarking the Philippine Rice Economy Relative to Rice Producing Countries in Asia.* The project aims to assess the competitiveness of the Philippines relative to other rice producing countries in Asia. For the Philippines, wherein food security is intricately related to rice self-sufficiency, benchmarking its level of competitiveness vis-à-vis rice producing nations in Asia is a must when crafting rice policies. On December 12-13, 2013, the first research seminar was conducted to present the initial results of the project.

*Policy Seminar-Workshop on “Palay, Bigas, Kanin: Managing Demand Towards Sufficiency” on November 13, 2013.* In support to the National Year of Rice declaration in 2013, the Socioeconomics Division spearheaded the policy seminar-workshop, which focuses on rice utilization as an essential factor in sustaining and attaining rice self-sufficiency. This is significant since most of rice sufficiency interventions are centered on production strategies. The seminar-workshop presented various studies and provided in-depth discussion on rice supply and demand, per capita consumption, table wastage, postharvest losses, seed use, and rice exports and imports.

*Socioeconomic Results of the “Palayabangan: The 10-5 Challenge”.* The study aims to document cost and returns of the project, “Palayabangan: The 10-5 Challenge.” The results assessed if producing 10 tons at 5-peso cost per kilogram is attainable. Data and information on this PhilRice-initiated contest are crucial when packaging technologies that would increase rice productivity and profitability.

## VI. Trainings, Briefings, and other techno-promo strategies

**The National Year of Rice 2013.** The NYR 2013 is a social marketing and advocacy campaign that primarily aims to inform and involve everyone in the country's quest to be rice-self-sufficient. Along with that, it also aims to promote better health among rice consumers, and improve the income of farmers. The campaign has three sub-campaigns: one for the producers, one for the consumers, and one for policy-makers. For the farmers, it aims to promote RICEponsibility by boosting their morale, and encouraging them to use efficient technologies and access rice information. For the consumers, it aims to minimize wastage, to promote eating of brown rice and rice mixed with other staples; and increases the appreciation for our farmers. Finally, for the policy-makers, it aims to encourage an ordinance requiring the serving of half cup of rice and making it the default serving for plated meals, create a resolution to serve healthier rice options, and implement more stringent rules for those offering eat-all-you-can or rice-all-you-can. Below are the highlights of the program:

### 1. Consumer campaign

- Conducted 3 major island launchings, more 20 regional and provincial launchings
- Orchestrated the simultaneous recitation of the Panatang Makapalay
- Instituted the healthier rice challenge for different regions
- Partnered with Megaworld Lifestyle Malls in the conduct of the rice festival last July 26-28 at the Eastwood Mall.
- Sponsored the policy forum titled Palay, Bigas, Kanin: Managing Demand toward sufficiency on November 13, 2013. This was attended by around 80 people from different agencies, bureaus, and policy-making bodies
- Instituted the brown rice day on November 15, 2013 and rice mix day on November 22, 2013. This was in participation of different Municipalities/cities (i.e. Manadaluyong and Pampanga) that declared November 15 as brown rice day and encouraged food establishments under their jurisdiction to serve brown rice during the said day; different school canteens; and more than 60 food establishments from the Hotel and Restaurant Association of the Philippines, 10 from Robinsons Dumaguete, and 9 from Megaworld Lifestyle Malls
- Conducted the ceremonial harvesting on November 22, 2013 that also served as the launching of Jasmin Curtis as rice ambassadress
- Conducted the run for run in NCR and orchestrated the run for rice in other 12 regions of the Philippines. This was conducted on November 24, 2013.
- Conducted the CelebRICE: A RICEponsable ako fun fair at the Trinoma activity center on December 10, 2013. This featured the exhibit of the accomplishments of the different DA-RFUs; the cooking demo conducted by CCA Chef Tristan Encarnacion; and a free concert by 6 Cyclemind, Banda ni Kleggy, Kitchie Nadal, Moonstar 88, Christine Barccini, Ebe Dancel, and Never the Strangers to encourage the youth and inform them on ways on how they can be RICEponsible
- Conducted the CelebRICE: A thanksgiving dinner at the Hyatt Regency Hotel and Casino last December 17, 2013 where partners were awarded with the framed commemorative bills as token of gratitude and were asked to renew their commitment to the offshoot campaign of the NYR to be dubbed as the Be RICEponsible campaign
- Set-up/installed exhibits in Mind Museum, GSIS museum, and National Museum
- Promoted the campaign messages through festivals, TV, radio, billboards, and tarpaulins displayed in airports, seaports, and tunnels.



