

PHILIPPINE RICE R&D HIGHLIGHTS 2012

**Development Communication
Division**



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DEVELOPMENT COMMUNICATION DIVISION

Division Head: Karen Eloisa T. Barroga

Executive Summary

As an R&D organization, PhilRice generates large amounts of information and knowledge on rice and rice-based farming systems that must be communicated to its various stakeholders so that they could respond successfully to opportunities and challenges. The Development Communication Division contributes largely to this institutional mandate through the strategic and innovative uses of communication *for* and *about* development interventions and results. Specifically, the Division manages and shares these information and knowledge, and studies communication processes and strategies in development interventions to facilitate learning, foster innovations, and inform decision-making.

Key accomplishments/outputs of the Division this year include the following: (1) a list of recommendations to enhance knowledge sharing and learning (KSL) based on research studies conducted; (2) new features and contents of the PinoyRice Knowledge Bank and the PhilRice Text Center, and other communication resource bases to help improve access to and sharing of rice science information and knowledge; and (3) Presidential Proclamation No. 494 declaring 2013 as National Year of Rice, which was based largely on a proposal developed by the Division.

From four studies, the Division's research activities increased to more than 20 this year, resulting in better understanding of KSL processes and practices, and an initial list of recommendations on how to enhance KSL. Several mechanisms were explored and field-tested to improve KSL. Tapping the youth as their farmer-parents' infomediaries is showing strong promise as an alternative or complementary pathway to share rice information and knowledge.

With the conclusion of the PhilRice-led Open Academy for Philippine Agriculture (OpAPA) program in 2011, the PinoyRice Knowledge Bank and the PhilRice Text Center – two of OpAPA's successful ICT-based modalities – were made regular activities of the Division this year. New features were added to these resources to further promote their use and make them more relevant to users. Translated versions of the PalayCheck module and new sets of information were uploaded to the PinoyRice

Knowledge Bank, doubling its content. An offline version has also been made available to increase access. For the PhilRice Text Center, new keywords have been added, which probably helped increase monthly average text messages received by more than a thousand.

Before 2012 ended, President Benigno S. Aquino III proclaimed 2013 as the National Year of Rice (NYR) to advocate for responsible rice consumption for better health and less rice wastage, and for productive farming through the use of efficient rice technologies and inspiring farmers to do better. Island-wide launching activities, with some 30,000 people in attendance, were held to celebrate the proclamation and explain the NYR advocacies.

I. Promoting Rice Science for Development

Co-project Leaders: AMJ Eligio/AB Lanuza, KET Barroga

This project is vital for greater appreciation, access, understanding, and use of information and knowledge on rice S&T, including a favorable perception of PhilRice as a research and development organization. This is where strategic and innovative uses of communication are applied to inform decisions of rice stakeholders and report how research findings are being used by PhilRice in its development interventions and what the outcomes are.

Development and production of knowledge products

AMJ Eligio, AB Lanuza, KET Barroga, CLB Gado, HHM Biag, CT Briones, ELT Bestil, SP Razon, AFT Caballero, CG Dacumos, CA Frediles, MM Prado, MET Lozano, JA Manalo IV, and MG Layaoen

This activity aimed to develop and produce knowledge products in various formats that are appropriate to the needs of different rice stakeholders, thus enable them to understand and appreciate the benefits of rice science for development.

Highlights:

- Four issues of the *PhilRice* magazine were published. The themes for 2012 were: Energy in Rice Farming (combined 1st & 2nd quarter issues; 5,000 copies); Public-Private Sector Partnership (3,000 copies); and ICT in Rice Farming (3,000 copies). The 2013 first quarter issue was also completed

with the theme Rice in Health and Nutrition (5,000 copies) in support of the National Year of Rice.

- Two issues of *Rice Science for Decision-makers* were released: *Per capita rice consumption* and *Combining organic and inorganic fertilizers: recommended practice for sustaining rice yield*. This publication simplifies and synthesizes topics and findings in rice science to help craft decisions relating to rice production and use of technologies. These were published at 1,000 copies each and distributed to members of the Upper and Lower Houses of Congress, government agency heads, and civic groups. Reprints of previous issues were also done at 500 copies each in view of the high demand for this publication.
- Various KPs for farmers and intermediaries were also produced: two issues of *Rice Technology Bulletin* (revised edition of Minus-one Element Technique, and on No Tillage); one issue of Q&A (revised edition of Integrated Nutrient Management); three posters (revised editions of Beneficial Organisms and Harmful Organisms, and on new Hybrid Rice Varieties); four LSTD manuals for the province of Aurora; 10 PalayCheck modules in major Philippine dialects; handouts on various technologies; three videos (machines, weedy rice, and NYR); and two flyers on weedy rice.
- KPs produced for the science community and academia were the *Philippine Rice R&D Highlights 2011* in hard (300 copies) and soft copies produced in partnership with the Planning and Collaborative Programs Office and the Offices of the Deputy Executive Directors for Research and Development; and the *DNA Finger Printing Manual* produced in partnership with selected PhilRice scientists/researchers.
- A new initiative, e-book publishing, was also started for the *Primer on the Philippine Rice Industry*, *PalayCheck*, and *Golden Rice Q&A*.
- Other KPs produced were the following: 300 copies of the *National R&D Conference 2012 Program*; *Food Staples Sufficiency Program* document in hard and soft copies, produced in partnership with the DA National Rice Program; NYR collaterals (i.e. billboards, plugs); brochures for Golden Rice project and multi-location trials, for the PhilRice-JICA TCP 5 project, for the Crops Biotechnology Center, and for

