

# innovations



Consultative  
Group on  
International  
Agricultural  
Research

Annual Report  
2004



# *the cgiar at a glance*

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 and civil society organizations including 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. In 2004, CGIAR Members contributed US\$437 million — the single largest investment in generating public goods for the benefit of poor agricultural communities worldwide.



The CGIAR has five areas of focus:

- **Sustainable production** of crops, livestock, fisheries, forests and natural resources;
- **Enhancing national agricultural research systems** through joint research, policy support, training and knowledge-sharing;
- **Germplasm improvement** for priority crops, livestock, trees and fish;
- **Germplasm collection, characterization and conservation**, as the genetic resources that the CGIAR holds in public trust, and makes available to all, include some of the world's largest genebanks; and
- **Policy research** on matters that have a major impact on agriculture, food, health, the spread of new technologies, and the management and conservation of natural resources.

The CGIAR mobilizes agricultural science to reduce poverty, foster human well-being, promote agricultural growth and protect the environment

# *innovations in agricultural research*

Message from the Chairman and Director: Nurturing Science...Nurturing People	2
Science Council: A Productive and Challenging First Year	5
Board Chairs and Center Directors: Collaborating for Scientific and Technological Breakthroughs	7
<i>the science we support</i>	9
2004 CGIAR Science Awards for Excellence: Realizing Human Potential	10
Science Awards: Partner, Support, Publish and Communicate	12
<i>tribute to members</i>	14
IFAD and the CGIAR: An Effective Partnership	16
Mexico and the CGIAR: Collaborating to Combat Poverty	18
Future Harvest Centers of the CGIAR	19
A Global CGIAR	35
<i>the spirit of innovation</i>	36
Performance Measurement: Towards Objectively Assessing Achievement	37
CGIAR Challenge Programs: Gaining Momentum	39
CGIAR System Office: Initiatives Strengthen Practice and Collaboration	41
Innovation Marketplace: Expanding Partnerships with Civil Society	43
<i>executive summary of the 2004 cgiar financial results:     improvement in the aggregate</i>	45
<i>who's who in the cgiar</i>	57
CGIAR Members	58
CGIAR Executive Council, Committees, and System Office Staff	60
Acronyms and Abbreviations	63



Ian Johnson has been Chairman of the Consultative Group on International Agricultural Research since 2000.

## Message from the Chairman and Director: Nurturing Science... Nurturing People

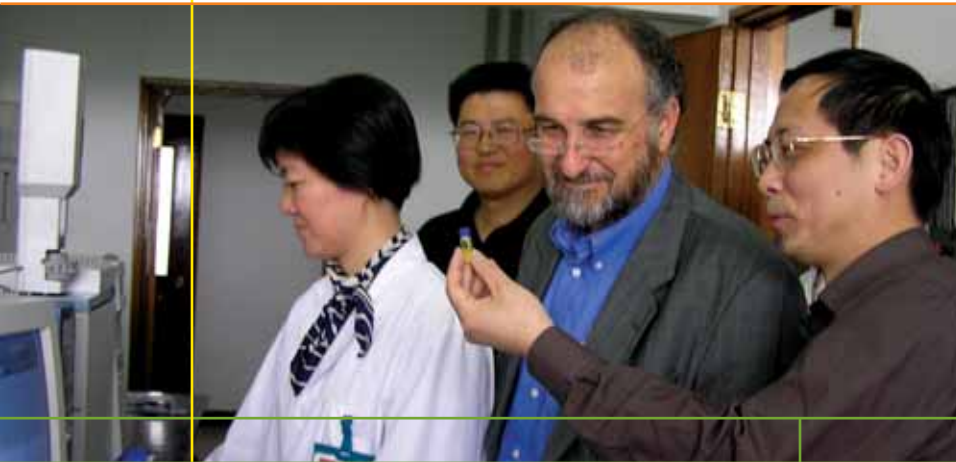
The scope and power of science are exciting and sometimes frightening. The Consultative Group on International Agricultural Research (CGIAR) is concerned with the nurturing aspect of science: its capacity to enrich and improve the human condition. Our founders were convinced that the results of scientific breakthroughs, transferred across borders and adapted to local agro-ecological conditions in developing countries, could generate a shift from hand-outs to hope. We were reminded of their confidence in the nurturing power of science at the 2004 Annual General Meeting in Mexico, because that is where international agricultural research began some 6 decades ago with the launch of a joint venture that mobilized international and national scientific resources to meet local needs.

The global impact of international agricultural research and innovation has validated our founders' vision. Productivity increases fueled by science-based technologies and enabling policies have helped to increase incomes and fight the deadly combination of poverty and hunger. Science has provided, as well, the means for prudently managing natural resources. The significance of such science-based breakthroughs is widely acknowledged. The CGIAR System received the King Baudouin International

Development Prize, and many other international and national awards have been bestowed on the Centers and individual scientists. The quest for breakthroughs continues, as research reports from the Centers confirm (see pages 19-34).