## 2. Producer campaign

- Held the commitment signing with hybrid companies during the 1<sup>st</sup> National Hybrid Rice Congress on April 3-5 at the PhilRice Central Experiment Station
- Promoted the campaign messages to farmers during different field days, trainings, exhibits, and farmers' forums

## 3. Policy-maker campaign

- Petitioned the institutionalization of the half cup of rice serving in La Union and Aklan
- Inspired different senators and congress representatives to submit bills regarding responsible rice consumption (Sen. Marcos: SBI 1863: Anti rice wastage act; Rep. Guanlao and Rep. Mendoza, Rep. Villarica; and Sen. Legarda: House Bill 3445: Serving of brown rice)
- Petitioned the support of 130 other vice mayors on the institutionalization of the serving of half cup of rice and brown rice, among others

## 4. Major Accomplishment

- Gathered the participation of almost all government agencies through the display of NYR tarpaulin, wearing of NYR uniform, and recitation of the panatang makapalay (43,742 LGU offices; 45,000 schools).
- Forged the support of around 150 other organizations
- Forged partnership with around 150 organizations, including government, non-government, and private companies. These organizations supported the campaign by conducting events to further promote its advocacies or promoted the campaign messages through different media
- Saved around PhP35M through free media mileage
- Reached around 50M Filipinos for a year with just around PhP10M

**Training activities.** Among other technology promotion strategies, PhilRice commonly uses training to develop the skills and enhance the capacities of its partners in the field. Through training, the adoption of rice and rice-based production technologies by farmers is enhanced. Training complements other promotion strategies and it reinforces learning. Over the years, PhilRice had proven the usefulness of training particularly to those that need some degree of specialization, accuracy, and precision.

For the year 2013, customized training courses including field days and were packaged and were implemented in close coordination and partnership with other divisions and stations.

### Training activities conducted, 2013

Course Title	Date	No. of Participants
1. Training Course on Farm Machinery Operations and Safety for Young Farmers	Mar. 3-9	14
2. Rice S&T Update cum Lakbay Aral at PhilRice for Farmer Beneficiaries of Universal Harvester Inc. (3 Batches)	May, June, Sept.	341
3. Specialized Training Course on Farm Machinery Operations cum PalayCheck System for PhilRice Staff Members	Jan 21-Apr 9	20
4. Training Course on PalayCheck System for DuPont Technical Staffers (2 Batches)	May	53
5. Rice S&T Updates for Farmer-Facilitators and AEWs (11 Batches)	Apr – Sept.	20
6. Specialized Training Course on Rice Production for Farmer Extension Workers of ARMM	Feb. 11-12	130
7. Appreciation course on rice-based farming system (2 Batches)	Nov. 25-27	60
8. Rice S&T Updates for Farmers and Agriculture Extension Workers (15 Batches)	Feb.-May	1,276
9. TOT on Palayamanan system for farmer facilitators (2 Batches)	Sept.	41
<b>TOTAL</b>		<b>1,961</b>

### Field Days conducted, 2013

Location	No. of Fielddays	No. of Participants
PhilRice CES	2	5,408
PhilRice Batac	13	1,702
PhilRice Isabela	1	800
PhilRice Los Baños	1	700
PhilRice Negros	1	464
PhilRice Agusan	5	1,063
PhilRice Midsayap	7	556
<b>Total</b>	<b>30</b>	<b>10,693</b>

**Information, Education, and Communication materials.** Primarily intended for extension workers and rice specialists, print and video materials were produced to increase awareness and knowledge on technologies generated by the Institute. Below is the list of materials published by PhilRice in 2013.

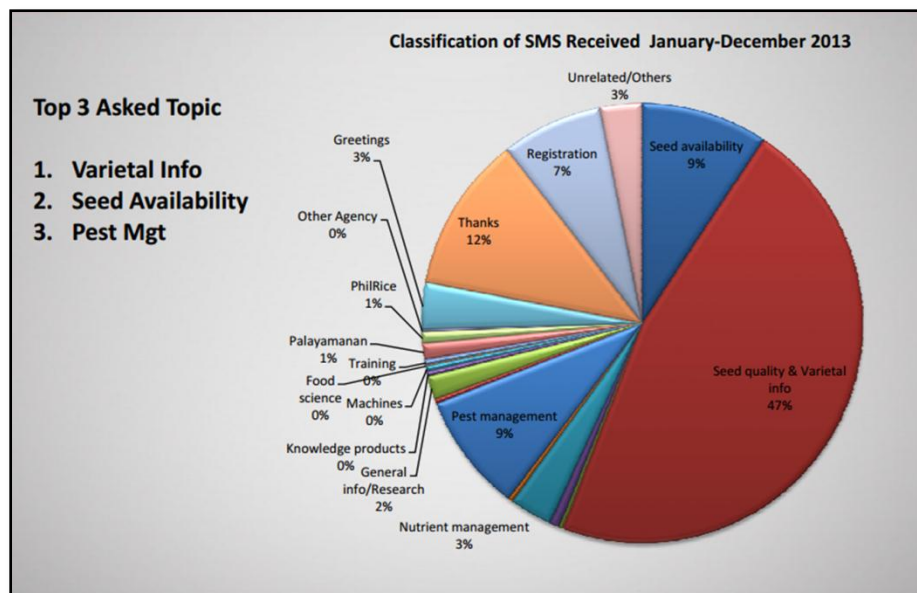
<b>Title</b>	<b>Number of Issues</b>
<b>Technology Bulletins</b>	<b>2</b>
Rice husk stove	
Hybrid	
<b>R&amp;D Highlights</b>	<b>1</b>
2012 R&D Highlights	
<b>Q &amp; A</b>	<b>2</b>
Golden Rice	
Hybrid	
<b>Books/Manuals/Posters/Proceedings/Brochures</b>	<b>5</b>
Gabby Ghas (bicolano)	
RS4DM on cartel	
Book on birds (draft)	
Book on breeding (draft)	
PalayTips	
<b>PhilRice S&amp;T Magazine</b>	<b>4</b>
Eat Smart Live Smart (v26, no.1)	
Green and smart engineering (v26, no.2)	
Bahay kubo 2.0 (v26, no.3)	
The struggle for childrens dreams (v26, no. 4)	
<b>Video productions:</b>	<b>3</b>
PhilRice AVP for general public (rev ed; 4min 30sec)	1
PhilRice-KOPIA Project (5min 15sec)	1
PhilRice AVP for farmers (prototype copy)	1
<b>Brochures, flyers, handouts:</b>	<b>3</b>
Pinoy rice knowledge bank	
Text Center	
Golden rice and varieties	
<b>Media releases (ave of 6/mo uploaded to the web; 3-5/mo taken up by media organizations)</b>	



