NERICA:
Japan-AfricaRice Flagship Product

"The New Rice for Africa" or "NERICA," which is the flagship product of this strategic partnership, is now a household name in Africa – a name that stands for good rice. The NERICA families of varieties came from crosses between African rice (*Oryza glaberrima*) and Asian rice (*Oryza sativa*). A total of 18 upland NERICA and 60 lowland NERICA-L varieties have been developed.

The development, adaptation and dissemination of the NERICAs through the participatory varietal selection (PVS) were supported by the Interspecific Hybridization Project (IHP), which was launched in 1997. Japan's MOFA was the major donor to the IHP, through the United Nations Development Programme's Technical Cooperation among Developing Countries.

Japanese breeders and physiologists working within and outside AfricaRice have been actively involved in the IHP. JICA scientists along with many development partners have facilitated the dissemination of NERICA varieties across sub-Saharan Africa (SSA).

Upland NERICAs have brought specific benefits to African rice growers, in particular shorter growth duration and tolerance to specific biotic and abiotic stresses, while giving them yield that is generally as good as the high-yield potential *O. sativa* varieties.

A survey of the 5-year Multinational NERICA Rice Dissemination Project, which was supported by the African Development Bank, European Union and Japan and carried out by the African Rice Initiative covering seven West African countries shows that in 2011, farmers who had participated in the project benefited from additional income of US$14.4 million, while the spinoff to nonparticipant farmers was estimated at US$28.7 million – a total of US$43.1 million. By the end of the project, more than 35,000 people living in participating rice-farming households had been lifted out of poverty on the basis of a US$1.25 per day poverty line.

A highly conservative estimate of the extent of NERICA production throughout SSA in 2011 is 700,000 ha. Particular highlights include Nigeria with close to 200,000 ha of NERICA 1 and NERICA 2, and Uganda, where 35,000 ha of NERICAs were grown in 2007 alone, and the country was able to halve its imports of rice in the five years from 2002 to 2007 and save about $30 million in foreign exchange earnings. Similar successes have been reported in other countries, such as Burkina Faso, Ethiopia, Guinea, Mali, Sierra Leone and Togo.

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Japan and AfricaRice
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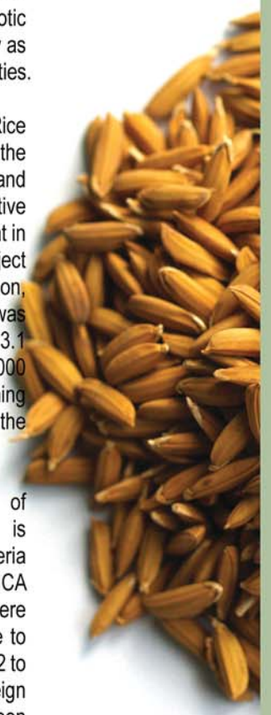

AfricaRice and its scientists have won many international and national awards, including the World Food Prize; the Japan International Koshihikari Rice Prize; the Japan International Award for Young Agricultural Researchers; the UN Prize for South-South Cooperation; the CGIAR King Baudouin Award; CGIAR Awards for Outstanding Partnership, Communication and Young Scientist; Louis Malassis Prize; and the UNDP South-South Cooperation Excellence Prize as well as awards from the Heads of State of Burkina Faso, Côte d'Ivoire and Senegal.

AfricaRice was established in 1971 as an inter-governmental association of African member countries. Today its membership comprises 24 countries across Africa. AfricaRice is also one of the 15 international agricultural research Centers of the CGIAR Consortium. Its headquarters is temporarily based in Cotonou, Benin. It has four outreach stations based in Côte d'Ivoire, Nigeria, Senegal and Tanzania. Staff are also based in Liberia and Sierra Leone. In 2009, on the decision of its Council of Ministers, the Center's name was changed from "WARDA" to "AfricaRice" to represent the Center's pan-African character.

AfricaRice plays a key role in advising scientists and policymakers in member states on critical rice production and marketing issues. Its new Strategic Plan presents a clear vision of success to help Africa achieve almost 90 percent self-sufficiency in rice by year 2020. This vision is linked with the MDGs, the objectives of CAADP and the system-level outcomes of the CGIAR Consortium.

