

Philippines and IRRI

The International Rice Research Institute (IRRI) established its first campus built inside the University of the Philippines Los Baños, a prestigious educational institution and the country's hub for agricultural science. The town of Los Baños, Laguna, was chosen as the location for the headquarters of IRRI following an intensive search throughout Asia.

Based on an evaluation commissioned by the Australian Centre for International Agricultural Research (ACIAR) in 2011, IRRI's longstanding partnership with the Philippines has contributed an average of USD52 per hectare from 1985 to 2009, representing a significant contribution to the lives of rice farmers in the country. The Philippine Department of Agriculture (DA) and its agencies, particularly the Philippine Rice Research Institute (DA-PhilRice), have worked closely with IRRI on several projects to help improve rice production. IRRI's work is further supported by other DA attached agencies, national agencies, local governments, NGOs, universities, and experts in the country.

The Philippines also plays a strategic role in IRRI through the institute's Board of Trustees (BOT), with two ex officio positions set aside for Filipinos: the secretary of agriculture and the president of the University of the Philippines (UP) System.

Through the DA rice program, IRRI donated 13 tons of high-yielding rice seeds to the Philippines in the wake of Typhoon Haiyan (local name Yolanda). The seeds were delivered to seed growers and members of the Irrigators Association and the Community Seed Bank Cooperatives in Leyte and Samar.

Key achievements

- **Better varieties.** With PhilRice and UPLB, 250 varieties suited to irrigated, rainfed, upland, and stress-prone environments have been released in the Philippines. Two IRRI-bred varieties are among the five high-yielding varieties recommended by DA for seed production and distribution in irrigated and favorable rainfed areas.
- Higher farmer income. Filipino rice farmers are earning an additional USD 52 annually using IRRI-bred rice varieties, according to a 2011 study by the Australian Centre for International Agricultural Research. The Philippines benefits by more than USD 180 million a year. The Rice Crop Manager, a tool that delivers site-specific recommendations on crop management to farmers via computers and smartphones, was found to have helped raise farmer yield by an average of 0.4 ton per hectare/season and income by more than USD 110 per hectare/season.
- Improved farm practices. The Rice Knowledge Bank is a rich source of online information for farmers and farmerintermediaries to aid crop management. IRRI and its partners have also developed technologies like the hermetically sealed Super Bags and the Solar Bubble Dryer to ensure grain quality and storage. The Philippine government has adopted watersaving technologies—particularly the alternate-wetting-and-drying technique—that can reduce water use by up to 30% and greenhouse gas emissions by up to 50% while maintaining yield.
- Genetic diversity conservation. The Philippines has contributed more than 9,380 accessions, including IRRI-developed materials, to the IRRI Rice Genebank, which contains the world's largest collection of rice types—over 130,000 as of 2019 and counting.
- Reducing risks and disaster preparedness. The DA uses a remote sensing-based rice monitoring system that provides accurate and near-real time data to enable better policy support for food security, and disaster response.
- Building capacity. IRRI has trained 16,466
 Filipinos, almost half of which were women, through different scholarships, internships, on-the-job training programs, short courses, and in-country programs. The IPAD project has trained over 20,000 farmers and 267 extension staff.

Current initiatives

The Philippine Government, through the Department of Agriculture and its attached agencies, work with IRRI on several projects. Here are some of the ongoing initiatives:

Rice Crop Manager (RCM)

The Rice Crop Manager (RCM) Philippines is a decision-support tool that helps farmers increase their yield and income through crop and nutrient management in rice. It provides farmers with a personalized crop and nutrient management recommendation for rice fields through a one-page print-out and text messages to the farmer's phone, with recommendations about the right type, time, and amount of fertilizer to use.

NextGen PLUS

NextGen Plus aims to institutionalize an efficient deployment process for the new and enhanced NextGen varieties. Linkages with national breeding institutions are strengthened to upgrade rice breeding and research pipelines. Strong collaboration with national and regional seed networks are established to enhance a viable formal seed system, supporting an efficient varietal deployment process aimed at increasing productivity, competitiveness and rice security in priority rice-growing Philippine provinces.

Pest and Disease Risk Identification and Management (PRIME)

PRIME focuses on pests and diseases that cause major agricultural losses in the country. The project builds on the existing platform of PRISM and will integrate field-based pest surveillance and information from satellite and drone images to identify risk factors of pest and disease outbreaks, map potential outbreak risks, and identify appropriate management strategies to prevent major crop losses.

Water-efficient and risk mitigation technologies for enhancing rice production in irrigated and rainfed environments (WateRice)

The project aims to improve land and water productivity and mitigating risks through ICT-based tools that can improve farmers' decisions on water and weed management. These will be combined with recommended best farm practices and mechanization for irrigated and rainfed environments. A decision tool, AutoMonPH, was launched to provide real-time water monitoring at the field and landscape level.

RiceStrawPH

The project aims to develop sustainable rice straw-based technologies and practices that will increase the livelihoods in rice- growing areas and reduce the environmental footprint of rice production and related sectors. RiceStrawPH focuses on the research and development that will generate optimized rice straw collection for use in bioenergy, mushroom, and ruminant fodder production in the country.

3D printing of spare parts for agricultural machinery

IRRI cooperates with PhilRice on a feasibility study on 3D printing of spare parts for agricultural machinery to address bottlenecks in spare part supply chains and reduce down time of machinery.

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IRRI aims to improve livelihoods and nutrition, abolishing poverty, hunger, and malnutrition among those who depend on rice-based agri-food systems. In doing so, IRRI's work protects the health of rice farmers and consumers, and the environmental sustainability of rice farming in a world challenged by climate change. IRRI's work promotes the empowerment of women and supports opportunities for youth in an equitable agri-food system.