**Farmers Text Center.** A total of 60,425 messages were received from January to December 2013 with an average of 5,035 messages per month, up by 12% from 54,184 messages in 2012. Text messages also showed that pests and diseases were prevalent during the rainy season with brown planthopper, armyworm, and bacterial blight. October and November received numerous SMS also, as farmers asked what rice varieties to plant next. Top three most asked questions were on varieties and seeds, and on pest and nutrient management.

Jan to December 2013 PTC Fast Facts

Total Registered Clients : **15,283**  
 Total Received SMS : **60,425**  
 SMS Received/Month : **5,035**  
 SMS Received/Day : **213**  
 Total Active Texters : **26,321**  
 Active Texters/day : **105**  
 Total Keywords : **1,040**



## B. SUPPORT TO OPERATIONS

### I. External Audit Results (Re-assessment Audit March 6-8, 2013)

<b>1. AUDIT SUMMARY</b>
<ul style="list-style-type: none"><li>PhilRice current activities reflected in its integrated management system (IMS) documentation was verified to reflect actual activities and processes consistent with and supporting the certified scope. PhilRice access and compliance to applicable legal requirements was verified</li><li>PhilRice IMS documentation was confirmed to be adequate and meeting the requirements of the three (3) standards. It's Vision/Mission, QESH integrated policy, objectives, targets and programs (OTPs), also known as Profile and Performance Indicators (PPIs) were verified to be well established. The effectiveness of links between the standards, PhilRice responsibilities and authorities, personnel competence, operations, proceduces and performance results, including internal audit findings and conclusions was verified across PhilRice to be effective.</li><li>Strong top management commitment to its vision/mission, QESH objectives and organizational strategies for its rolling 5-year development programs was verified in the course of the audit of PhilRice's top management led by the Executive Director, Dr, Eufemio T. Rasco Jr. PhilRice also initiated the approval of a law proclaiming 2013 as year of the rice</li></ul>
<b>2. MANAGEMENT SYSTEMS STATUS AND PERFORMANCE</b>
PhilRice Corporte Strategic Plan was verified to have been monitored through the performance indicators it has established. Generally, the Specified corporate, divisional and program objectives were achieved. An external study confirmed PhilRice's sterling initiatives over the years. It also initiated the 2013 as the year of the rice.
<b>3. MEETING REQUIREMENTS</b>
PhilRice's IMS was verified to be effective in meeting its objectives, legal compliance and implementing operational controls. Quarterly, semi-annual reviews were carried our across PhilRice. This included the verification and closure of all seven (7) previous non-conformoties reported by CIP auditors in May 2012.
<b>4. INTERNAL AUDITING, MANAGEMENT REVIEW, CORRECTIVE AND PREVENTIVE ACTION AND CUSTOMER COMPLAINTS</b>
The internal audit planning, implementation and reporting was reviewed. Findings were summarized as OIs, mNCs and MNCs. As summary of number of findings were reported to top management for their reference during management review. Actions to address OIS and NCs were carried out in varying degrees of timely implementation, completion and closure. Many PY (Previous Year) OIs and NCs were observed to be still not fully addressed and remained open. Management reviews wer carried out by the top management at specified intervals, and is called RD and Operations Committee (RDOC) meeting. Records of minutes of the meeting were controlled. The monitoring of customer feedback was verified, 90% of these were from internal customers.