The quest must not cease, because new challenges abound in an ever-changing world. Science itself constantly changes. Developments in biological science have created new opportunities as well as new concerns. We are more sensitive to the ecological imprint of agriculture than ever before. The agricultural research community has broadened. Scientists in national agricultural research systems (NARS), civil society and the private sector are all involved. The scope of agriculture in developing countries has changed, including an increasing focus on high-value crops, underutilized crops and new products. And the speed of change continues to accelerate.

More will change in the future. We need to look ahead, therefore, at least to the middle of this century, because research is a long-term enterprise. The world's population, which was 3.6 billion in 1971, the founding year of the CGIAR, has grown to the current 6 billion and is expected to exceed 9 billion by 2050. The world of 2050 will be more densely populated



CGIAR Director Francisco Reifschneider (*center*) with Wu Li (*left*) and Zhu Zhiwei of the China National Rice Research Institute in Hangzhou.

Our founders shared the conviction that the results of scientific breakthroughs, transferred across borders and adapted to local agro-ecological conditions in developing countries, could generate a shift from hand-outs to hope

and heavily urbanized, with current trends leading to over 65 percent of the population living in urban areas. Global gross domestic product could rise from today's US\$35 trillion to \$135 trillion, with potential benefits to countries both rich and poor, if specific interventions are undertaken.

The demand for food could double, and demand will diversify as incomes rise and consumers spend more on better, high-value foods. The need to produce more and better food will intensify pressure on natural resources. Breakthroughs will have to create technologies for increased productivity while at the same time addressing climate change and such natural resource issues as biodiversity loss, soil degradation and water scarcity. And these technologies must be socially acceptable. Africa will require special efforts. In addition, how agriculture affects human health, nutrition and landscape management will become much more important in the years ahead.

Some important issues of today and tomorrow such as ensuring fair access to fair markets, correcting inequitable patterns of production and consumption, meeting infrastructure needs, and improving governance lie outside the direct competence of the CGIAR. There is much, however, that directly concerns us. How should we respond? The long-term

nature of research requires us to have a clear set of priorities that enable us to define our goals and decide how best to meet them. The Science Council's priority-setting exercise will advise us on that need. The priorities for the next decade or so are expected to be adopted in 2005 but will evolve further in the future.

The key products of the CGIAR are knowledge, technology, policy advice, and services related to global public goods such as the genebanks. We must equip ourselves to deliver them effectively, espousing new and creative mechanisms, reoriented institutions, and vibrant partnerships to the extent that these are necessary to enhance the impact of agricultural research. The competitive system within the Challenge Programs is one such mechanism. The Scientific and Know-how Exchange Program between Centers and the private sector is another. We must explore other mechanisms for strengthening collaboration between NARS and the CGIAR Centers, as well as between farmers and researchers. Equally important is the need to have strong NARS in countries of the South and North alike.

The skills required to meet the needs of today and tomorrow are not available within one institution or alliance. Partnerships will therefore be critically important to achieving real breakthroughs. Partnerships must be genuine and have a clear purpose if they are to work. Token partnerships are worse than no partnerships at all. Effective partnerships require mutual respect, mutual commitment, mutual understanding and mutual goals. Internal as well as external partnerships are necessary.



Breakthroughs will have to create technologies for increased productivity while at the same time addressing climate change and such natural resource issues as biodiversity loss, soil degradation and water scarcity

The continuum between global public goods and private rights requires us to think more creatively and equitably about intellectual property issues, so that the strengths of all those involved from a smallholder subsistence farmer to the largest corporation may be combined to assist countries in their development efforts.

The tasks ahead are formidable and require institutions that are constantly recreating themselves to address the required changes and challenges. We feel we are ahead of the game. We have met the objectives of the initial phase of the CGIAR reform program launched in 2001. Decision-making is more nimble. Transparency, accountability, efficiency and impact are enhanced. To sharpen our emphasis on science, we created a more focused Science Council.

In the interests of consistency and efficiency, we adopted the first CGIAR Charter at the 2004 Annual General Meeting.

We are moving forward steadily in the next wave of reform with several initiatives. These include the development of our Performance Measurement System whose main objective is to promote high Center performance and accountability in achieving goals. We are addressing the necessary changes to enhance the alignment of Center programs and structure, beginning in sub-Saharan Africa. CGIAR Members have responded positively and generously to these changes. In 2004, Member contributions exceeded the \$400 million mark for the first time.

The pieces are locking into place. The way in which the CGIAR functions is undergoing transformation. Science continues to be nurtured. Center scientists are the pivot of the work done by the CGIAR System. Their innovations offer hope to the weakest and most vulnerable in society.

