

CONSULTATIVE GROUP ON
INTERNATIONAL AGRICULTURAL RESEARCH



A STRATEGIC PARTNERSHIP FOR

Sustainable Agriculture





Why agricultural research matters

Multiple crises — triggered by food and energy price volatility, economic turmoil and concern about global climate change — have opened a new era of challenge and opportunity for agriculture and natural resource management.

While affecting people everywhere, the crises have imposed particularly harsh consequences on the approximately 2.1 billion people who live on less than US\$2 a day — three-fourths of whom live in rural areas and depend directly or indirectly on agriculture for their livelihoods.

Higher prices for food have forced poor consumers to spend more of their meager earnings on this basic necessity, drastically reducing their possibilities for improved well being.

Climate change, by worsening the growing conditions for crops, will further strain the productive capacity of agricultural land and undermine the agricultural growth that is vital for reducing poverty. Scientists estimate that rising temperatures and changing rainfall patterns will have especially severe impacts on farming in sub-Saharan Africa and South Asia.

Stronger investment in agricultural science at the national and international levels is essential for addressing these new and complex challenges. Adequately-funded research can deliver the innovations needed to achieve sustainable increases in agricultural productivity, benefiting the rural poor while conserving natural resources, such as water, forests and fisheries.

CGIAR researchers

have a solid record of delivering results that improve people's lives and help protect the environment. Without public investment in international agricultural research through the CGIAR,

- world food production would be 4-5 percent lower
- developing countries would produce 7-8 percent less food
- world food and feed grain prices would be 18-21 percent higher
- 13-15 million more children would be malnourished

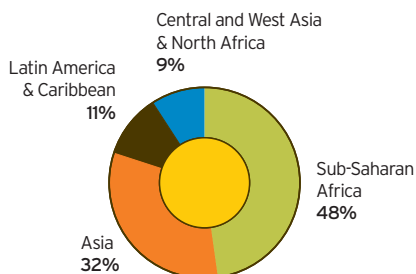
For every US\$1 invested in CGIAR research, \$9 worth of additional food is produced in developing countries, where it is needed most. The evidence is clear: Agricultural growth alleviates poverty and hunger.



A long-standing strategic partnership

The Consultative Group on International Agricultural Research (CGIAR), established in 1971, is a strategic partnership of diverse donors that support 15 international Centers, working in collaboration with many hundreds of government and civil society organizations as well as private businesses around the world. CGIAR donors include both developing and industrialized countries, international and regional organizations and private foundations.

2009 CGIAR Funding Allocation by Developing Region



Guided by a vision of reduced poverty and hunger, improved human health and nutrition, and greater ecosystem resilience, brought about through high-quality international agricultural research, partnership and leadership, the CGIAR applies cutting-edge science to foster sustainable agricultural growth that benefits the poor. The new crop varieties, knowledge and other products resulting from the CGIAR's collaborative research are made widely available to individuals and organizations working for sustainable agricultural development throughout the world.

Eleven of the CGIAR Centers maintain international genebanks. These preserve and make readily available a wide array of plant genetic resources, which form the basis of global food security.

In addition, the CGIAR implements several innovative Challenge Programs, which are designed to address global or regional issues of vital importance. Implemented through broad-based research partnerships, these programs apply knowledge, technology and other resources to solve problems such as micronutrient deficiencies, which afflict more than three billion people worldwide; water scarcity, which already affects a third of the world's population; and climate change, which poses a dire threat to rural livelihoods across the developing world.

CGIAR expenditures amounted to US\$572 million in 2009, the single largest investment made to mobilize science for the benefit of the rural poor worldwide. The global food crisis of 2008 restored agriculture to its rightful place at the top of the development agenda, prompting a global recommitment to agricultural research, as expressed in recent statements by world leaders through the Group of Eight and High-level Food Security Summits.



