



# A Partnership for Research and Development

# United States of America and the CGIAR



## The United States—CGIAR Partnership

Ever since its inception in 1971, the Consultative Group on International Agricultural Research (CGIAR) has enjoyed a mutually productive partnership with the United States of America (U.S.). The U.S. is a founding member of CGIAR, and a leading supporter of the 16 centers it sponsors.

U.S. development assistance policy emphasizes investment in agricultural research as a key driver of economic growth. U.S. priorities for agriculture have included science-based solutions to reduce poverty and hunger, develop trade opportunities for farmers, train scientists, and contribute to the sound management of natural resources, all of which complement those of the CGIAR.

CGIAR works closely with the U.S. Agency for International Development (USAID) and the U.S. Department of Agriculture (USDA). In addition, CGIAR collaborates with major private foundations (e.g. Ford, Rockefeller, Kellogg), Peace Corps, universities, including agricultural

universities and land grant colleges, think tanks, and centers of excellence working on agriculture, food, and environment issues. The CGIAR Centers partner extensively with U.S. institutions. At any given time, there are about 80 collaborative research links supported by USAID between U.S. universities and CGIAR Centers, and dozens of research and technology transfer collaborations between USDA, CGIAR Centers and U.S. universities on a range of activities.



***“Thriving agriculture is the engine that fuels broader economic growth and development, thus paving the way for prosperity and peace.”***

— Jimmy Carter  
Former U.S. President, 2002  
Nobel Laureate, and Farmer

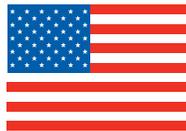
A snapshot of the partnership in 2003 shows U.S. nationals leading four CGIAR Centers (CIFOR, IITA, IRRI, and the World Agroforestry Centre), while 20 scientists and development specialists serve on the Boards of Trustees (including two at the Chairman level) and on the interim Science Council. In addition, dozens of scientists and research scholars serve on the staff of Centers, applying scientific knowledge to create solutions that benefit poor farmers and the environment. The U.S. hosts the International Food Policy Research Institute in Washington, DC.

**Following are some examples of the beneficial impacts of U.S.-supported CGIAR research:**

- Helping farmers recover quickly after local seed supplies are depleted by disaster—drought, flood or conflict—is a major pillar of the U.S.-CGIAR alliance. CGIAR genebanks

that hold in public trust one of the world's largest collection of plant genetic resources are key to crisis recovery and mitigation. A USAID-funded consortium, led by ICARDA, is working to provide quality seed and technical assistance for restoring agricultural production capacity and food security in Afghanistan, whose agriculture has been ravaged by more than 20 years of civil war and successive droughts. More than 3,500 tons of improved high-quality, wheat seed has already been distributed to 75,000 farmers. Two wheat varieties were specifically adapted to suit the harsh, drought-prone conditions common in Afghanistan. The U.S. has been instrumental in building alliances between CGIAR centers and emergency relief organizations and other NGOs. Often with USAID support, CGIAR Centers have multiplied seeds from CGIAR genebanks and worked with NGOs to restore agricultural genetic heritage and distribute improved seed to farmers in Angola, Honduras, Niger, Rwanda, Somalia, and most recently in Timor-Leste.

- Maize is a widely grown food crop, constituting a significant part of the diets of poor people in Africa, Asia, and Latin America. Over half of all publicly bred maize varieties released in developing countries between 1966 and 1998 contained CIMMYT germplasm. A prominent success in CGIAR maize breeding is the development of Quality Protein Maize (QPM), which grew out of original research done at Purdue University. With twice the amount of the essential amino acids lysine and tryptophan found in regular maize, QPM provides better quality food and feed. QPM is being planted on one million hectares in 20 countries, boosting food, nutrition and income security.



