



The European Commission and IRRI

The European Commission (EC) has been helping Asia with its staple, rice, since 1978, through its support to the International Rice Research Institute (IRRI). The EC has historically supported IRRI's work to conserve the genetic diversity of rice, understand the function of rice genes, and develop new rice varieties, particularly for use in difficult growing environments.

Improved rice varieties in Asia have seen rice yields more than double since IRRI was established and, today, more than 60% of the world's rice fields are planted with rice that originated from IRRI varieties.

During the past three decades, the combined contributions from all European countries to IRRI has accounted for about 40% of IRRI's total funding – making the region IRRI's top donor. The majority of this support was channeled through CGIAR, with some being provided direct to IRRI for specific projects.

Between 1978 and 2011, IRRI received EC contributions of Euro 43.1 million (US\$56.4 million) for its research.

Since 2007, the EC's funding to CGIAR (including IRRI) has been channeled through the International Fund for Agricultural Development (IFAD). Before that, funds were channeled through a World Bank Trust Fund.

International Rice Research Institute (IRRI)

IRRI is a nonprofit, independent organization that, through rice research, aims to:

- reduce poverty and hunger
- improve the health of rice farmers and consumers, and
- ensure that rice production is environmentally sustainable.

IRRI develops new rice varieties and rice crop management techniques that help rice farmers improve the yield and quality of their rice in an environmentally sustainable way.

We work with our public and private sector partners in national agricultural research and extension systems in major rice-growing countries to do research, training, and knowledge transfer.

Our social and economic research also informs governments to help them formulate policy to improve the equitable supply of rice.

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Current work supported by the EC

EC provides a lot of its financial support to IRRI through unrestricted funding via CGIAR. This funding underpins all IRRI's work and is essential to all our ongoing and core activities.

Examples of specific projects supported by the EC and IFAD in addition to this include:

- **Delivering climate change-ready rice:** By developing and effectively delivering new stress-tolerant rice varieties in South and Southeast Asia, IRRI aims to increase rice productivity and value for the poor in the context of a changing climate with the support of EC and IFAD. **Project name: Reducing food insecurity and poverty through development and effective delivery of new stress-tolerant rice varieties**
- **Making farming sustainable:** With our partners and through EC support, IRRI is promoting soil fertility management, improving crop yields, diversifying crops and cropping systems, and improving access to nutritious food in target households to improve the food security of vulnerable and marginal farmers in active floodplains and charlands. **Project name: Sustainable soil management for food security of poor, small, marginal farmers of active floodplains and charlands of Bangladesh (SUSFER)**
- **Supercharging rice:** European partners, including EC as a donor, are part of the worldwide consortium that seeks to convert photosynthesis in rice from C₃ to C₄. If successful, this new rice could yield 50% more while using significantly fewer inputs such as light, water, and nitrogen. **Project name: 3to4**
- **Controlling pests sustainably:** Funded by EC, IRRI and its partners are aiming to improve how rice farmers manage stem borers and leafhoppers, which are pests of rice, at the village level of the Greater Mekong Subregion, through a biological control-based approach. **Project name: EuropeAid Greater Mekong Subregion Rice IPM Project**

Outcomes and Impacts

Rainfed ecosystems cover about 46 million hectares or 30% of total rice areas in the world. In most rainfed areas, rice production is restricted by one or more abiotic stresses, the most significant of which are drought (23 million has), submergence (20 million has), and salinity (15 million has).

Rural poverty and food insecurity are persistent in these areas. About 30% of the people living in absolute poverty (with income of less than \$1 a day) in Asia are living in rainfed rice-growing areas of South Asia, half of them particularly in India, Bangladesh, and Nepal.

Delivered flood-proof rice

As of 2012, the dissemination of Sub1 varieties in South Asia have reached 1,361,365 hectares among 3,867,701 farmers in Nepal, India, and Bangladesh. All these became possible by engaging 447 partners in these countries. The Sub1 varieties released on this scale are Swarna-Sub1 in India, Swarna-Sub1 and Samba Mahsuri-Sub1 in Nepal, and BRRI dhan 51-Sub1 and BRRI dhan 52-Sub 1 in Bangladesh.

More than 20 million hectares of rice-growing land is affected by floods —devastating farmers' rice crops when they occur.

With broad ranging international support and collaboration, IRRI has developed submergence-tolerant rice that can survive up to two weeks under water. When flooding occurs, it has a 1-3 ton per hectare yield advantage over other rice, ensuring a more reliable supply of rice.

Through effective partnerships to disseminate seed and promote it, submergence-tolerant rice has been adopted by more than 4 million farmers in Asia, thus boosting their food security and capacity to earn a living from rice production.

Multiplied the value of donor investments

A US\$12 million investment in rice research over 16 years by the Swiss government has returned more than \$70 million in benefits to rice farmers and national economies in four Asian countries, according to preliminary findings of an impact-assessment report.

Commissioned by the Swiss Agency for Development and Cooperation (SDC), the report shows that the sixfold return on investment is actually a conservative estimate because only a subset of the farming technologies funded was assessed.

Moreover, by 2016, the return on investment could skyrocket to 25 times the original investment.

Increased the rice productivity and production

Rice yield increased by 75–90% through new varieties and improved crop and natural resource management practices in salt-affected rice areas in India, Bangladesh, and Vietnam. The discovery of the *PSTOL1* gene that enables rice to develop more roots that help take up more phosphorus from the soil could help farmers with poor soil grow more rice. Twenty high-yielding rice varieties and 10 parental lines with pest resistance, blast tolerance, and improved grain quality were developed.

The IRRI Super Bags, developed to minimize physical and quality losses during postharvest, ensures that farmers are able to plant and harvest quality rice. These bags were tested in six Southeast Asian countries and commercialized in the Philippines.

Helped Africa's rice sector

In Burundi, ex-combatant women were trained in IRRI on how to produce rice successfully. The women have now become self-sufficient in rice and pay for land and input needs themselves.

IRRI has developed and released two rice varieties in Burundi, two in Tanzania, and one in Mozambique. All have better yield, quality, or other traits that make them more valuable to farmers than other varieties.

A network of rice breeders, policymakers, and researchers was formed across Africa to start joint screening studies that resulted in 2,500 rice breeding lines from Asia and Latin America being evaluated in Mozambique and Tanzania.

Conserved the genetic diversity of rice

High-quality genetic data for 20 different types of rice was produced to help determine the genetic variation of rice, a key step toward associating genetic information with field traits.

The genes of 132 different samples of the wild rice species *Oryza nivara* and *O. rufipogon* were sequenced and are currently conserved in the International Rice Genebank.

IRRI has signed up to accept and share rice appropriately under the International Treaty on Plant Genetic Resources for Food and Agriculture.