

The IRRI logo is a green square with the letters 'IRRI' in white, serif font.

Lao PDR and IRRI

The land area of Lao PDR is considered to be the origin of glutinous or sticky rice, and this type of rice still accounts for 80% of domestic consumption in the country. Rice is the daily staple, with per capita rice consumption among the highest in the world at around 160 kilograms per year.

With the significant expansion in production area and the adoption of improved rice varieties, the country achieved national rice self-sufficiency in 1999, producing over 2 million tons per year. In 2019, harvested area of over 840,000 hectares yielded 3.5 million tons.



Dr. Chanthakone Boualaphanh and Dr. Phetmanyseng Xangsayasane, Lao rice scientists and breeders.

The partnership between the Lao People's Democratic Republic (Lao PDR) and IRRI began in 1968, and over the decades the collaboration helped propel the country's rice sector from subsistence levels to commercial production, and achieve rice self-sufficiency in 1999.

The testing of improved rice material from IRRI's breeding and selection work in the country developed throughout the 1970s, with systematic multi-location yield trials beginning in 1973. This was followed by multiplication and dissemination of several IRRI lines and varieties to farmers.

The first Memorandum of Understanding between Lao PDR and IRRI was signed in 1987. Collaboration intensified when the Swiss Agency for Development and Cooperation (SDC) supported the Lao PDR-IRRI Research and Training Project from 1990 to 2007. An offshoot of the project was the development of a national rice research network, which by 1995 included all provinces in the country.

In October 2011, the government of Lao PDR and IRRI co-organized a multi-stakeholder workshop, engaging government scientists and researchers, extension workers, policymakers, and donors to define areas of collaboration. This included improvement of good seed production practices and the testing and establishment of public-private partnership models for disseminating agricultural technologies. Results from the workshop, combined with policy changes, informed the development of strategies for rice research and development in the country.

In May 2017, the government of Lao PDR and IRRI entered into a Host Country Agreement to further strengthen the partnership to support the rice sector development in the country.

Key achievements

Conservation of rice genetic diversity. Lao PDR has entrusted more than 15,000 types of rice—the second highest contribution of seeds from a country—for safekeeping at IRRI's International Rice Genebank. In turn, IRRI has dispatched 750 rice samples to Lao PDR for breeding and other research purposes, and restored more than 11,000.

Capacity development. IRRI engaged in capacity development activities with various partners in Lao PDR. Since 1968, IRRI has hosted more than 260 scholars and training participants—40 of whom are women—from Lao PDR. IRRI helped the National Agriculture and Forestry Research Institute (NAFRI) establish their Rice Research Center.

Seed adoption by farmers. By 2004, Lao farmers adopted modern rice varieties in over 60% of rice land, with more than half of these varieties developed with IRRI. In 2008, more than 80% of farmers in major rice-growing plains grew improved glutinous rice varieties.

Crop management best practices. IRRI developed a 7-step system for best management practices for rainfed lowland rice, covering variety selection, good seed production, land preparation, crop and field management, mechanization and postharvest.

Improved rice production. With support from IRRI in research, improved rice varieties, and crop management, total rice production in Lao PDR increased from 1.5 million tons in 1990 to more than 2 million tons in 1999, at which time the country achieved rice self-sufficiency. In 2019 rice production reached 3.5 million tons.

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Current collaborations

Lao Agriculture Competitiveness Project (LACP). In January 2020, IRRI and the Ministry of Agriculture and Forestry, Department of Planning and Finance signed an agreement to collaborate in enhancing the competitiveness and sustainability of the country's agriculture sector. IRRI will support government efforts in upgrading rice value chains, adopting best management practices, and developing export strategies for five project areas, namely Bolikhamxay, Khammoun, Xayabury, and Vientiane provinces, and the Vientiane capital.

Rice breeding for salt tolerance. IRRI currently runs a collaborative project with Lao PDR on testing and dissemination of salt-tolerant rice varieties. The project also aims to develop a grower's manual for salt-affected areas in the country.

Regional cooperation. Lao PDR is a key member of the ASEAN RiceNet network, enabling rapid testing and dissemination of improved rice varieties across Southeast Asia.

Variety development. IRRI continues to develop high-yielding stress-tolerant varieties with preferred grain quality requirements for transplanted and direct seeded systems of Lao PDR. A key variety TDK1 was improved to be tolerant to submergence and released as XBF1. This variety is being promoted for cultivation in flood-prone plains in the country.

Mechanization and postharvest. From 2006 onwards IRRI introduced a variety of technologies in the country, including hermetic storage systems and a type of flat bed dryer that was scaled out by a local manufacturer. IRRI also delivered laser leveling systems and an imported mini combine harvester to a research station in Savannakhet, and worked with four rice millers to upgrade their rice mills for organic rice processing.

Farmer knowledge sharing. IRRI organizes Climate-Smart Village workshops in several Southeast Asian countries, including Lao PDR, to enhance community-based knowledge sharing among individuals and farmers' groups on seed systems and climate-smart agriculture practices and experiences.



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.

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