- Swarms of grasshoppers and locusts have long plagued farmers around the world, destroying food sources for millions of people and causing crop damage and requiring extensive application of pesticides with harmful consequences to the environment and human health. The International Institute of Tropical Agriculture (IITA), with support from USAID and in partnership with others, has developed a biological alternative to synthetic chemical pesticides that is less expensive and environmentally friendly that is beginning to be used by Sahelian farmers and crop protection programs in Sub-Saharan Africa.
- Rice is the world's most important food crop. USAID and U.S. universities have provided critical financial and scientific support to CGIAR rice research. Half of the rice varieties

released in South and Southeast Asia are linked with IRRI materials. U.S. institutions, public and private, are active partners to IRRI and others in the global rice genome effort. The economic benefits of these improved varieties amount to US\$10.8 billion annually, which is 150 times the investments made by IRRI and national agricultural research systems.

- Cassava is a major food crop in sub-Saharan Africa. More than 200 million people in the region—about one third of the population—get more than half of their calories from foods made from cassava roots. USAID has supported IITA, national programs and NGOs to successfully reverse staggering losses from African Cassava Mosaic Virus in East Africa. More broadly, 80 percent of the cassava varieties released between 1980 and 1998 are of CGIAR origin. In monetary terms, the total value of the incremental production due to improved CGIAR varieties was estimated at US\$327 million in 1998.
- Americans directly benefit from investments in international agricultural research. Much of the wheat and rice grown in the United States originates from varieties developed at CGIAR Centers, and each dollar invested by the United States in international wheat and rice research reaped US\$190 and US\$17 respectively for U.S. consumers and farmers.
- Under the Initiative to End Hunger in Africa, the United States is supporting the CGIAR's Challenge Program on Biofortification to improve the micronutrient content of African staple foods through expanded research, development, and dissemination of improved varieties of maize, beans and sweet potato with higher levels of vitamin A, iron, and zinc.
- CGIAR Centers are active partners, along with national programs, universities and NGOs, in USAID-supported agricultural biotechnology programs. Current partnerships are focused on pests and diseases of banana, cassava, cowpea and other crops, development of livestock vaccines, and both technical and policy aspects of biosafety and regulatory systems. CGIAR centers often act as a “bridge” between advanced research institutions in the U.S. and other countries, North and South, with national agricultural research systems in developing countries of Asia, Africa and Latin America and the Caribbean.





***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 16 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.

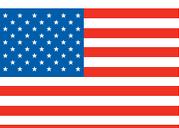
## Agriculture, the key to development

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.

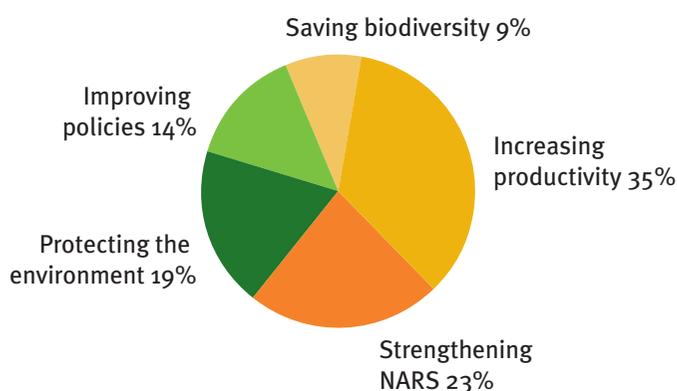
## Agricultural research benefits people and the planet