the Upland Rice Development Program; and PinoyRice and PhilRice Text Center collaterals (i.e. fan-type, phone-type, and regular flyers).

Design and execution of information/social marketing campaigns

AB Lanuza, HV Antonio, ELT Bestil, MM Prado, MET Lozano, CLB Gado, AFT Caballero, KET Barroga, OC Domingo, and FA Saludez

Using a creative and purposive mix of communication media as well as clear and persuasive messages, this activity aimed to promote and support rice science for development through campaigns/ advocacies that could help create favorable changes in knowledge, attitude, and practice among targeted rice stakeholders.

Highlights:

- Presidential Proclamation No. 494 dated 18 Oct 2012 declared 2013 as the National Year of Rice, which was based mainly on a proposal submitted by the Division. The Division led island-wide launching activities in partnership with local organizations: for Luzon, one event in Nueva Ecija and two events in Manila; for Visayas, one event in Dumaguete; and for Mindanao, two events in Zamboanga City. These launching activities highlighted the unveiling of the NYR logo with the tagline “*Sapat na Bigas, Kaya ng Pinas*”. Advocacies of the NYR on responsible rice consumption for better health and less rice wastage, and for productive farming through the use of efficient rice technologies and by inspiring farmers to do better were explained. Regional NYR advocacy plans in partnership with regional information officers of the DA were crafted.
- In partnership with the International Rice Research Institute and as part of the information awareness for Golden Rice, *Biotech 101* seminars were held at the field trial sites and three media groups were oriented on *Rice and Nutrition* in Naga City, Laoag City, and Quezon City. Additionally, the Golden Rice website was enhanced with the uploading of new or revised information materials; news summaries were distributed to key officials of PhilRice; and the Division participated in biotechnology-related exhibit events.

- To promote the Institute's services, products, and technologies, the Division coordinated/participated in 10 exhibit events: two each for Kabisig Government Expo and Biotech Conference; and one each for Food and Beverage Exhibit, PhilRice's Lakbay-Palay, DA's Makina-saka, DA-AMAS, Agri-link, and Science City of Munoz Agri-fair. Visitors of the Institute and input suppliers were also provided with information campaign materials that included technology posters and flyers featuring the PinoyRice Knowledge Bank and PhilRice Text Center.

Management of communication resource bases and support services

ELT Bestil, CG Dacumos, CA Frediles, KP Balmeo, FA Saludez, OC Domingo, AFT Caballero, MM Prado, MET Lozano, JL Billano, ORM Asis, and KET Barroga

To facilitate the promotion of rice science for development, this activity aims to effectively manage the PinoyRice Knowledge Bank and other resource bases (i.e. knowledge products, videos, and images), and ensure quality and timely communication support services (i.e. PhilRice Text Center, circulation, knowledge product design and editing).

Highlights:

- Image database: From some 22,000 images in 2011, collections have reached more than 90,000. The significant increase was brought about by the active sharing done by three branch stations of PhilRice. A refresher course was conducted in December 2012 to update database managers on the new features of the Adobe Lightroom software and refresh them of the processes in database maintenance.
- Knowledge product database: All PDF files of the *PhilRice* magazine, raw files of the *Rice Technology Bulletin*, the *Q&A* series, the *Rice Science for Decision-Makers (RS4DM)* series, templates of PhilRice advertisements, National Year of Rice materials, and *Palayamanan Rice Technology Bulletin* series

produced during the PhilRice-JICA TCP4 project were catalogued. To provide reference to managing editors, information about a publication's format, size, and printing specifications were also filed in the database. Inventory of publications, especially for serial types, has also been updated and used to assign serial numbers to specific publication types.