Ian Johnson  
CGIAR Chairman

Francisco J.B. Reifschneider  
CGIAR Director



## Science Council: A Productive and Challenging First Year

The Science Council of the Consultative Group on International Agricultural Research (CGIAR) began operations in January 2004. During the first year of its existence, the Council developed and pursued a strategy to help promote a more cohesive and sharply focused, high-quality research program by the 15 Future Harvest Centers of the CGIAR. The aim is to have the greatest possible impact on the alleviation of poverty and hunger and the sustainable management of natural resources. This strategy consists of seven key elements:

1. Developing a cohesive research program based on a small number of key CGIAR System priorities;
2. Developing and implementing new and improved monitoring and evaluation processes for CGIAR-supported research;
3. Strengthening medium-term plans (MTPs) and the related logical frameworks for Centers, Challenge Programs and inter-Center programs in the context of the new System priorities;
4. Combining the MTPs with annual reporting of accomplishments for better planning and performance appraisal;
5. Contributing to the regional alignment of CGIAR research;
6. Estimating the impact of CGIAR-supported research; and
7. Helping to mobilize research outside the CGIAR

to fight poverty and the unsustainable management of natural resources.

The CGIAR is actively aligning its System priorities to refine a research portfolio designed to help achieve the Millennium Development Goals. On the basis of earlier work by the interim Science Council and knowledge gathered from participatory approaches, the Science Council developed a proposed research program for the CGIAR that consists of 20 **research priorities** organized within five key areas. The key criteria used to identify the priorities are the expected impact on poverty, food security, nutrition and natural-resource management; the international public goods nature of the research; and the CGIAR's comparative advantage in undertaking the research, given alternative sources of supply.

The Science Council has developed new **medium-term plan guidelines** in collaboration with the CGIAR Secretariat. These guidelines stress the importance of realistic and measurable goals and objectives along with clearly identified milestones, timelines and proposed activities. The intent of the Science Council is to pay greater attention to MTPs. The Science Council will attempt to be as constructive and helpful as possible in evaluating MTPs for the purpose of informing all stakeholders of the CGIAR and for further strengthening the research by the Future Harvest Centers.

New medium-term plan guidelines stress the importance of realistic and measurable goals and objectives along with clearly identified milestones, timelines and proposed activities

The aim is to have the greatest possible impact on the alleviation of poverty and hunger and the sustainable management of natural resources

In 2004, the Science Council was heavily involved in CGIAR efforts to improve **performance appraisal**, with particular reference to five performance-measurement elements: output, outcome, impact, quality of research staff, and quality and relevance of programs. The output and outcome indicators will be based on MTPs and System priorities.

While the Science Council is not leading CGIAR efforts to improve **programmatic alignment** at the regional level, it has contributed to the programmatic alignment for sub-Saharan Africa undertaken by CGIAR-appointed task forces.

The Science Council's Standing Panel on **Impact Assessment** continues to enhance work in that regard. A CGIAR impact website at <http://impact.cgiar.org> is now fully functional. Work continues on case studies on the impact of CGIAR research on natural resource management, and a number of other impact-assessment studies, including an assessment of training evaluation and impact.

Through its Standing Panel on **Mobilizing Science**, the Science Council has completed a survey of CGIAR Centers' ongoing scientific collaboration. The data are currently being analyzed. The panel has also taken the lead in developing the first of a series of biannual publications on Science for Agricultural Development. This Council-led publication will be launched at the 2005 Annual General Meeting in Morocco.

Through its Standing Panel on **Priorities and Strategies**, the Science Council undertook a number of studies to support its work on priorities and strategies during 2004, including a study on biosafety, a study on animal and fish genetic resources, an analysis of poverty mapping, and preliminary work on food safety and ethics. Analyses are also underway on the relationship between international public goods and intellectual property rights.

Through its Standing Panel on **Monitoring and Evaluation** (SPME), the Science Council undertook external reviews of two Centers as well as a CGIAR Systemwide program, and it initiated the planning for external reviews of three additional Centers to be completed in 2006. In addition, Science Council members and staff allocated a significant amount of time to a thorough assessment of the MTPs submitted by Centers and Challenge Programs. This work was led by the SPME.

The new Science Council had a productive and challenging year in 2004. In addition to completing a number of unfinished activities taken over from the interim Science Council, the Science Council initiated several new activities. The resulting time pressure on Council members and staff was significant, but I believe the results are fully commensurate with the efforts made. I look forward to another year of constructive work by the Science Council for the benefit of the CGIAR, the people we serve and the environment.

Per Pinstrup-Andersen, Chair, CGIAR Science Council



Center directors and Board chairs met in Aleppo, Syria, to shape programmatic and organizational alignments within the CGIAR.