A New CGIAR

In December 2009 the CGIAR adopted a new institutional model designed to improve its delivery of research results in a rapidly changing external environment. The reforms should give rise to a more results-oriented research agenda, to clearer accountability across the CGIAR and to streamlined governance and programs.

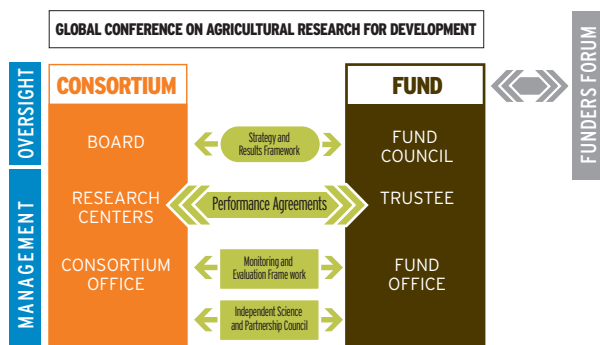
The new model consists of a balanced partnership between donors and researchers (see Figure 1), which will be established in the course of 2010. A new CGIAR Fund will improve the quality and quantity of funding by harmonizing donor contributions, while a new Consortium will unite the Centers under a legal entity that provides the Fund with a single entry point for contracting Centers and other partners to conduct research.

Shifting to a more programmatic approach, the CGIAR Centers will operate within a Strategy and Results Framework, aimed at strengthening collaboration for greater efficiency and development impact. A portfolio of “Mega Programs” will be developed, providing CGIAR scientists and partners with new means to deliver international public goods that address major global issues in development.

An Independent Science and Partnership Council (ISPC) will provide the CGIAR with critical advice and expertise.

The new CGIAR will foster stronger and more dynamic partnerships, which generate high-quality research outputs while strengthening national research institutions. Stakeholders, including donors, partners and beneficiaries, will provide input into the design of the Strategy and Mega Programs. The Global Conference on Agricultural Research for Development (GCARD) represents a key opportunity for engaging end users, including farmers, forest and fishing communities, and National Agricultural Research Systems (NARS), in the development of new research programs.

Figure 1: A Balanced Partnership





Benefits for the poor and the planet

International agricultural research has a strong record of delivering results that help confront the central development and environmental challenges of our time.

The CGIAR-supported Centers and their partners have delivered significant gains in reducing hunger and raising the incomes of small farmers across the developing world. Their collaborative research contributes to increased agricultural productivity, while also addressing a wide range of issues in the management of water, biodiversity, forests, fisheries and land. Results from this research have advanced the conservation and sustainable management of natural resources, protecting millions of hectares of forest and grasslands, safeguarding biodiversity and preventing land degradation.

Among the outcomes of that research are the following:

- Successful biological control of the cassava mealybug and green mite, both devastating pests of a root crop that is vital for food security in sub-Saharan Africa. The economic benefits of this work alone, estimated at more than \$4 billion, are sufficient to cover almost the entire costs of CGIAR research conducted so far for Africa.
- New Rices for Africa, or NERICAs, which combine the high yields of Asian rice with African rice's resistance to local pests and diseases. Currently sown on 200,000 hectares in upland areas, NERICAs are helping reduce national rice import bills and generating higher incomes in rural communities.
- More than 50 varieties of recently developed drought-tolerant maize varieties being grown on a total of about one million hectares across eastern and southern Africa.
- Flood-tolerant versions of rice varieties grown widely in Bangladesh and India. The new varieties enable farmers to obtain yields two to three times those of non-tolerant versions under prolonged submergence of rice crops, a situation that will become more common as a result of climate change.
- Widespread adoption of resource-conserving "zero-till" technology in the vital rice-wheat systems of South Asia. Employed by close to a half million farmers on more than 3.2 million hectares, this technology has generated benefits estimated at US\$147 million through higher crop yields, lower production costs and savings in water and energy.