- **PinoyRice Knowledge Bank:** More than 200 handouts in English, Filipino, Cebuano, and Hiligaynon; and some 50 learning modules related to PalayCheck, 500 images, 55 radio plugs, 20 technology and participatory videos were uploaded. Most popular reference sites were the PhilRice corporate website and the PinoyRice Knowledge Bank Facebook page. The appearance of the homepage was made more dynamic, with a 'what's hot' section added to highlight in-demand topics. An offline version has also been created and is now downloadable from the site. Users who have identified themselves as farmers were the top users of this resource and the Variety and Seed Selection was the most visited. The PinoyRice Knowledge Bank had about 38,000 visits in 2012.
- **PhilRice Text Center:** Some 53,000 messages were received in 2012, which is 10,000 more than in 2011 and despite technical problems in June when the server was down. Majority of the queries were on seeds and varieties. The monthly sending of two rice tips was continued and became more targeted after phonebook cleaning was done and a summary of cropping calendar was followed for each municipality/province. A new info-on-demand feature for machines was developed and additional text center agents were trained.
- **Circulation and other support services:** Besides circulating off-the-press publications within two weeks after delivery, old publications, especially scientific books, were donated to more than 10 agricultural schools nationwide. Some 30 service requests were catered to this year and these were mostly requests for layout and photo/video documentation services.

Managing stakeholder's perception of PhilRice through corporate communication

CLB Gado, AFT Caballero, HHM Biag, MM Prado, ELT Bestil, CG Dacumos, CA Frediles, MET Lozano, and KET Barroga

This activity generally aimed to foster favorable perception and support from the general public and media practitioners as to how PhilRice uses rice science for development.

Highlights:

- Seventy-three news, three photo news, and eight feature stories on various rice production technologies and PhilRice events were uploaded in the corporate website. News articles were picked-up by 324 print and online dailies and registered 1,219 average hits in the PhilRice website. Media visibility is 77 percent higher than in 2011.
- Selected PhilRice events and technologies such as the National Year of Rice 2013, *Lakbay-Palay*, 27th National Rice Research and Development Conference, trainings for the Africans, floating garden, rice wine and scents, and Golden Rice were aired in national and local television and radio networks including GMA 7, ABS-CBN 2, PTV Network 4, IBC 13, Solar News Channel, UNTV 35, DZEM, and DWIZ.
- A new website design was launched during the 27th National Rice Research and Development Conference with new features on personnel profile; games on rice farm management for the youth; researchers' presentation and conference videos; and a rice science page. These features were added to facilitate collaborations, disseminate our research findings in a more interactive way, and foster better understanding about our work. Website visitors averaged at 8,404 a month.
- The Rice Matters Facebook fan page totaled 2,276 while Rice_Matters@twitter had 228 followers. Posts had weekly total reach of more than 1,500 fans. The official page of the President (<https://www.facebook.com/presidentnoy>) regularly posted PhilRice news this year.
- *Milestones 2011* or the annual report was produced at 700 copies while the corporate brochure was printed at 3,000 copies. A master copy of *A day in the life of PhilRice* and

corporate videos for farmers and donors were produced. A video of the annual report was also produced and uploaded in our social media sites and e-groups.

- Sixty PowerPoint templates and 94 corporate and poster designs were produced. Seventy percent of the templates and 76 percent of the designs were used during the 27th National Rice Research and Development Conference.
- Two press briefings were conducted during the *Lakbay-Palay* in March and the Luzon launching of National Year of Rice 2013. About 70 media practitioners joined the events.
- Media relations were improved with the addition of online news media: *Mabuhay Agri*, *Promdi News*, and *loqal.ph*, as new partners in circulating news releases.

II. Enhancing Knowledge Sharing and Learning

Co-project Leaders: JA Manalo III, KET Barroga

In recent years, a growing movement has emphasized that improved understanding and use of KSL result in more equitable and sustainable development outcomes. It is also said to help promote informed and timely decision-making, consequently enabling stakeholders to actively engage in the change process and respond better to opportunities and challenges. Thus, this project aims to understand and help enhance knowledge sharing and learning (KSL) processes and practices for better development interventions and outcomes.

Documentation and analysis of KSL processes/practices, and knowledge profiling

AMJ Eligio, JLC Billano, CLB Gado, DG Esmero, and KET Barroga

The study aims to document and analyze existing KSL practices and processes, including the preconditions, and lessons shared and learned; and to profile stakeholders' knowledge in the context of a particular development intervention to document and illumine its meaning in the farmers' lives.

