A Partnership for Research and Development
Netherlands and the CGIAR
Netherlands-CGIAR Partnership

The Netherlands joined the Consultative Group on International Agricultural Research (CGIAR) in 1971. As a founding member, the country is a strong supporter of the CGIAR, and it has enjoyed a longstanding and fruitful partnership with the Group. As a leading investor in the CGIAR, The Netherlands contributes financial, scientific and technical resources while influencing CGIAR policies.

The country’s development cooperation is aimed primarily at helping achieve the Millennium Development Goals (MDGs) through an international collaborative approach, with particular emphasis on sub-Saharan Africa. For The Netherlands and other members, the CGIAR is a key partner in this endeavor. Our shared challenge is to help make Africa’s agriculture more resilient and competitive, based on sustainable use of agrobiodiversity, including genetic resources that are important for staple crop production as well as high-value products, such as fruits, livestock and fish. CGIAR research supported by The Netherlands, with its focus on sustainable agriculture, contributes to the realization of the MDGs by reducing rural poverty and environmental degradation and thus fueling an upward spiral of rising incomes, better education and improved health.

Improved natural resource management, also a central focus of Dutch development cooperation, is critical for achieving agricultural transformation in sub-Saharan Africa and elsewhere. Especially relevant in this regard are the CGIAR Systemwide, Ecoregional and Challenge Programs, which bring together the efforts of various Centers and numerous national partners around key themes related to sustainable agriculture.

Within the framework of the CGIAR’s Water and Food Challenge Program, for example, the Centers are acting through broad partnerships to demonstrate in major watersheds how farmers can strengthen food security and raise incomes through diversified production systems, based on prudent use of water. The recent creation of the CGIAR
Sub-Saharan Africa Challenge Program should further enhance current work aimed at improving the management of natural resources in the region's major agroecosystems. Under this initiative the Centers are consolidating their efforts with numerous national partners to form the technological and institutional platform needed to promote agricultural innovation and its uptake on a large scale. The new program will add value to the work of other CGIAR programs addressing such themes as the search for alternatives to slash and burn agriculture, the development of Africa's inland valleys and the institutionalization of farmer participatory plant breeding.

These collective efforts to achieve the MDGs take place against a background of rapid change, including the emergence of a globalized economy. The CGIAR is adapting its research programs in various ways to fit the changing global context of agricultural development. It is particularly important now to strengthen small farmers' market links, so they can seize opportunities offered by a globalizing economy while reducing the risks. With Dutch support, the CGIAR works toward this goal by determining through research how to create the support services farmers need to strengthen their position within agricultural supply chains, either by adding value to their staple crops or diversifying into sustainable production of high-value products. Such work is critical for enabling small farmers to be winners in expanding markets for high-quality or specialty products, linked with the provision of environmental services, such as the conservation of biodiversity.

Public-private partnerships will be critical for bringing new resources, expertise and technology to bear on the development of a more competitive agriculture in developing countries. To strengthen such partnerships, the CGIAR and its Private Sector Committee have developed new mechanisms to increase the flow of information and knowledge between the public and private sectors.

The CGIAR's priorities are thus thoroughly consistent with those of The Netherlands government, and the Group maintains a close relationship with its Ministry of Foreign Affairs. In working toward shared goals, the CGIAR Centers collaborate with leading Dutch universities, advanced research institutes and development organizations, including the International Water and Sanitation Centre (IRC), the University of Wageningen and The Netherlands Foundation for the Advancement of Tropical Research, among others.

The Netherlands is an active member of the European Initiative for Agricultural Research for Development (EIARD), which brings together the 25 member states of the European Union, plus the European Commission (EC) and Norway. EIARD works to improve the coordination of European poli-
cies in support of agricultural research for development and for this purpose, it participated in meetings of the CGIAR Executive Council.

The Netherlands’ support for agricultural research features strong emphasis on building capacity and strengthening institutions. Dutch scientists and development specialists have played key supporting roles in CGIAR affairs, including the reform program designed to increase development impact, strengthen partnerships and streamline governance.

A snapshot of the Netherlands-CGIAR partnership in 2006 shows four Dutch nationals serving on the Board of Trustees at four Centers, with two serving as Board chairs. In addition, The Netherlands actively supports the secondment of scientists and junior professionals to CGIAR Centers.

A major portion of financial support from The Netherlands takes the form of core funding for the international agricultural research Centers supported by the CGIAR. This is a critical demonstration of strong partnership and support. Continued core funding is crucial for the CGIAR, as it allows flexibility in resource allocation, based on CGIAR priorities, and strong funding for the CGIAR reform program, which aims to increase transparency and promote high-quality science, in particular through the Challenge Programs (CPs).

