



# The United States and IRRI partnership

## History of partnership

The International Rice Research Institute (IRRI) was borne of a belief in a future that was better and brighter than that imagined by the pessimists of the 1950s, who said millions would simply have to starve.

The United States played a major role when IRRI was founded in 1960 by the Rockefeller and Ford foundations, working closely with the Government of the Philippines.

The Ford Foundation funded all of IRRI's capital costs, amounting to USD 7.51 million, during its first two years of operation. The Rockefeller Foundation, on the other hand, supported the institute's entire core budget through 1964, including salaries and related expenses of its scientists who were assigned to IRRI.

The two foundations later adopted the IRRI model in forming three other international agricultural research centers: the International Maize and Wheat Improvement Center (CIMMYT) in Mexico, the International Center for Tropical Agriculture (CIAT) in Colombia, and the International Institute of Tropical Agriculture (IITA) in Nigeria.

The U.S. government became a donor to IRRI when the U.S. Agency for International Development (USAID) provided the institute with a grant in 1965. USAID has since been a major supporter of IRRI's work in developing agricultural equipment suited to Asia's small-scale rice farms. Research and development in this field helped improve employment in rural areas, lower the costs of rice production and marketing, and improve the designs of agricultural equipment to better fit local conditions.



Former U.S. Secretary of Agriculture Thomas Vilsack gets familiar with IRRI's frontier research. Here, he is briefed by IRRI scientist and C4 Rice Project Leader William Paul Quick during a visit to IRRI in October 2009.

## Key achievements

- **Flood-tolerant rice.** *SUB1*, the gene responsible for flood tolerance in rice, was successfully identified in 2006 through a USAID-supported project. Since then, it has been bred into megavarieties across Asia, making it possible for farmers to harvest rice where there has been flooding for even up to two weeks. Swarna-Sub1 (from Swarna, a popular variety in India) is now grown on more than 5 million hectares since its release in 2009.
- **Spread of stress-tolerant rice seeds.** Another project supported by USAID enabled the delivery of high-yielding (HYVs) and stress-tolerant rice varieties (STRVs) to almost 1 million farm households on more than 200,000 hectares of rice area in southern Bangladesh. Two years of direct intervention and indirect spillovers resulted in about 1.9 million
- hectares of rice area planted to HYVs and STRVs, adding no less than 1.9 million tons to the country's rice production and bringing benefits to an estimated 2.75 million farm households during the period.
- **Conserved rice genetic diversity.** The International Rice Genebank has received more than 5,500 types of rice from U.S. partners.
- **Building scientific capacity.** From 1962 to 2016, 326 scholars from the U.S. completed their studies and short training courses at IRRI. Of these scholars, 36 completed their doctorates, 10 their master's degrees, and one a bachelor's degree; 57 were interns, 17 were on-the-job trainees, and 205 were participants of various short courses at IRRI.

Total U.S. government funding through USAID and USDA has exceeded USD 239 million as of 2015.

IRRI's prime mandate is to serve rice producers and consumers in developing countries, but improved germplasm have also been used effectively as genetic building blocks for U.S. rice varieties developed through both public and private sectors.

The International Rice Genebank at IRRI holds in trust the world's largest collection for a single crop, currently with more than 127,000 accessions and counting. Scientists in the U.S. have made more than 1,000 requests to the IRRI genebank

since 1984 and have received seeds of more than 2,800 genotypes of cultivated and wild rice. As an added measure, duplicate samples of more than half of the IRRI collection are also kept at the U.S. National Seed Storage Laboratory in Fort Collins, Colorado.

Scientists as well as administrators from the U.S. have made important contributions to IRRI research. Currently, 20 Americans work as internationally recruited staff at IRRI. An emeritus scientist and another project scientist are also serving on associate extended-term appointments. ■

## IRRI's current research and development activities with the U.S.

- **Breeding better rice.** IRRI is developing rice varieties tolerant of drought, flooding, heat, cold, and other environmental stresses through the Stress-Tolerant Rice for Africa and South Asia (STRASA), Stress-Tolerant Rice in Vulnerable Environments (STRIVE), and Green Super Rice (GSR) projects.
- **Making rice healthier.** With support from donors in the U.S., IRRI is working with several partners to further develop and evaluate Golden Rice. Bred to contain beta-carotene, a source of vitamin A, Golden Rice could potentially complement current interventions in addressing vitamin A deficiency among rice consumers.
- **Better rice farming systems.** The Cereal Systems Initiative for South Asia (CSISA) seeks to improve productivity and farm income in India, Bangladesh, Nepal, and Pakistan through innovative partnerships with the public and private sectors in the development and deployment of improved varieties, sustainable crop and resource management technologies, and sound policies to drive economic growth.
- **Improving rice farming practices in coastal areas in Bangladesh.** With funding from USAID, IRRI has partnered with Kansas University in teaching pragmatic farming approaches that aim to unlock the potential of rice production in rural polder communities in Southern Bangladesh.
- **Implementing integrated pest management for vegetable and mango.** IRRI has partnered with the Virginia Polytechnic Institute and State University to work on water supply management, and in reducing agricultural losses and ecosystem damages caused by pests in vegetable and mango production in Asia.
- **Informing USAID's climate change strategy.** IRRI, through CCAFS, is working with the USAID's Office of Climate Change to inform and guide their strategy on reducing net greenhouse gas (GHGs) emissions related to agriculture.
- **Delivering high-density genomics breeder tools.** Donors from the U.S. are funding a project at IRRI that provides genomics support to rice breeding programs in several centers.

### International Rice Research Institute (IRRI)

IRRI is the world's premier research institute committed to convening international knowledge and expertise in the creation of a sustainable global rice sector to achieve food and nutrition security, improve the quality of life of rice-related communities, and protect the rice-growing environment for future generations. The organization works to connect dual spheres, generating and harnessing international expertise to expand the horizons of knowledge, and building local capacity to leverage best practices in agriculture, economics, and climate change management.

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