Highlights:

- The study documenting and analyzing KSL on location-specific technology development (LSTD) in Midsayap, North Cotabato was completed. It made use of qualitative inquiry (i.e. in-depth interviews workshops, focus groups, participant-observation, and knowledge auditing tools) and the major findings of the study and their implications are as follows:
 - The emergence of KSL in North Cotabato happens largely in the context of occurrence and prevalence of pest infestation. A unified community involvement, a rice specialists' guidance via transfer of technical know-how, provision of tangible/physical capital to apply knowledge gained, and rewards are its precursors.
 - Field days remain a useful and appreciated KSL mechanism but the agroecosystem analysis part was not conducted which could have deepened KSL. Farmers were adept at pointing out relevant activities according to crop stages, implying that knowledge gained from the field school is retained. Among information sources, farmers used the radio for advice on selecting varieties as well as on getting updated schedule of water release from NIA; the DA technician for choosing varieties and advice during land preparation stage; and the rice sufficiency officer (RSO) also for choosing varieties and advice during vegetative stage. Finally, farmers turn to other farmers during harvesting, getting information on successful practices and reasons behind good yield.
 - "Good practice" for the farmers is experiential and habitual as exemplified by the key activity of monitoring and trialing. "Good practice" moved around the dynamics of the personal (i.e., individual assertion or confidence and even belief in God's guidance), the technical (i.e., following properly the process taught), and making the most productive use of inputs.
 - Recommendation for a location-specific technology development project to prosper is to sustainably address a specific (long-time) need: mitigating pest infestation in the area. This should involve several stakeholders, not discounting the inclusion of agri-chemical technicians.

Instead of taking for granted the presence of this group in the locality, their strategic moves – repetitive visits, actual demonstrations, and freebies – could be replicated and perhaps tapped, with due ethical considerations. A re-emphasis on the importance of agroecosystem analysis is needed and must be emphasized to trainers.

- The study profiling the knowledge, innovations, or practices gained by farmers on LSTD in Midsayap, North Cotabato was also completed. This study made use of interviews complemented with frequent visit and a two-week immersion to gather data.
 - Results of the study revealed that knowledge acquisition seemed to be affected by the information source's credibility and experience (i.e. the technician in terms of identifying pests and their fellow farmers in managing the pests), status in the family, timeliness of information, and gender.
 - Determinants in applying information learned from season-long field schools involved factors that are technical, social, and cultural. For instance, some farmers do not apply PalayCheck owing to delayed water schedule, land topography, perceived high cost, and the maintainers of their land not being oriented to the PalayCheck system. Frequent pest attacks have also led farmers to negotiate their indigenous knowledge with the PalayCheck. They were perceptive and discerning, choosing and applying only the information that were relevant to their immediate needs.
 - Knowledge was construed as success, fulfillment, and truth. Success because farmers claimed that their yield had increased and their expenses were cut by half owing to the knowledge gained from their training program under LSTD; fulfillment because they have witnessed the effect of knowledge in improving their fellow's practices and increasing their yield; and truth because seeing and experiencing the result of knowledge confirmed its effectiveness.

Exploration and field-testing of KSL-enhancing mechanisms

AB Lanuza, JA Manalo, AMJ Eligio, HV Antonio, CA Frediles, MM Prado, ELT Bestil, and KET Barroga

This study explored and designed possible mechanisms or strategies to enhance KSL practices and processes, field-tests them, and evaluated the outcome and lessons learned. This allows for continuous improvement on how knowledge is shared and learned.

Highlights:

- In Midsayap, North Cotabato, where an LSTD project was implemented, analysis of data that were gathered using quantitative and qualitative methods showed that farmers do not typically and actively seek out information and technology on rice production unless they have personally seen results (i.e. technology demonstrations) or have the resources and means to use them. They also unanimously preferred training and information materials that are simple, clear, portable, and can be acquired for free. Results also revealed that farmers in this study gathered information exclusively from locations that they frequent based on their day-to-day routine (i.e. market place, mosque, barangay hall). This implies that these locations would be strategic for information campaigns.

Other findings: The farmers in this study (1) preferred Tagalog as medium of instruction given the variation in languages spoken in the area; (2) brochures and flyers from agri-chemical companies are their main sources of information in managing pests and diseases as well as in fertilizer application; (3) farmers prefer large, clear, and high quality photos of insect pests and diseases, and content of training and information materials takes precedence over design; (4) for lectures concerning pest management, farmers suggested to have trainers and extension workers show and provide them with resources that depict the life cycle of pests; (5) farmers preferred actual demonstration of technologies and to be able to take home reference materials; and (5) farmers value information on recommended good quality and resistant rice varieties as well as how and when to use pesticides.

