A Partnership for Research and Development
Japan and the CGIAR
Japan–CGIAR Partnership

Japan joined the CGIAR in 1972, soon after the alliance was created. The Japan-CGIAR partnership is strong and fruitful, spanning over three decades and resting on a solid platform of cooperation and commitment to mobilizing science for development.

Agriculture has a rich history in Japan, and the Government of Japan accords priority to the agriculture sector as a key determinant of economic development. Japan's priorities for agriculture, forestry and fisheries include protection of the environment, conservation of natural resources and biodiversity, promoting agricultural development in developing countries and technology transfer, all of which complement those of CGIAR. Japan is a proactive and supportive leader for key international development initiatives such as the Tokyo International Conference on African Development (TICAD), World Water Forum, and Kyoto Protocol of the United Nations Framework Convention on Climate Change, among others.

The main focal point for CGIAR's relations with Japan is the Ministry of Foreign Affairs (MOFA), and its partners are the Ministry of Agriculture, Forestry and Fisheries (MAFF), the Japan International Research Center for Agricultural Science (JIRCAS) and the Japan International Cooperation Agency (JICA). The Japan Overseas Cooperation Volunteers (JOCV) program is expanding its links with CGIAR by placing young Japanese scientists (pre- and post-doctorate level) at CGIAR Centers.

A snapshot of the Japan-CGIAR partnership in 2003 shows: a Japanese scientist leading the Mexico-based International Maize and Wheat Improvement Center (known by its Spanish acronym, CIMMYT); Japanese scientists making significant contributions to the CGIAR system; Japanese nationals serving on each of the Boards of Trustees of CGIAR Centers, while others serve on the Science Council, and as researchers at CGIAR Centers. Japan represents Asia-Pacific members including Australia and New Zealand, on the CGIAR Executive Council, where it influences governance and policy issues. In an illustrative example of knowledge-sharing for mutual benefit, during the 1990s, as part of the Japan-IRRI shuttle program, more than 40 Japanese scientists have collaborated in nearly 50 research projects; in addition, 21 Japanese doctoral students completed their research at IRRI with the help of the program.

Japan has a long tradition of excellence and involvement in rice research. Rice is the largest food source for poor people, and a staple grain in Asia, providing 50 to 80 percent of daily caloric intake. The decoding of the rice genome in 2002 is opening up new opportunities for strengthening scientific collaboration in rice research, including with the public International Rice Genome Sequencing Project (IRGSP) coordinated by the Japan Rice Genome Program. IRRI is working closely with Japan’s National Institute of Agrobiological Sciences in this area.

“For the sake of economic growth, I consider it very important for Africa to raise agricultural productivity and to extricate itself from reliance on imported food.”

— Jonichiro Koizumi
Prime Minister of Japan
May 14, 2003
The following examples illustrate the impact of the Japan-CGIAR partnership to mobilize agricultural knowledge for reducing hunger, poverty and environmental degradation in developing countries.

- **Rice revolution for Africa**: Rice is the principal food source for poor people in Asia, Africa, and Latin America. In West Africa, governments spend $1 billion on importing rice. Increased rice productivity directly benefits poor countries by reducing crippling rice import bills. The West African Rice Development Association (WARDA), with Japanese support, has developed NERICA, the New Rices for Africa that combine the ruggedness of local African rice species (Oryza glaberrima) with the high productivity traits of Asian rice (Oryza sativa) that were the mainstay of the Green Revolution. This effort is transforming rice cultivation in the humid West Africa region. At the Johannesburg World Summit on Sustainable Development, H.E. Mme. Kawaguchi, Japanese Foreign Minister, and H.E. Mr. Takehiko Endo, Sr. Vice-Minister for Agriculture, Forestry and Fisheries participated in a special symposium to celebrate the scientific success of NERICA. Plans are underway to accelerate the dissemination of NERICAs in Africa, with support from JICA and other Japanese institutions (www.warda.org).