AfricaRice is one of the main architects of the CGIAR Research Program on Rice – the Global Rice Science Partnerships (GRiSP). It is leading GRiSP activities in Africa. It is also actively involved in the CGIAR Research Program on Climate Change, Agriculture and Food Security. It is committed to the conservation and availability of plant genetic resources for food and agriculture maintained by CGIAR Centers.

AfricaRice is a member of the Steering Committee of the Coalition for African Rice Development (CARD), an initiative that is led by AGRA and JICA to help Africa double its rice production by 2018. AfricaRice operates through the Rice Task Force mechanism – an Africa-wide collaborative research effort on critical thematic areas in the rice sector, which contributes to the development of a new generation of rice scientists. To achieve development outcomes and impact, it has initiated continent-wide Rice Development Hubs – zones where rice research products and local innovations will be integrated across the rice value chain.

For more information : www.AfricaRice.org

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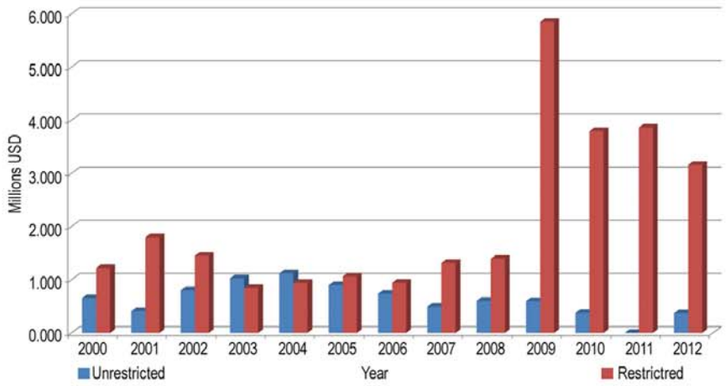
Japan and AfricaRice

35 Years of Strategic Partnership for Rice Development in Africa

Japan has been a leading supporter of rice research for development in Africa for over 35 years through its strategic partnership with the Africa Rice Center (AfricaRice), which is a unique international research center of the CGIAR Consortium with African ownership. Japan and AfricaRice have been working together with national partners across Africa to enhance rice quality and productivity, reduce producer and consumer risks, and increase farmers' incomes through more productive and sustainable rice farming systems by drawing on high-quality rice science, building capacity and sharing knowledge. The products of this strategic partnership have benefited millions of smallholder rice farmers and consumers across Africa, contributing to poverty reduction and food security in the continent.

AfricaRice

Japanese Funding to AfricaRice



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Scientists from the Japan International Cooperation Agency (JICA) and the Japan International Research Center for Agricultural Sciences (JIRCAS) have been working at AfricaRice on a continuous basis since 1978. There has been active research collaboration with Kyoto University, University of Tokyo, National Institute of Agrobiological Sciences (NIAS) and Kinki University.

The challenge is huge in Africa, where rice is the fastest growing food staple. Despite significant increases in rice production in several African countries over the last few years, the continent depends heavily on rice imports and remains vulnerable to food crises.

Also Africa is facing new global challenges such as climate change and rising food (rice) prices. In this changing environment, effective Japanese-AfricaRice partnership is more important than ever for Africa.

Japan and AfricaRice – Important Initiatives

New Generation Varieties: In 2010, a new project was initiated with support from Japan's MOF to accelerate the development and deployment of the next generation of elite rice varieties for major production systems in SSA and Southeast Asia, where poverty is prevalent and the risk of food shortage is high.

As part of this, the Africa Rice Breeding Task Force was launched to accelerate rice varietal development through continent-wide varietal evaluation of nominated elite lines from AfricaRice and international and national partners. The Task Force is helping build much-needed rice breeding capacity, facilitating access of African rice breeders to new materials, and generally shortening the time needed to deploy new climate-resilient and stress-resistant rice varieties for major production systems in Africa.

The Task Force's goal is to evaluate elite rice lines across the African continent and identify potential 'champions' that have advantages over the best check varieties in a region and can make a difference to the lives of Africa's rice producers and consumers. The Task Force has decided to call these champions "ARICA" which stands for "Advanced Rice Varieties for Africa." In its April 2013 meeting, the Task Force identified five such champions, which now form the first set of ARICAs. Two of these have just been released in Uganda and the remaining three ARICAs are in the process of release in West Africa.