- In exploring and field-testing e-learning as a mechanism to enhance KSL on rice, the study recommends its use for computer literates and professionals who are interested in rice farming. Modules that must be offered should be relevant, address parochial needs of the users, and innovative. Simplicity in website and module design is key to a successful offering of an e-learning initiative. Codes to be used must not be complex but without sacrificing security. In the overall conduct of e-learning, it helps to maintain a good working relationship between the implementers and the students.
- Initial results of pilot-testing mobile phones for price advisory for farmers in the provinces of Nueva Ecija (250 farmers) and Aurora (100 farmers) showed the following:
 - for Nueva Ecija, almost all respondents (99.2%) think that the price advisory is beneficial despite having barely 49 (19.6%) farmers directly benefiting from the price advisory (i.e. these farmers already have regular millers/trades they deal with; they are indebted to a certain buyer; or they did not receive a price advice).
 - for Aurora, initial findings show that 100% of the farmers think that the price advisory is beneficial.
- On the pilot-testing of infomediary campaigns, several activities comprised this: (1) putting up of rice gardens showcasing different upland rice varieties; (2) conduct of a quiz bee to measure the knowledge of the participants and to help them prepare for their roles as infomediary; and (3) actual infomediary in classrooms, where topics discussed included the practical and theoretical bases of being an infomediary, the Pinoy Rice Knowledge Bank, the PhilRice Farmers' Text Center, and rice-production related topics such as the PalayCheck System and Integrated Pest Management. A study tour of PhilRice and of agencies at the Science City of Munoz was a highlight of the campaign. Initial process evaluation results revealed that the study tour was powerful in convincing students to consider agriculture as their course in college. Also, more than 50 unique numbers were noted in the PhilRice Farmers' Text Center, and over 300 messages were received during the course of campaign implementation. Queries on varieties and pest management topped the list of frequently asked questions. Rice gardens and study tours

seemed to increase students' confidence of in discussing rice farming in their household. Cases of computer anxiety were also observed during the infomediary training. A few trainees did not know how to use the computers and many of them did not have Facebook accounts. Access issue surfaced. This is something that can partly be validated by the fact that students from Maria Aurora National High School were more proficient in using the computers than those from Bayanihan National High School. The participants, however, did not comment on posts relating to technologies thus implying the need to devise good strategies to make them more involved, such as individually sending messages to these young individuals. There were efforts to use the Text Center, but some of the messages were less serious in nature. It should be noted, however, that there are traces of performing the infomediary role: participants asking about which varieties to plant for the next cropping season.

- The use of a learning fair was also tested as a new way of encouraging knowledge interaction, of building researchable new ideas as well as approaches for future projects. The fair consisted mainly of a sharing of experiences on selected projects and the mind mapping to enable participants to think outside the box. It was tested within the DevCom Division and the Division's experiences during the hybrid rice campaign, Aurora e-village project, and production of extension materials were discussed by identified project drivers. Several interesting ideas came out as a result such as use of flash animation to simplify complex concepts, conduct of audience research, and use of edutainment as a learning framework.
- With the increasing number of initiatives to engage the youth in agriculture, the need to package rice farming information in a youthful way likewise increases. Thus, the use of ICT-based agri-games was tested. Participatory needs and opportunities assessment was conducted in different barangays in Talavera, Nueva Ecija together with the students from CLSU, La Fortuna College, Araullo University, Nueva Ecija University of Science and Technology (NEUST), AMA, College of the Immaculate Conception (CIC), and Wesleyan University to guide the development of agri-games. NEUST and CIC

have completed the tasks: NEUST developed games on sufficient number of seedlings and CIC on land preparation. The students have revised the games based on comments of selected PhilRice staff members. Out-of-school youth farmers in Caaninaplahan and San Miguel na Munti participated in the community tryouts for the agri games. Data gathered are being processed.

- The study on Local and Regional Media Engagement to build knowledge capital on Golden Rice /Biotechnology/ Vitamin A Deficiency was completed. Gathered information from this study are useful in two ways: (1) in identifying media allies and critics; and (2) in assessing how defined (or undefined yet) the current level of support for biotechnology is. Local advocacy champions were identified in Ilocos Norte, Camarines Sur, and in Nueva Ecija, where there are multi-location trials of Golden Rice. In Camarines Sur, it was found that the DA Information Office has very close association with Radyo ng Bayan; Mr. Elmer Abad, the provincial head of Kapisanan ng mg Brodkasters sa Pilipinas and anchors a Teleradyo, has an open mind on biotechnology; and there are media-based activities pertaining to nutrition that may be tapped. In Nueva Ecija, Radyo CLSU and DWNE may be tapped; Dr. Anselmo Roque, a CLSU-based Philippine Daily Inquirer correspondent; and CLSU students in staging campaigns related to nutrition may also be commissioned. In Ilocos Norte, Reynaldo Andres of Bannawag, Ilocos Times, and ILARRDEC Reporter shows promise as local advocate; including the Communications and Media office of the Provincial Governor. There was generally a fair coverage of agriculture, science and technology, and health in the province. Village health and nutrition workers would also be helpful in orienting local people about nutrition, which Golden Rice is trying to address.