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



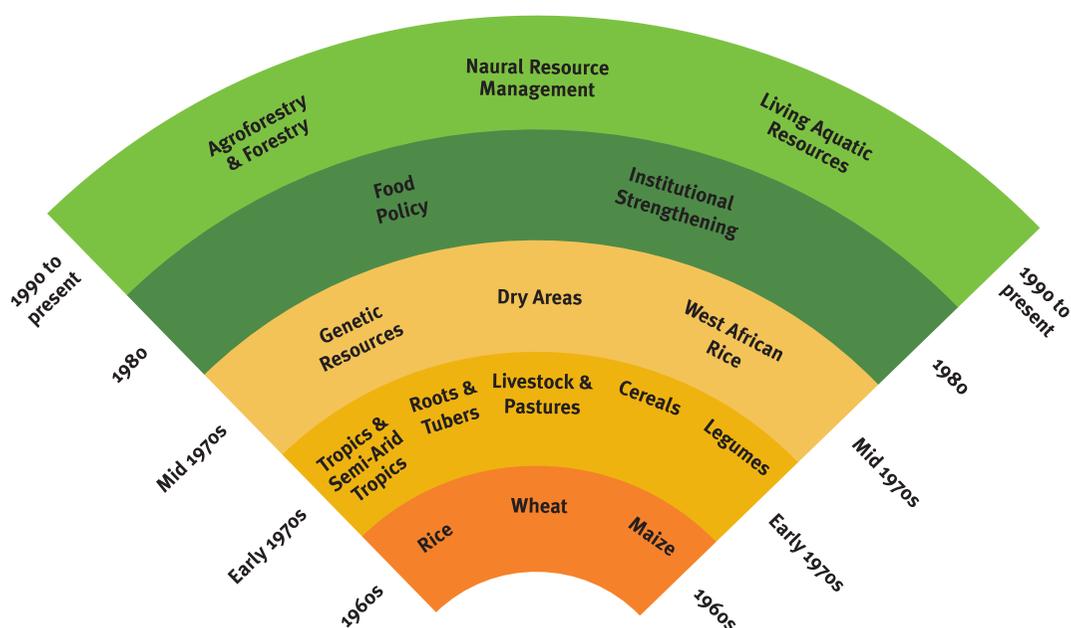
## Agricultural research is delivering results

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 or NERICAs which combine the ruggedness of local African rice species with the high productivity traits of Asian rice are transforming agriculture in the humid West Africa region. In Guinea alone, NERICAs are planted on 90,000 hectares saving an estimated US\$10 million in rice import bills
- CGIAR and its partners are rehabilitating Afghanistan's agriculture. A major seed supply 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 16 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 made freely available to all.

#### **The CGIAR has five areas of focus**

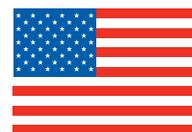
- Increasing productivity (of crops, livestock, fisheries, forests and the natural resource base)
- Strengthening national systems (through joint research, policy support, training and knowledge-sharing)
- Protecting the environment (by developing new technologies that make more prudent use of land, 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. In 2002, four new members joined the alliance and membership is poised to grow further.

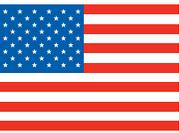
CGIAR members contributed US\$337 million in 2002, the single-largest public goods investment in mobilizing science for the benefit of poor farming communities worldwide.