- **New Plant Type (NPT) for Asia**: IRRI researchers, in partnership with national programs, are on the brink of placing a New Plant Type — or ‘Super Rice’ as dubbed by the media — in the fields of key Asian rice-producing countries in the next 2–3 years. This plant type has the potential for 20 percent higher yields compared to modern varieties currently being planted in farmers’ fields. The best-performing NPT lines have produced 1.7 tons/hectare more than the best high-yield modern varieties in experimental plots at IRRI. Two NPT varieties recently released in China are outyielding popular modern varieties in farmers’ fields by 1 ton/hectare (www.irri.org).

- **Quality Protein Maize (QPM)**. This improved maize contains twice the amount of lysine and tryptophan compared to normal maize, and QPM is being planted on one million hectares in 20 countries, boosting food, nutrition and income security. The Sasakawa Africa Association is leading the effort for accelerating adoption of QPM in Africa in partnership with CGIAR. CIMMYT researchers received the 2000 Millennium World Food Prize for their work in developing QPM.

- **Integrated aquaculture/agriculture (IAA)** techniques in Africa are boosting farm incomes and productivity. Farms using IAA techniques produce 1.3 to 1.6 tons of fish per hectare, compared to less than 900 kg/ha in the standard methodology. This work is being conducted by the WorldFish Center (www.worldfishcenter.org).
Nourishing the Future through Scientific Excellence
The Consultative Group on International Agricultural Research (CGIAR)

CGIAR is a strategic alliance of countries, international and regional organizations, and private foundations supporting 15 international agricultural research Centers that work with national agricultural research systems, the private sector and civil society. The alliance mobilizes agricultural science to reduce poverty, foster human well-being, promote agricultural growth, and protect the environment.

Agriculture, the key to development
In a world where 75 percent of poor people depend on agriculture to survive, poverty cannot be reduced without investment in agriculture. Many of the countries with the strongest agricultural sectors have a record of sustained investment in agricultural science and technology. The evidence is clear, research for development generates agricultural growth and reduces poverty.

Agricultural research benefits people and the planet
Agricultural research for development has a record of delivering results. The science that made possible the Green Revolution of the 1960s and 1970s was largely the work of CGIAR Centers and their national agricultural research partners. The scientists’ work not only increased incomes for small farmers, it enabled the preservation of millions of hectares of forest and grasslands, conserving biodiversity and reducing carbon releases into the atmosphere. CGIAR’s research agenda is dynamic, flexible, and responsive to emerging development challenges. The research portfolio has evolved from the original focus on increasing productivity in individual critical food crops. Today’s approach recognizes that biodiversity and environment research are also key components in the drive to enhance sustainable agricultural productivity. Our belief in the fundamentals remains as strong as ever: agricultural growth and increased farm productivity in developing countries creates wealth, reduces poverty and hunger and protects the environment.

CGIAR Priority Investments 2002

- Increasing productivity 35%
- Strengthening NARS 23%
- Protecting the environment 19%
- Improving policies 14%
- Saving biodiversity 9%
Agricultural research is delivering results

The CGIAR’s more recent outstanding achievements include:

- Quality Protein Maize, a more nutritious type of maize bred for improved human health. QPM is being planted on one million hectares in 20 countries.
- New Rices for Africa (NERICAs) are transforming agriculture in the West Africa region. In 2003 it is estimated that NERICAs were planted on 23,000 hectares, and their use is spreading across Africa. In particular, 6,000 hectares were planted in Uganda. In Guinea alone, NERICAs have saved an estimated $13 million in rice import bills.
- Rehabilitating Afghanistan’s agriculture; a major seed supply and distribution program has been implemented, and technical assistance is being provided to rebuild agriculture devastated by years of war, strife, and drought.
- Integrated aquaculture/agriculture techniques resulting in increased rice and fish production in Asia through new strains of tilapia that grow 60 percent faster.
- Training over 75,000 developing country scientists and researchers.
- Reducing pesticide use in developing countries by promoting integrated pest management and biological control methods.
- Adoption of zero or low-till farming practices in Africa and Asia, minimizing soil erosion and boosting farm incomes and productivity.
- Enabling African producers to exploit international pigeonpea markets.
- Agroforestry initiatives developed with community organizations in Asia and Africa.
- CGIAR researchers have won the World Food Prize for 3 years in a row.