Monitoring and evaluating KSL materials and activities

HV Antonio, ELT Bestil, CA Frediles, and JA Manalo

The evaluation study of the 2011 National Rice Awareness Month activities (i.e. forum, fun run, and ceremonial harvesting) was completed and results revealed the following:

- The forum created immediate knowledge change and

long-term behavior change. This is especially true if the school teachers are willing to present the rice conservation messages without much assistance. However, there should be a rethinking as to whether high school students should really be among the targets because they are not really over consuming rice; rather, they are consuming less than a cup per meal. It may be wiser to tap all students through the Department of Education and ask DepEd to make rice appreciation and conservation part of the health curriculum.

- The fun run helped turn intention into action provided clear messages are given on how the participants could help the cause. These messages should also have an emotional appeal to turn their rice conservation intention into behavior. Thus, a heart-warming video presentation that is short but powerful could be played before the run. Having a program during the event is rather irrelevant since there is no need to exert so much effort to make the runners adhere to the cause of the campaign. Simple messages along the runners' path or messages in the registration sheet on what we ask them to do to show their full campaign support would do.
- The ceremonial harvesting was not a good activity to instill rice conservation responsibility to the students, unless messages are clear and more customized for the audience. It would still be good to include the rice conservation presentation during the ceremonial harvesting to maximize the function of the event and to serve as reminders to students. However, to make the most out of it, the presentation should be at the beginning when the students' attention is still with the speaker.
- Results also showed that students who are slimmer were more likely to get better perception and knowledge on how to eat their rice better while older students were more likely to change their behavior because of social responsibility. These findings are important in improving the interventions made rather than in conducting a definitive trial on the campaign's overall effectiveness.

- Initial findings of the study, Let's debrief!: A critical look on the location-specific technology development program (LSTD) showed that there was reluctance to farm in the area owing to nickel deposits from the mining site nearby (in Zambales site). Farmers were theoretically convinced of the technologies, but they did not follow them. The rice sufficiency officers were regarded highly by the farmers. In Bataan and Bulacan sites, failure to adopt the 40kg technology is a strong theme as farmers were not fully convinced the said seeding rate could result in higher rice yield. Women empowerment is another strong theme. There are cases when women serve as decision-makers in their respective households especially in allocating money for rice production activities and inputs. Cases of direct involvement of women in rice farming were also documented. Some of the women participants interviewed were forced to farm as their husbands migrated to other areas. Structural disadvantages surfaced in the implementation of LSTD. This came up in various cases such as setting up of a meeting place way far from the majority of the farmers in the area. This prohibited women from regularly attending the Farmers Field School sessions. There might be a need to review offering study tours to farmers. While there seems a consensus on the positive benefit in sending farmers to other areas for exposure to other farming practices, there were cases when study tours were seen merely as a recreational activity. There might be a need to review it to ensure that positive impact translates to positive action.
- Farmers interviewed for the study, Did we touch your lives? : An impact evaluation of the IFAD project in Tarlac, which started in 2011 in Brgy. San Jacinto and Cabuluan, Victoria, Tarlac, considered the following as the most significant change brought about by the farmer field schools (FFS): they now have more confidence in tilling their farms with the new knowledge gained from FFS, including new knowledge on the right time and amount of applying fertilizers, managing pests, and new varieties; less expenses on fertilizers and pesticides; and use of new seeds. Among the strategies implemented in facilitating the FFS, the cooperators did not like the glutinous rice variety demonstrated in the FFS; the farmers enjoyed AESA as a teaching method on identifying use and beneficial insects; the farmers wished to learn more on pest, fertilizer,

and water management; their attendance to FFS dropped off as they already know some of the topics and the schedule conflicts with their farm activities.

Application and promotion of field-tested KSL practices

KET Barroga, AMJ Eligio, SPRazon, MMPrado, and JA ManaloIV

- The study/component, Knowledge sharing and learning at PhilRice, aims to document and promote the various knowledge sharing and learning strategies that have been field-tested, employed by PhilRice with its partners. This year, a paper titled, “Knowledge Sharing and Learning: the PhilRice Experience” was presented/shared in the various In-country Training Courses in Rainfed Rice RD&E: at the Ifugao State University, Bohol Island State University, at Mariano Marcos State University, University of Southern Mindanao, and Cagayan State University. These were attended by professors, researchers, and extension workers in the region. The paper was also presented during the consultative meeting of Public Information Officers of the Department of Agriculture and during the National Rice R&D Conference. The paper contained lessons on KSL, supported with examples of innovations or activities. Lessons included the importance of timing; jumping on the bandwagon but eventually making your own wagon; choosing the partners you work with; turning difficulties into opportunities; exploring different perspectives to create more stakeholders; breaking with convention; positioning; and organizing knowledge resources to improve access and sharing. The paper also recognized the gaps in PhilRice’s KSL activities, which include the need for documentation and analysis.