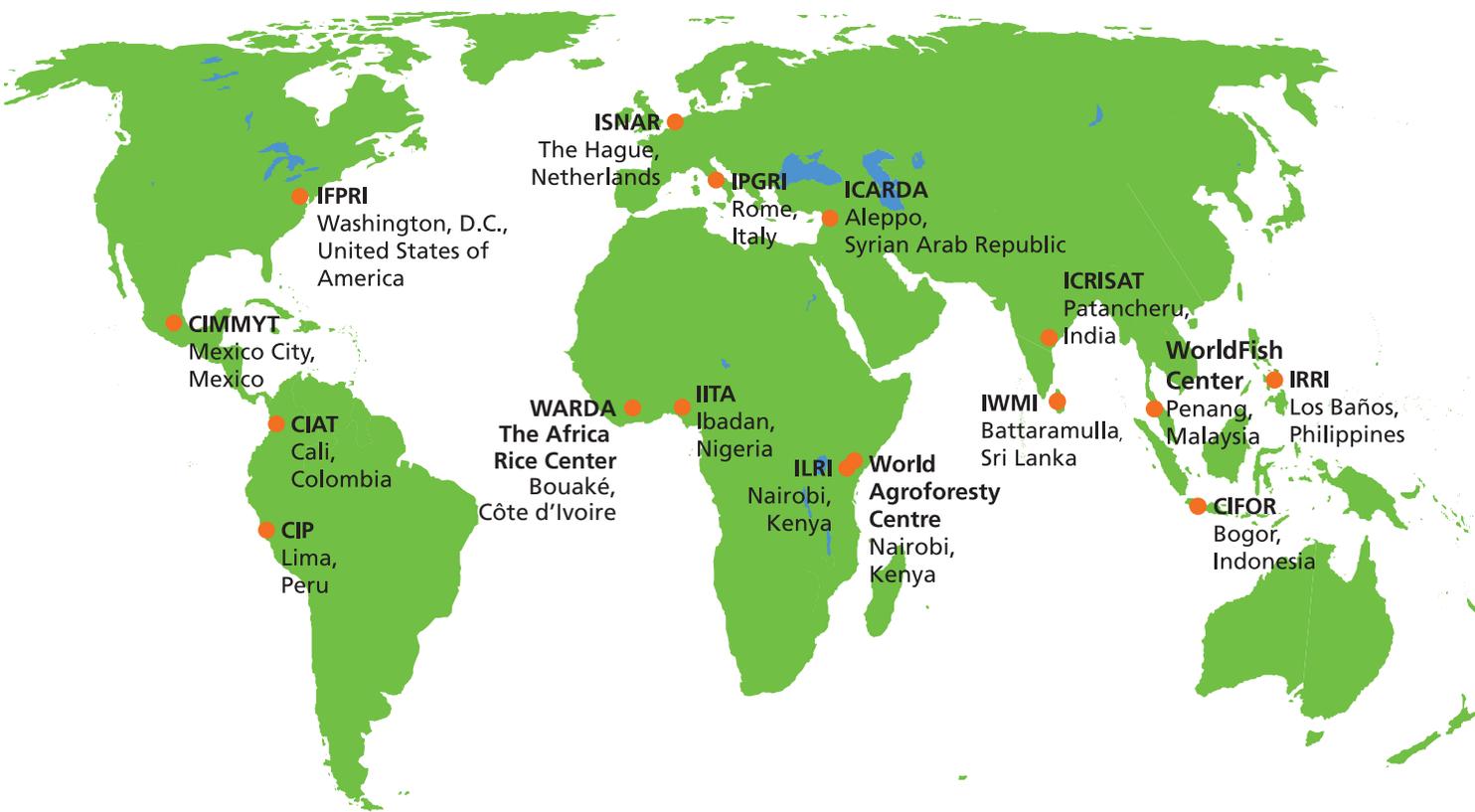
## Research is a Collaborative Enterprise

The CGIAR's achievements would not be possible without the support and commitment of the 62 members and many hundreds of partner organizations who together form the growing CGIAR alliance.

### CGIAR Members



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



## CGIAR-supported Centers

International Center for Tropical Agriculture (CIAT)  
[www.ciat.cgiar.org](http://www.ciat.cgiar.org)

Center for International Forestry Research (CIFOR)  
[www.cifor.org](http://www.cifor.org)

International Maize and Wheat Improvement Center (CIMMYT)  
[www.cimmyt.org](http://www.cimmyt.org)

International Potato Center (CIP)  
[www.cipotato.org](http://www.cipotato.org)

International Center for Agricultural Research in the Dry Areas (ICARDA)  
[www.icarda.org](http://www.icarda.org)

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)  
[www.icrisat.org](http://www.icrisat.org)

International Food Policy Research Institute (IFPRI)  
[www.ifpri.org](http://www.ifpri.org)

International Institute of Tropical Agriculture (IITA)  
[www.iita.org](http://www.iita.org)

International Livestock Research Institute (ILRI)  
[www.cgiar.org/ilri](http://www.cgiar.org/ilri)

International Plant Genetic Resources Institute (IPGRI)  
[www.ipgri.org](http://www.ipgri.org)

International Rice Research Institute (IRRI)  
[www.irri.org](http://www.irri.org)

International Service for National Agricultural Research (ISNAR)  
[www.isnar.cgiar.org](http://www.isnar.cgiar.org)

International Water Management Institute (IWMI)  
[www.cgiar.org/iwmi](http://www.cgiar.org/iwmi)

West Africa Rice Development Association – The Africa Rice Center (WARDA)  
[www.warda.org](http://www.warda.org)

World Agroforestry Centre (ICRAF)  
[www.worldagroforestrycentre.org](http://www.worldagroforestrycentre.org)

WorldFish Center (ICLARM)  
[www.worldfishcenter.org](http://www.worldfishcenter.org)

[www.cgiar.org](http://www.cgiar.org)



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