CGIAR’s Evolving Research Agenda
These successes notwithstanding, future challenges are daunting. World population is expected to reach 9 billion people by 2050. Food demand is expected to more than double in a similar time frame. Some 30 percent of irrigated lands are already degraded, and water use is expected to increase by 50 percent over the next 30 years. Science-based solutions for sustaining productivity increases while protecting ecosystems are key to addressing these challenges.

**Increasing sustainable productivity, strengthening science-for-development partnerships, protecting the environment**

The CGIAR was created in 1971. Today more than 8,500 CGIAR scientists and staff are working in over 100 countries. CGIAR research addresses every critical component of the agricultural sector including — agroforestry, biodiversity, food, forage and tree crops, pro-environment farming techniques, fisheries, forestry, livestock, food policies and agricultural research services. Thirteen of 15 Centers are headquartered in developing countries. Africa continues to be a priority for CGIAR research. CGIAR research partnerships help achieve the Millennium Development Goals and support major international conventions (Biodiversity, Climate Change, and Desertification). The knowledge generated by the CGIAR is available to all.

**The CGIAR has five areas of focus**

- Increasing productivity (of crops, livestock, fisheries, forests and the natural resource base)
- Strengthening national systems (through joint research, policy support, training and knowledge-sharing)
- Protecting the environment (by developing new technologies that make more prudent use of land, water, and nutrients and help reduce agriculture’s adverse impacts on ecosystems)
- Saving biodiversity (collecting, characterizing and conserving genetic resources—the CGIAR holds in public trust one of the world’s largest seed collections freely available to all)
- Improving policies (with a major impact on agriculture, food, health, the spread of new technologies and the management and conservation of natural resources)
A Twenty-first Century Alliance

Major reforms designed to strengthen science, extend the alliance, streamline governance and maximize impact are gaining ground and yielding benefits. The innovative Challenge Program initiative is designed to address global and regional issues of critical importance such as combating micronutrient deficiencies that affect more than three billion people and addressing water scarcity by improving water use efficiency in agriculture. Challenge Programs are facilitating collaborative research and helping mobilize knowledge, technology and resources.

The CGIAR alliance is open to all countries and organizations sharing a commitment to a common research agenda and willing to invest financial support, and human and technical resources. Since 2002, five new members joined the alliance and membership is poised to grow further.

CGIAR members contributed approximately US$365 million in 2003, the single-largest public goods investment in mobilizing science for the benefit of poor farming communities worldwide.
Research is a Collaborative Enterprise

The CGIAR’s achievements would not be possible without the support and commitment of the 63 members and many hundreds of partner organizations who together form the growing CGIAR alliance.

CGIAR Members

- African Development Bank
- Arab Fund for Economic and Social Development
- Asian Development Bank
- Australia
- Austria
- Bangladesh
- Belgium
- Brazil
- Canada
- China
- Colombia
- Commission of the European Community
- Côte d’Ivoire
- Denmark
- Arab Republic of Egypt
- Finland
- Food and Agriculture Organization of the United Nations
- Ford Foundation
- France
- Germany
- Gulf Cooperation Council
- India
- Indonesia
- Inter-American Development Bank
- International Development Research Centre
- International Fund for Agricultural Development
- Islamic Republic of Iran
- Ireland
- Israel
- Italy
- Japan
- Kellogg Foundation
- Kenya
- Republic of Korea
- Luxembourg
- Malaysia
- Mexico
- Morocco
- Netherlands
- New Zealand
- Nigeria
- Norway
- OPEC Fund for International Development
- Pakistan
- Peru
- Philippines
- Portugal
- Rockefeller Foundation
- Romania
- Russian Federation
- South Africa
- Spain
- Sweden
- Switzerland
- Syngenta Foundation for Sustainable Agriculture
- Syrian Arab Republic
- Thailand
- Uganda
- United Kingdom
- United Nations Development Programme
- United Nations Environment Programme
- United States of America
- World Bank