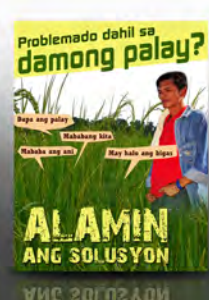
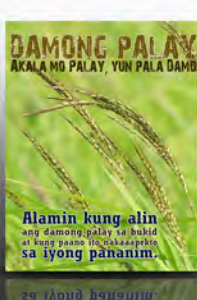
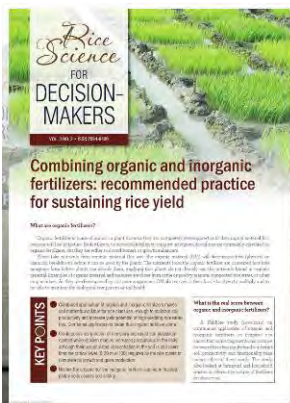
Several derivative papers were also developed and presented from Bridging the digital divide in rural Philippines: exploring engagement of children: (1) Hypothesizing information and communications technology for development in the Philippines: Deriving from trends, setting directions which has been accepted for publication in the Asian Development Journal; (2) ‘Once a farmer, always a farmer: A second look on Filipino youth’s perceptions on rice farming, which was submitted for publication in the Children’s Geographies

Journal; (3) Difficult terrain or absence of innovative strategies?: bringing agricultural information in upland areas in the Philippines, which was submitted for publication in the Development in Practice Journal; (4) From texting strangers to texting the PhilRice Text Center, which was presented during the Mobile phones for development conference in New Delhi, India, 28-29, February and is available in the M4D 2012 Conference Proceedings; (5) Really, they hate farming?: Challenging dominant orthodoxies on Filipino youth's perceptions on rice farming, which won Best Paper Award during the Crop Science Societies of the Philippines Annual Scientific Conference held in Palawan, 16-21 April; (6) Really, they hate farming?: Challenging dominant orthodoxies on Filipino youth's perceptions on rice farming, which was presented during the DA-BAR Free Seminar on May 17; (7) Beyond Facebook: the undocumented experiences of rural Filipinos on ICTs which was presented at the i-COME conference in Malaysia, November 2012 and won the best qualitative paper award; (8) Making a case for infomediaries in the upland farming communities in the Philippines, which was presented at the CPRSouth7 Conference in Mauritius, September 2012; and (9) Difficult terrain or absence of innovative strategies?: bringing agricultural information in upland areas in the Philippines, which competed for best paper award during the Philippine Extension Network Symposium in Aklan State University, 1-4 May.

In addition, a training course on the infomediary was conducted for selected DepEd Tech Voc teachers nationwide in December. These teachers knowledge of rice science and technology were updated and they were informed as to how their students could be tapped to serve as infomediaries.

From Phoning in farming: Economic benefits from mobile phone, the following papers were written/presented: paper of the same title presented during the 2012 International Development Conference: Integrating Research, Policy, and Practice in the University of Auckland, New Zealand; during the PhilRice Institutional presentation, February 23, 2012; and during the Crop Science Societies of the Philippines Conference in Palawan, 16-21 April 2012 as best paper finalist.

- For the book project on technology promotion and delivery, themes to cover the book's content have been finalized; data from testimonies and reports have been gathered; and 10 initial drafts (of 15) have been written.



Abbreviations and acronymns

ABA – Abscicic acid	EMBI – effective microorganism-based inoculant
Ac – anther culture	EPI – early panicle initiation
AC – amylose content	ET – early tillering
AESA – Agro-ecosystems Analysis	FAO – Food and Agriculture Organization
AEW – agricultural extension workers	Fe – Iron
AG – anaerobic germination	FFA – free fatty acid
AIS – Agricultural Information System	FFP – farmer's fertilizer practice
ANOVA – analysis of variance	FFS – farmers' field school
AON – advance observation nursery	FGD – focus group discussion
AT – agricultural technologist	FI – farmer innovator
AYT – advanced yield trial	FSSP – Food Staples Self-sufficiency Plan
BCA – biological control agent	g – gram
BLB – bacterial leaf blight	GAS – golden apple snail
BLS – bacterial leaf streak	GC – gel consistency
BPH – brown planthopper	GIS – geographic information system
Bo - boron	GHG – greenhouse gas
BR – brown rice	GLH – green leafhopper
BSWM – Bureau of Soils and Water Management	GPS – global positioning system
Ca - Calcium	GQ – grain quality
CARP – Comprehensive Agrarian Reform Program	GUI – graphical user interface
cav – cavan, usually 50 kg	GWS – genomwide selection
CBFM – community-based forestry management	GYT – general yield trial
CLSU – Central Luzon State University	h – hour
cm – centimeter	ha – hectare
CMS – cytoplasmic male sterile	HIP - high inorganic phosphate
CP – protein content	HPL – hybrid parental line
CRH – carbonized rice hull	I - intermediate
CTRHC – continuous-type rice hull carbonizer	ICIS – International Crop Information System
CT – conventional tillage	ICT – information and communication technology
Cu – copper	IMO – indigenous microorganism
DA – Department of Agriculture	IF – inorganic fertilizer
DA-RFU – Department of Agriculture-Regional Field Units	INGER - International Network for Genetic Evaluation of Rice
DAE – days after emergence	IP – insect pest
DAS – days after seeding	IPDTK – insect pest diagnostic tool kit
DAT – days after transplanting	IPM – Integrated Pest Management
DBMS – database management system	IRRI – International Rice Research Institute
DDTK – disease diagnostic tool kit	IVC – in vitro culture
DENR – Department of Environment and Natural Resources	IWM – integrated weed management
DH L– double haploid lines	JICA – Japan International Cooperation Agency
DRR – drought recovery rate	K – potassium
DS – dry season	kg – kilogram
DSA - diversity and stress adaptation	KP – knowledge product
DSR – direct seeded rice	KSL – knowledge sharing and learning
DUST – distinctness, uniformity and stability trial	LCC – leaf color chart
DWSR – direct wet-seeded rice	LDIS – low-cost drip irrigation system
EGS – early generation screening	LeD – leaf drying
EH – early heading	LeR – leaf rolling
	lpa – low phytic acid
	LGU – local government unit