Rice Grain Quality: Right from the beginning of the collaboration, Japan has contributed greatly to the areas of rice post-harvest processing and grain quality. JICA helped establish the Grain Quality Laboratory at the Center's permanent headquarters in Côte d'Ivoire. JICA post-harvest processing and grain quality experts were seconded to the Center almost continuously from 1978 until 2000 and hundreds of national scientists and extension agents in SSA have been trained in this field. The issue of grain quality in rice breeding for Africa has gained even more importance since the turn of the millennium as locally produced rice needs to rival imports in terms of quality if domestic production is to stem the flow of imported rice into the region.

Closing Yield Gaps: Rice yields in farmers' fields are still far below what would be possible with improved management. The Africa-wide Rice Agronomy Task Force serves as a platform for enhancing productivity in rice-based systems through the introduction of good agricultural practices (GAP). As part of this Task Force, a Japanese agro-physiologist from AfricaRice has developed the protocols that are currently being used in 15 countries by national research institutions in SSA to analyze yield gaps and their determinants, in both rainfed and irrigated rice growth environments. He has also trained national partners in this field.

Introducing Sawah Technology: As part of the project 'Sawah, Market Access and Rice Technologies for Inland Valleys' – supported by MAFF – the Sawah approach has been introduced in Togo and Benin in close association with farmers, where it has shown promising results. The Sawah technique refers to leveled and bunded rice fields with inlet and outlet connecting irrigation and drainage for increasing lowland productivity. Sawah at Zoungo, in Benin, with minimal fertilizer, yielded 4–5 tons of rice per ha in a rainfed system where average yields traditionally fluctuate between 800 and 900 kg per ha.

Addressing Food (Rice) Crisis in Africa: In response to the food (rice) crisis in 2007/2008, MOFA supported an Emergency Rice Project to improve farmers' access to rice seed in 20 CARD countries and to build a rice data system for the region. The project was carried out by AfricaRice in 2009 and 2010 together with over 70 partners, including national programs, seed companies, agro-dealers, and non-governmental organizations. The project provided more than 58,000 vulnerable farmers with quality rice seed and strengthened the formal seed system in the project countries. It provided direct training in quality seed production to more than 560 technicians and extension workers, including 190 women, who in turn trained some 14,000 extension workers.

For the first time, detailed rice statistics and information on nationally representative samples were collected by agricultural research systems and statistical services in the project countries, with technical support of AfricaRice. These rice statistics are critical for quality research and evidence-based policy formulation and will provide a solid basis for analyzing future trends in rice production in the project countries.

However, the soaring food price continues to be a problem. In 2012 a number of SSA countries suffered from unexpected climate damages (drought and flooding), probably due to climate change. MOFA is supporting a new Rice Emergency Project in 27 SSA countries to accelerate farmers' access to improved seed and to small-scale machinery. The project is being implemented using AfricaRice's strong network mechanisms involving national partners and other key stakeholders. Capacity strengthening efforts are also part of this initiative.

Improving Food Security Information in Africa: A new 3-year project has been launched with financial and technical support from Japan's MAFF to improve the food security information system in Africa through the generation of quality rice data and information. This will add value to the existing endeavors undertaken so far towards the goal of improving the availability and reliability of rice statistics in support of the objective of the CARD initiative.

Capacity building: Strengthening capacity of national partners is central to the partnership. Every year, scientists and technicians selected from African national programs have greatly benefited from the Japan Capacity Building Program for African Agricultural Researchers. The program is supported by MAFF. JICA has also enhanced the capacity of national African technicians and extension agents in quality seed production and supported hands-on training on the fundamentals of field experiments on rice.

Several degree candidates (PhD, MS) and non-degree trainees from the region have studied under the supervision of AfricaRice scientists and their partners. The Center has also benefited from Japan's Young Scientist Fellowship Program, which supports Japanese scientists to work at CGIAR Centers. AfricaRice research assistants have received technical training in several agricultural research institutes in Japan with support from JICA.