Following are some examples of development impacts resulting from the Netherlands-CGIAR partnership:

- The benefits of zero-till farming. In the Indo-Gangetic Plains, the Rice-Wheat Consortium (RWC) promotes new ecological farming practices that save time, fuel, water, and other inputs, resulting in more resilient cropping systems. Zero-till farming practices in rice-wheat cropping systems have benefited farmers in India and Pakistan through higher yields and lower land preparation costs. These benefits had an estimated worth of more than US$100 million in the winter of 2003 alone. Zero-till was used on more than 2 million hectares across South Asia’s breadbasket in 2004, saving more than 50 liters of diesel fuel per hectare, for a total of 75 million liters across the region, worth more than US$40 million. Apart from its economic benefits, the savings in fuel also helped reduce the release of greenhouse gases. Participants in the RWC include the national agricultural research systems of Bangladesh, India, Nepal and Pakistan; five CGIAR centers (CIMMYT, IRRI, ICRISAT, CIP and IWMI) along with AVRDC; and various advanced international research institutions. (www.rwc.cgiar.org)
- **Combating nutrient depletion in the Ethiopian highlands.** Encompassing 95% of the country's agricultural land and containing almost 90% of its population, the highlands are undergoing severe loss of soil nutrients through erosion and the removal of crop residues and animal dung for fuel. Since chemical fertilizers are too costly for small farmers, the African Highlands Initiative (AHI) works with them to develop integrated nutrient management practices that draw on local resources. Researchers are collecting baseline data to monitor soil erosion, conducting on-farm experiments to assess crop response to different soil management practices and carrying out cost-benefit analyses of recommend options. Widespread farmer adoption of integrated nutrient management practices should greatly increase food security in the highlands. ([www.worldagroforestry.org](http://www.worldagroforestry.org))

- **Smallholders boost fish production in southern Africa.** Working in collaboration with the Malawi Department of Fisheries, the WorldFish Center has developed low-input technologies for integrated aquaculture-agriculture. Through the work of NGOs and community-based organizations, thousands of farmers are benefiting from these new methods, increasing fish production from 800 kg/ha in ponds not integrated with agriculture to over 2500 kg/ha in fully integrated ponds. About 30% of Malawi's fish farmers are women, and income from their ponds is helping empower them within rural communities. The number of fish farmers in the country has risen 300% during the period 1999–2004. ([www.worldfishcenter.org](http://www.worldfishcenter.org))
Nourishing the Future through Scientific Excellence
The Consultative Group on International Agricultural Research

The Consultative Group on International Agricultural Research (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, civil society organizations and the private sector. The alliance mobilizes agricultural science to reduce poverty, foster human well-being, promote agricultural growth, and protect the environment. The CGIAR generates global public goods that are available to all.

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 countries with strong agricultural sectors have a record of sustained investments in agricultural science and technology. The evidence is clear—investment in agricultural research for development generates growth, reduces poverty and protects the environment.

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 (see graphic, Evolution of CGIAR’s research agenda, page 6).

CGIAR Priority Investments 2004

- Germplasm Improvement 17%
- Germplasm Collection 12%
- Enhancing NARS 20%
- Policy 16%
- Sustainable Production 35%
Agricultural research is delivering results

The CGIAR’s more recent outstanding achievements include:

- Releasing Quality Protein Maize (QPM) varieties in 25 countries. QPM are currently grown on more than 650,000 hectares.
- Transforming agriculture in East and West Africa through the release of New Rices for Africa (NERICAs). It is estimated that NERICAs are planted on 130,000 hectares across Africa, including approximately 60,000 hectares in Guinea and about 10,000 hectares in Uganda.
- Selectively breeding a GIFT strain of tilapia which shows an approximate growth rate gain of 70%.
- Training over 75,000 developing country scientists and researchers.
- Reducing pesticide use in developing countries by promoting integrated pest management and biological control methods.
- Adopting low-till farming practices in Asia on 1.2 million hectares across the Indo-Gangetic plains, boosting farm incomes and productivity.
- Enabling African producers to access international pigeonpea markets.
- Releasing over 45 bean varieties, developed from CGIAR germplasm across Latin America.
- Improving forage grasses developed by CGIAR researchers and partners which are currently grown on over 100 million hectares in Latin America.
- Planting fodder shrubs in Kenya and increasing smallholder dairy farmers’ income by US$166 per annum.