LSTD – location specific technology development
 m – meter
 MAS – marker-assisted selection
 MAT – Multi-Adaption Trial
 MC – moisture content
 MDDST – modified dry direct seeding technique
 MET – multi-environment trial
 MFE – male fertile environment
 MLM – mixed-effects linear model
 Mg – magnesium
 Mn – Manganese
 MDDST – Modified Dry Direct Seeding Technique
 MOET – minus one element technique
 MR – moderately resistant
 MRT – Mobile Rice TeknoKlinik
 MSE – male-sterile environment
 MT – minimum tillage
 mtha⁻¹ - metric ton per hectare
 MYT – multi-location yield trials
 N – nitrogen
 NAFC – National Agricultural and Fishery Council
 NBS – narrow brown spot
 NCT – National Cooperative Testing
 NFA – National Food Authority
 NGO – non-government organization
 NE – natural enemies
 NIL – near isogenic line
 NM – Nutrient Manager
 NOPT – Nutrient Omission Plot Technique
 NR – new reagent
 NSIC – National Seed Industry Council
 NSQCS – National Seed Quality Control Services
 OF – organic fertilizer
 OFT – on-farm trial
 OM – organic matter
 ON – observational nursery
 OPag – Office of Provincial Agriculturist
 OpAPA – Open Academy for Philippine Agriculture
 P – phosphorus
 PA – phytic acid
 PCR – Polymerase chain reaction
 PDW – plant dry weight
 PF – participating farmer
 PFS – PalayCheck field school
 PhilRice – Philippine Rice Research Institute
 PhilSCAT – Philippine-Sino Center for Agricultural Technology
 PHilMech – Philippine Center for Postharvest Development and Mechanization
 PCA – principal component analysis
 PI – panicle initiation
 PN – pedigree nursery

PRKB – Pinoy Rice Knowledge Bank
 PTD – participatory technology development
 PYT – preliminary yield trial
 QTL – quantitative trait loci
 R – resistant
 RBB – rice black bug
 RCBD – randomized complete block design
 RDI – regulated deficit irrigation
 RF – rainfed
 RP – resource person
 RPM – revolution per minute
 RQCS – Rice Quality Classification Software
 RS4D – Rice Science for Development
 RSO – rice sufficiency officer
 RFL – Rainfed lowland
 RTV – rice tungro virus
 RTWG – Rice Technical Working Group
 S – sulfur
 SACLOB – Sealed Storage Enclosure for Rice Seeds
 SALT – Sloping Agricultural Land Technology
 SB – sheath blight
 SFR – small farm reservoir
 SME – small-medium enterprise
 SMS – short message service
 SN – source nursery
 SSNM – site-specific nutrient management
 SSR – simple sequence repeat
 STK – soil test kit
 STR – sequence tandem repeat
 SV – seedling vigor
 t – ton
 TCN – testcross nursery
 TCP – technical cooperation project
 TGMS – thermo-sensitive genetic male sterile
 TN – testcross nursery
 TOT – training of trainers
 TPR – transplanted rice
 TRV – traditional variety
 TSS – total soluble solid
 UEM – ultra-early maturing
 UPLB – University of the Philippines Los Baños
 VSU – Visayas State University
 WBPH – white-backed planthopper
 WEPP – water erosion prediction project
 WHC – water holding capacity
 WHO – World Health Organization
 WS – wet season
 WT – weed tolerance
 YA – yield advantage
 Zn – zinc
 ZT – zero tillage

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

We accomplish this mission through research and development work in our central and seven branch stations, coordinating with a network that comprises 58 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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