## Board Chairs and Center Directors: Collaborating for Scientific and Technological Breakthroughs

7

As we celebrate here some achievements in 2004 of the combined efforts of the Future Harvest Centers of the Consultative Group on International Agricultural Research (CGIAR), we also report on how the Committee of Board Chairs (CBC) and the Center Directors Committee (CDC) are reforming the way that Centers collaborate for greater scientific and technological impact.

Last year saw significant progress in highlighting to high-level policymakers and international initiatives, such as the Copenhagen Consensus and the Group of Eight (G8) Action Plan, how investing in research on water, food and the environment is key to improving the livelihoods of millions of rural poor. The G8 Action Plan called for increased efforts in Africa and increased funding for the CGIAR Challenge Program on Water and Food, the Forum for Agricultural Research in Africa, and the New Partnership for Africa's Development.

Noting the increasing need for partnerships and inter-Center collaboration to achieve the complex CGIAR mission, the CBC and CDC embarked on a program to facilitate close, effective cooperation. In May, the two Committees met in Syria to deepen their engagement with the major programmatic and global organizational alignments of the CGIAR, which had been set in motion through the work of the CGIAR Sub-Saharan Africa task forces.

In July, a follow-up retreat in Ethiopia, brought together CDC members, representatives of the CBC and senior Center staff.

Before the retreat, the group met with key African research leaders as part of a larger consultative process guiding the formulation of a vision and research agenda for sub-Saharan Africa and ensuring that the CGIAR Centers are effective partners. The retreat report, *Towards a Framework for Collective Action*, was widely circulated and discussed at the Centers, and at the Executive Council meeting in September. At the Committee meetings in Mexico, which preceded the 2004 Annual General Meeting in October, the recommendations of the retreat led the Committees to agree unanimously to form an Alliance of the Future Harvest Centers of the CGIAR and embark immediately on African reforms. The Alliance will primarily

- develop and sustain outstanding collective partnerships with external partners,
- enhance the effectiveness and efficiency of inter-Center collaboration and collective action, and
- position the Centers to manage organizational change.

To ensure that the Centers can adequately discharge their responsibility to conserve the germplasm collections held in trust for the public good under the new International Treaty on Plant Genetic Resources for

Food and Agriculture, the Centers are working together to upgrade their genebanks. Coordinated by the System-wide Genetic Resources Program, a US\$13.6 million upgrade commenced in 2003 and neared completion at the end of 2004.

The Treaty came into force in June 2004 and established a new framework for the use and exchange of genetic resources — a framework of great importance to the Centers holding plant genetic materials. The CGIAR, together with the Food and Agriculture Organization of the United Nations, has launched a complementary initiative: the Global Crop Diversity Trust is an endowment being raised so that the interest on it can support in perpetuity the preservation of agricultural biodiversity. We are delighted to announce that the Trust came into being as an independent international organization on 20 October after 12 countries signed the agreement establishing it. By the end of 2004, it had raised more than \$50 million.

In 2004, a review of CGIAR Centers' activities to rebuild agriculture in countries affected by conflict, natural disaster or economic transition found that our efforts had benefited over 50 countries. Too often, aid agencies rely on massive seed shipments from abroad, often of unsuitable varieties. Our scientists recommend that the focus shift toward strengthening local seed systems instead. Most rural livelihoods ultimately depend on access to the right crops to grow. Here, national genebanks provide the foundation. Since 1999, nine Centers have combined to help their national partners create a Plant Genetic Resources Network for the newly independent transitional states of Central Asia and the Caucasus. The Network's achievements by 2004 included the establishment of

(and training of scientists for) nine plant genetic resource units, the collection of over 2,400 new cereal and legume accessions, and the renovation and activation of a genebank in Uzbekistan. In addition, storage facilities were undergoing renovation in Azerbaijan, Georgia, Kyrgyzstan and Tajikistan. These achievements were in addition to research on crop improvement, crop diversification and water management.

At the end of March 2004, the International Service for National Agricultural Research ceased to be an independent Center. On April 1, its program began operations at the International Livestock Research Institute, Addis Ababa campus, as a research and outreach division of the International Food Policy Research Institute. The CBC and CDC were briefed on this during their meetings the following month.

As part of their oversight functions, the Committees and the CGIAR Secretariat commissioned an external review of the Gender and Diversity Program, which was completed in 2004. During the May meetings, based on the positive results of the external review, the Committees approved the key recommendation to extend the program for another 4 years.

In 2005, we will build on the programmatic and organizational progress made in 2004. Successful collective action depends on ensuring and acknowledging the importance of involving all components of the CGIAR from the outset. The guiding principle for our work together must be: "Our allegiance is first and foremost to the poor."

A. Uzo Mokwunye, CBC Chair 2004

Kanayo F. Nwanze, CDC Chair 2004