- An agroforestry system called “fertilizer tree fallows,” which renews soil fertility in Southern Africa, using on-farm resources. More than 66,000 farmers have adopted this technology in Zambia, where it has strengthened food security and reduced environmental damage, and the system is spreading in four neighboring countries.
- Information and tools used by conservationists to monitor some 37 million hectares of forest, resulting in better management of this diminishing resource and contributing to more sustainable livelihoods for forest dwellers.
- A new method for detecting aflatoxin, a deadly poison that infects crops, making them unfit for local consumption or export benefiting farmers throughout sub-Saharan Africa. This technology, together with a novel biological control method that has proved able to reduce aflatoxin by nearly 100 percent, is helping to curb this major threat to human health, especially in children, and to save millions of dollars in lost sales of food for export.
- A simple methodology for integrating agriculture with aquaculture to bolster income and food supplies in areas of southern Africa where the agricultural labor force has been devastated by HIV/AIDS. Under large-scale testing in Malawi, the method doubled the income of 1,200 households and dramatically increased fish consumption.
- New approaches to predicting the likely impacts of climate change on major crops and their wild relatives. Such tools are essential for guiding efforts to enhance the climate resilience of developing country agriculture.
- Increased smallholder dairy production in Kenya, which is improving childhood nutrition while generating jobs. As a result of award-winning work with smallholder dairies, they now contribute 80 percent of the milk products sold in the country.

CGIAR's Evolving Research Agenda



CGIAR-Supported Centers

The CGIAR has nearly 8,000 scientists and staff working in over 100 countries. The following are the 15 Centers supported by the CGIAR. Thirteen of the CGIAR Centers are located in developing countries.

AfricaRice Center (Africa Rice)

Cotonou, Benin
www.africaricecenter.org

Bioversity International

Maccarese (Rome), Italy
www.bioversityinternational.org

International Center for Tropical Agriculture

(CIAT, its acronym in Spanish)
Cali, Colombia
www.ciat.cgiar.org

Center for International Forestry Research (CIFOR)

Bogor, Indonesia
www.cifor.cgiar.org

International Maize and Wheat Improvement Center

(CIMMYT, its acronym in Spanish)
Texcoco, Mexico
www.cimmyt.org

International Potato Center

(CIP, its acronym in Spanish)
Lima, Peru
www.cipotato.org

International Center for Agricultural Research in the Dry Areas (ICARDA)

Aleppo, Syria
www.icarda.org

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)

Patancheru, Andhra Pradesh, India
www.icrisat.org

International Food Policy Research Institute (IFPRI)

Washington, D.C., USA
www.ifpri.org

International Institute of Tropical Agriculture (IITA)

Ibadan, Nigeria
www.iita.org

International Livestock Research Institute (ILRI)

Nairobi, Kenya, and Addis Ababa, Ethiopia
www.ilri.org

International Rice Research Institute (IRRI)

Los Baños, the Philippines
www.irri.org

International Water Management Institute (IWMI)

Colombo, Sri Lanka
www.iwmi.cgiar.org

World Agroforestry Centre (ICRAF)

Nairobi, Kenya
www.worldagroforestrycentre.org

WorldFish Center

Penang, Malaysia
www.worldfishcenter.org



A Global CGIAR

The CGIAR is a global research-for-development partnership among research Centers, governments from both developing and industrialized countries, international and regional organizations, and foundations. The global impact of the CGIAR Centers is multiplied through the close collaboration of many hundreds of partner organizations.

Placement markers are approximate and indicate city locations.



CGIAR centers work with national and regional research institutes, national governments, civil society organizations, and the private sector to develop policies, conduct research, and ensure that research results move from laboratories to farmers' fields. Hundreds of farmers organizations are currently engaged in collaborative research programs with CGIAR centers.

The Fund Council is a representative body of the Fund donors and other stakeholders and is the decision making body of the CGIAR Fund. Membership of the inaugural Fund Council, established in 2010, is indicated on the global map.



NOURISHING THE FUTURE THROUGH
Scientific Excellence



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