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 the Centers are located 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 CGIAR has five areas of focus**

- Sustainable production (of crops, livestock, fisheries, forests and natural resources)
- Enhancing National Agricultural Research Systems NARS (through joint research, policy support, training and knowledge-sharing)
- Germplasm Improvement (for priority crops, livestock, trees and fish)
- Germplasm Collection (collecting, characterizing and conserving genetic resources - the CGIAR holds in public trust one of the world’s largest seed collections available to all)
- Policy (fostering research on policies that have a major impact on agriculture, food, health, spread of new technologies and the management and conservation of natural resources)
Forging New Partnerships: CGIAR Challenge Programs in action

Challenge Programs are new high-impact, research for development programs that tackle major global development challenges through expanded partnerships. Four Challenge Programs are being implemented since 2004:

- “Generation” is unlocking crop genetic diversity through the application of comparative biological knowledge in 11 crops. There are 14 partner institutions involved. Program updates for the first year include genotyping, a composite germplasm set representing global genetic resources for a first tier of eleven crops; development of a common phenotyping framework of techniques, plant development stages and parameters to enable cross-species comparison; validation and development of pre-existing markers for drought tolerance and the establishment of molecular breeding communities of practice; design of a Generation CP information platform system for genetic resources, genomic and crop information systems and internal project workshops. ([www.generationcp.org](http://www.generationcp.org))

- “HarvestPlus” is an international alliance of over 40 institutions breeding crops with improved micronutrient content. Progress during the first phase of the project focused on: exploring the genetic variation for iron, zinc and B-carotene in rice, wheat, maize, cassava, beans and sweetpotato germplasm; applied breeding; testing the stability of micro-nutrient expression; and dissemination of seed of basic breeding materials and advanced lines to collaborators. New initiatives include the feasibility of a HarvestPlus China program, similar to HarvestPlus and to be funded by the Chinese government and other donors. ([www.harvestplus.org](http://www.harvestplus.org))

- “Water and Food” is improving water productivity in agriculture in nine river basins (Andean system, Indo-Gangetic, Kharheh, Limpopo river, Mekong river, Nile river, Sao Francisco, Volta, Yellow river). In its first year, 33 research projects led by 18 different institutions, involving over 150 partners have been launched with a total investment of $60 million. A diverse set of activities are underway, including research programs on coastal management in Bangladesh and Vietnam; exploring and evaluating supplemental irrigation techniques in Syria, and improvements in rain water and nutrient use efficiency in Niger. ([www.waterandfood.org](http://www.waterandfood.org))
The Sub-Saharan Africa Challenge Program (SSA CP) developed by a CGIAR partner, the Forum for Agricultural Research in Africa (FARA), is focusing on jumpstarting agricultural development in Sub-Saharan Africa. Fully supported by the CGIAR, this is the first Challenge Program with responsibility for implementation assigned to a partner institution in Africa. The SSA CP is promoting research that will provide options for smallholders to improve input and output markets for smallholder and pastoral produce, to intensify use of limited resources while maintaining food security and the use of natural resources in a sustainable way. The research will be conducted by Pilot Learning Teams with the communities at different Pilot Learning Sites, which have been already selected through a participatory process. (www.fara-africa.org)

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. From twelve members in 1971, today’s membership of sixty-four includes a majority of developing countries. Membership is poised to grow further.

CGIAR members contributed US$437 million in 2004, the single-largest public goods investment in mobilizing science for the benefit of poor farming communities worldwide.
A Global CGIAR

Future Harvest Centers of the CGIAR

Africa Rice Center (WARDA)
www.warda.org

International Center for Tropical Agriculture (CIAT)
www.ciat.cgiar.org

Center for International Forestry Research (CIFOR)
www.cifor.cgiar.org

International Maize and Wheat Improvement Center (CIMMYT)
www.cimmyt.org

International Potato Center (CIP)
www.cipotato.org

International Center for Agricultural Research in the Dry Areas (ICARDA)
www.icarda.org

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
www.icrisat.org

International Food Policy Research Institute (IFPRI)
www.ifpri.org

International Institute of Tropical Agriculture (IITA)
www.iita.org

International Livestock Research Institute (ILRI)
www.ilri.org

International Plant Genetic Resources Institute (IPGRI)
www.ipgri.org

International Rice Research Institute (IRRI)
www.irri.org

International Water Management Institute (IWMI)
www.iwmi.cgiar.org

World Agroforestry Centre (ICRAF)
www.worldagroforestry.org

WorldFish Center
www.worldfishcenter.org
Research is a collaborative enterprise

The CGIAR’s achievements would not be possible without the support and commitment of the 64 members and many hundreds of partner organizations who together form the growing CGIAR alliance.

**CGIAR Members**

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