



# The Netherlands and IRRI

Sharing scientific expertise is an important part of the Netherlands-IRRI partnership, rooted both in history and in mutual research interests. Early interactions between the Kingdom of the Netherlands and IRRI involved the identification of several publications for the IRRI library on the Netherlands' research experience in Indonesia.

From 1971 to 2009, the Netherlands has contributed more than USD 12 million in support of IRRI's projects. More than funding, IRRI has, throughout the years, benefited from having Dutch nationals in key leadership roles in the institute: agronomist Roelof Rabbinge, chair of the IRRI Board of Trustees from 1995 to 2000, and J.J. Hardon, head of the Centre for Genetic Resources in Wageningen and former IRRI trustee (1983-87). Other Dutch nationals at IRRI are Marco van den Berg, chief information officer, and Oscar Eduard Filon, corporate services manager at the Myanmar office.

Most notably, the Global Rice Science Partnership (GRiSP)—a network of more than 900 partners in rice science—is being led by a Dutch national, Bas Bouman, agricultural engineer and agroecologist. Bas is also an alumnus of Wageningen Agricultural University (WAU), with which IRRI has had a most robust collaboration through joint research.

IRRI also had similar joint work with other Dutch universities and research institutes. The number of scholars and PhDs from the Netherlands who have undergone training at IRRI now exceeds 60.

In 1988, then IRRI Director General M.S. Swaminathan was awarded an honorary doctorate degree by WAU for achievements in agricultural research and development.



## Highlights of past collaboration

**Simulation and systems analysis for rice production (1992-1996).** The SARP project was established as a network to build research capacity for systems analysis and simulation modeling in developing countries. It became instrumental in forming a collaborative platform among national agricultural research centers and universities. Nine countries represented by sixteen national agricultural research centers constitute the network, supported by IRRI, the Centre for Agrobiological Research, and WAU.

**Development of the International Crop Information System (2002-2012).** Through strong collaboration with Dutch partners, IRRI developed and influenced the adoption of ICIS, a freely distributed software package in CD format. The software helped plant breeders, genebank managers, agronomists, and other crop researchers manage large volumes of information efficiently. ICIS provided a set of applications and a database schema that could be implemented for any crop. Under the project, a general system was developed that delivered enough flexibility to cater to specific uses for a particular crop such as nomenclature rules, trait ontology, and experiment design templates.

**Development of better water-saving irrigation techniques (2000-2004).** Aiming for more efficient water use in lowland rice, research was carried out on water × nitrogen interactions in crop development and yield formation under water-saving irrigation techniques. The project analyzed the effect of limited water supply on tiller and canopy development, light interception, nitrogen and biomass yield, harvest indices, and resource-use efficiency in rice.

**Better understanding of the impact on climate of methane emission from rice paddies (1991-1993).** Scientists from WAU's Department of Soil Science and Geology and IRRI initiated a study on the effects of soil-related factors such as salinity and soil type on methane emission from rice fields. Results of the study provided insights on wetland rice contribution to climate change, which led to the development of methane emission reduction strategies without affecting rice yields.

**Studies on the potential of natural enemies to suppress rice leaffolder populations in South and Southeast Asia (1990-1993).** The project quantified the influence of natural enemies on the rice leaffolder, a common pest of the rice plant. Experiments and computer simulations were conducted to evaluate the impact of natural enemies on leaffolder population dynamics and to assess the degree of natural control sufficient to prevent yield loss. Scientists linked insect models with the crop simulation model developed by the simulation and systems analysis for rice production (SARP) to refine guidelines for leaffolder control under the integrated pest management framework.

#### **International Rice Research Institute (IRRI)**

The International Rice Research Institute (IRRI) is the world's premier research organization dedicated to reducing poverty and hunger through rice science; improving the health and welfare of rice farmers and consumers; and protecting the rice-growing environment for future generations. IRRI is an independent, nonprofit research and educational institute founded in 1960 by the Ford and Rockefeller foundations, with support from the Philippine government. The institute, headquartered in Los Baños, Philippines, has offices in 15 rice-growing countries in Asia and Africa, and about 1,000 staff members.

Working with in-country partners, IRRI develops advanced rice varieties that yield more grain and better withstand pests and disease as well as flooding, drought, and other destructive effects of climate change. More than half of the rice area in Asia is planted to IRRI-bred varieties or their progenies. The institute develops new and improved methods and technologies that enable farmers to manage their farms profitably and sustainably, and recommends rice varieties and agricultural practices suitable to particular farm conditions as well as consumer preferences. IRRI assists national agricultural research and extension systems in formulating and implementing country rice sector strategies.

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