PhilRice Magazine

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Rice science for the farmers

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Rice science for the farmers mirrors people whose lives were touched and transformed through rice R&D. Our science is not just rice-centered, it is also people-centric. It is not merely doing research for research’s sake because our R&D workers believe that many people entrust their aspirations on us hoping that these will come true. In this issue, people from all walks of life retell how our R&D outputs have created an impact in their lives.

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The editorial team encourages readers to photocopy and circulate articles in this magazine with proper acknowledgment. Everyone is also invited to contribute articles (600-800 words plus at least four photos/illustrations with credits) and suggest topics, or refer individuals and organizations engaged in rice whose stories are worth featuring. Please email prri.mail@philrice.gov.ph or mail to: THE EDITOR, PhilRice Magazine, Development Communication Division, Philippine Rice Research Institute, Maligaya, Science City of Muñoz, 3119 Nueva Ecija.
Public discourse on the value of research or science recently went viral. On the upside, there was a semblance of serendipity in that social debate! It allowed everyone from all directions to deliberate, contest, and assess the significance of science, and gave it a human face. It pulled more skeptics into admitting that research outputs are not simply left piled up on shelves or in journal publications, but have genuinely reached and transformed people in need, like our farmers.

PhilRice’s reason-for-being as a research for development (R4D) institute is to create innovations and solutions that can advance farmers’ productivity and income. Now in its 4th decade of operation, the Institute continues to help contain emerging challenges and pressures in the rice industry. Its work covers not only research but also extension and policy advocacy.

It takes on nutrition research and advocacy, together with its partners, like the development of Golden Rice, to add one solution to the public health problem of Vitamin A deficiency. It likewise takes heed to the challenge of digitalization to achieve efficiency in rice farming, and probably convince the youth that agriculture is evolving into a profession – not just an unpreferred occupation.

Are these investments in rice science worth it?

Results of a recent external study suggest that a peso worth of investment in PhilRice to perform R4D work could earn some 17% net annual rate of return, which is not inferior to what the banks can offer. This impact speaks for itself. Before PhilRice was established, the average yield was only 2.67t/ha; these days, the national average yield from all ecosystems is 4.04t/ha thanks to the modern rice varieties and other farming technologies, including irrigation and mechanization, that reached our farmers. While production and yield performance have increased over time, population growth rate continues to outpace it. Therefore, we need more investments in rice R4D to develop technologies that would augment production to feed the growing population.

Let us tell you true-to-life stories of how our R4D outputs and policy advocacy work etched their indelible marks in the lives of our stakeholders, especially the rice farmers.
What’s new in Rice Research

Planning tool for rainfed farmers

Our country has more than 7.5M ha of dryland or rainfed areas, which account for three-fourths of the 10M ha of cultivated (arable) areas. Over 5 million households are in the rainfed rice environment and are at high risk owing to the difficulties being inflicted by climate change.

How can we help the rainfed rice farmers become climate change-adaptive? A strategic crop production planning tool like WeRise could be tapped.

According to senior researcher Alion Oliver Capistrano, the Weather-Rice-nutrient integrated decision support system (WeRise) is a platform that consists of two modelling tools–climate and crop-modelling—that are integrated to identify the best planting schedule in a rainfed rice environment based on forecasted weather data.

WeRise uses seasonal climate predictions providing farmers crucial weather information for the incoming cropping season. Weather information includes the start and end of the rainy season and rainfall distribution during the crop-growing season.

This also advises farmers when to sow and transplant the crop, what variety is appropriate, and how fertilizer may be efficiently applied.

“Before using WeRise, there should be a calibration conducted in terms of crop data. In our case, we use varietal data to be included in the crop database along with historical weather data of a specific location so WeRise could model the projected weather data for the coming year or for the next six months,” Capistrano explained.

The projected weather data will then become an input information in the crop-modelling tool and will be processed to determine the highest possible yield of a variety across the projected annual or 6-month weather data.

Moreover, the technology will be transferred to LGUs after validating WeRise predictions through on-farm field experiments. “We target two barangays per municipality and from each barangay, we will be needing the help of six farmers to validate the platform,” Capistrano said.

Since this is for the use of extension workers, Capistrano said, they should be capacitated first, specifically in collecting data from an authorized weather data provider.

WeRise was developed by the IRRI-Japan collaborative research project on Climate Change Adaptation in Rainfed Rice Areas. Through the IRRI-PhilRice-JIRCAS collaborative research project, WeRise is localized to suit rainfed rice areas in the Philippines.
One of 5 children aged 6 months to 5 years old are vitamin A-deficient. (FNRI Survey, 2013)

Support biofortification as a complementary intervention to address malnutrition

Golden Rice is a new type of rice that contains beta-carotene, which is converted into vitamin A as needed by the body and gives the grain its golden color.

It is a product of biofortification, which is a process of breeding crops to increase their nutritional value.

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